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INDUSTRY

IN THE
LEAST DEVELOPED
COUNTRIES

Structure and development



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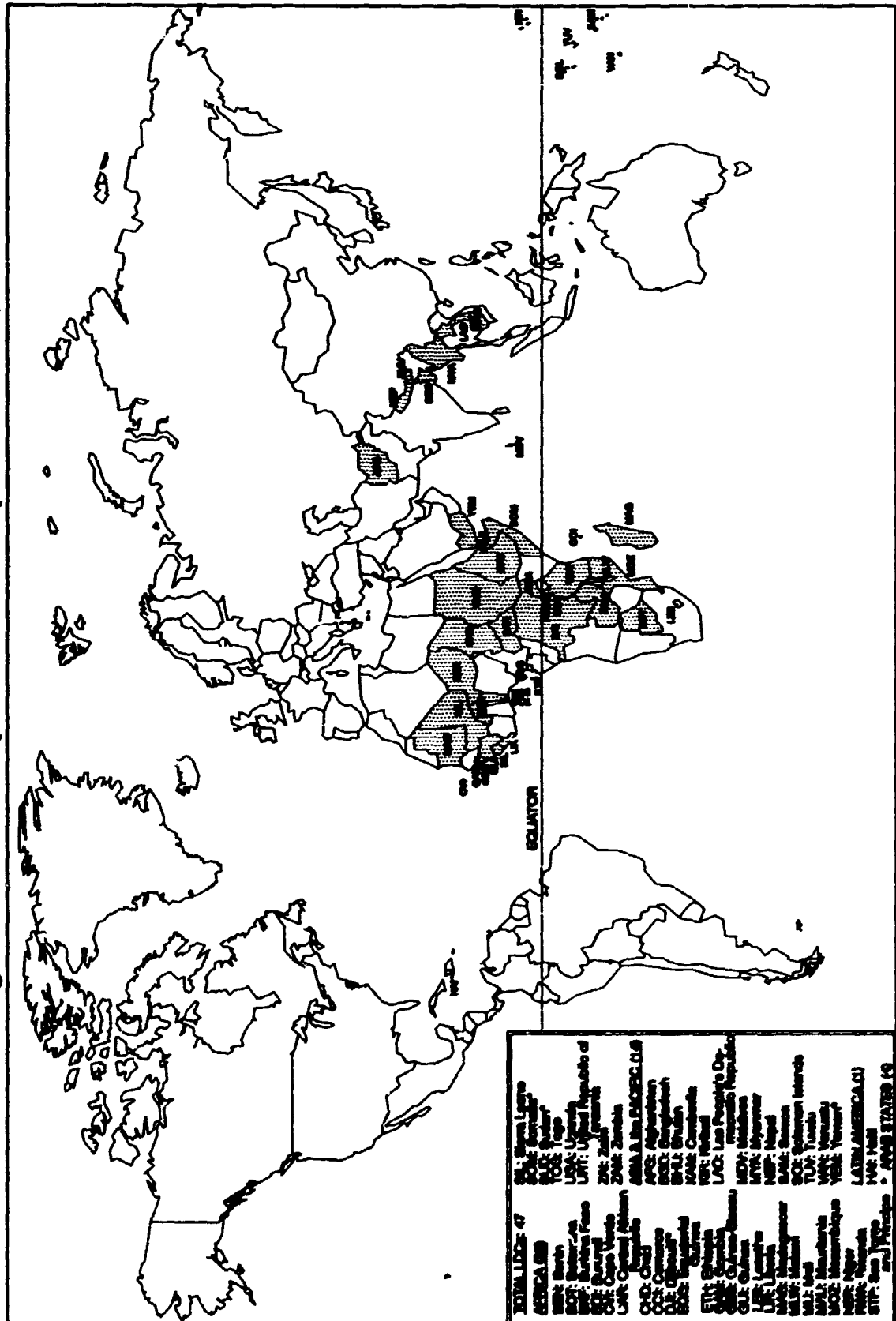
PREFACE

The Second United Nations Conference on the Least Developed Countries (LDCs) was held in Paris from 3 - 14 September 1990. This Conference adopted the Paris Declaration and Programme of Action in order to focus national and international efforts on the many severe difficulties faced by the Least Developed Countries. As a follow-up to this activity, UNIDO, with financial support from the Government of Italy, organized a Workshop on Industrial Development in the Least Developed Countries. The aim of the Workshop was to review the status of industry in this group of countries and to analyze key issues of industrial development. The Workshop prepared an Industrial Action Plan which was subsequently approved by the Fourth General Conference of UNIDO in November 1991. The General Conference also approved a Programme of Action adopted by a high-level Symposium on Industrialization in the Least Developed Countries held immediately prior to the General Conference.

The studies carried out for the Workshop and the Plan of Action and Programme of Action constitute a considerable body of material dealing with the detailed problems of industrialization in the Least Developed Countries. It is hoped that they may be found useful as reference and guidance material for programming action and for international cooperation to assist the industrialization efforts in LDCs.

Industrialization is a system which is a component of a socio-economic process, but manufacturing in LDCs at present exhibits shortages, constraints, and bottlenecks. All LDCs have small manufacturing sectors and their industrialization prospects therefore rest primarily on the creation of new industries. This means that the supporting environment in terms of the policy framework, industrial supplies and services, infrastructure, markets, and human resources have all to be greatly improved. In spite of the present small size of manufacturing activity in Least Developed Countries, it offers in many cases the only long-term growth prospects for these countries. It is hoped that the present publication will highlight these issues at the international level and make more widely available the wide-ranging analysis of industrialization issues that has been carried out as part of UNIDO's follow-up activities to the Paris Conference.

Figure 1: Sketch map of least developed countries, 1992



EXPLANATORY NOTES

ACP	Africa, Caribbean and Pacific Group of States
AIESEC	Association Internationale des Etudiants en Sciences Economiques et Commerciales
APQLI	Augmented physical quality of life
BKK	Badan Kredit Kecamatan (Sub-district Credit Institution, Indonesia)
CFA	CFA Franc (currency) (African Financial Community Franc)
CIHSE	Cottage Industry and Handicraft Sales Emporium
CMEA	Council for Mutual Economic Assistance
DAC	Development Assistance Committee
ECA	Economic Commission for Africa
ECOWAS	Economic Community of West African States
ECU	European currency unit
EDI	Economic diversification index
EDI	Economic Development Institute
EEC	European Economic Community
EPVs	Export Processing Villages
EPZs	Export processing zones
ESAMI	Eastern and Southern African Management Institute
ESCAP	Economic and Social Commission for Asia and the Pacific
ESID	Ecologically Sustainable Industrial Development
FDI	Foreign direct investment
FLP	Flexible Learning Packages
GATT	General Agreement on Tariffs and Trade
GDP	Gross domestic product
GON	Government of The Netherlands
GSTP	Generalized System of Trade and Preference
HRD	Human resource development
IDDA	Industrial Development Decade for Africa
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
ILO	International Labour Organization
IMCB	International Management Centre for Buckingham
IMF	International Monetary Fund
IOC	Indian Ocean Commission
ISI	Import substitution industrialization
ISIC	International Standard Industrial Classification of all Economic Activities
IST	In-service Training
LDCs	Least developed countries
MBA	Master of Business Administration
MD	Managing Director
MDP	Management development programme
MIGA	Multilateral Investment Guarantee Agency
MVA	Manufacturing value added
NGO	Non-governmental Organizations
NIC	Newly industrializing countries

ODA	Official development assistance
OECD	Organization for Economic Cooperation and Development
PCs	Personal computers
PDSU	Programme Development Support Unit
PIES	Public Industrial Enterprises' Secretariat
PIP	Planning for Improved Enterprise Performance programme
PTA	Preferential Trade Area for Eastern and Southern African States
R&D	Research and Development
RSIEs	Rural small industrial enterprises
SACUA	Southern African Customs Union Agreement
SADCC	Southern African Development Coordination Conference
SAF	Structural Adjustment Facility
SAP	Structural Adjustment Programme
SAARC	Southern Asian Association for Regional Cooperation
SCI	Small and cottage industries
SEWA	Self Employed Women's Association
SIDOs	Small-scale industry development organizations
SMI	Small- and medium scale industries
SMIDAs	Small and Micro Industry Development Agencies
SNPA	Substantial New Programme of Action
SOEs	State-owned enterprises
SSA	Sub-Saharan Africa
SSEs	Small-scale enterprises
SSIEs	Small-scale industrial enterprises
TQM	Total Quality Management
UDC	Uganda Development Corporation
UDEAC	Union Douanière et Economique de l'Afrique Central
UNCLDC II	Second United Nations Conference on LDCs
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme

CONTENTS

	<i>Page</i>
Preface	i
Sketch map of least developed countries	ii
Explanatory Notes	iii
INTRODUCTION	1
PART I	8
1. THE STATUS OF INDUSTRY IN THE LEAST DEVELOPED COUNTRIES	9
1.1 Progress and problems in the industrialization of LDCs	9
1.1.1 LDC's status in global socio-economic development	9
1.1.2 The role of manufacturing in socio-economic development	13
1.1.3 The status of the manufacturing sector in LDCs	13
1.1.3.1 Levels of manufacturing in LDCs	13
1.1.3.2 Sectoral composition of manufacturing in LDCs	19
1.1.3.3 Diversification of the manufacturing base in LDCs	21
1.1.4 Level of capacity utilization in manufacturing	23
1.2 The status of the industrial system in LDCs	25
1.2.1 Inputs from agriculture and mining	26
1.2.1.1 Agro-related industries: the case of metal-working	27
1.2.2 Inputs from the manufacturing sector itself	28
1.2.3 Labour	30
1.2.4 Markets and supplies	31
1.2.5 The industrialist and investment decision	33
1.2.6 Transport	36
1.2.7 Communication and media	38
1.2.8 International linkages	39
1.3 Conclusions	41
2. INDUSTRIAL POLICIES IN THE LEAST DEVELOPED COUNTRIES: MAJOR CHALLENGES	42
2.1 Development of an appropriate macroeconomic framework	43
2.2 Need for comprehensive industrial policy	45
2.2.1 Nature and scope of industrial policy	45
2.2.2 Decentralization of industrial policy: a regional/rural development focus	46
2.3 Key areas of industrial policy	48
2.3.1 Small-scale industry development	48
2.3.1.1 Small-scale industries (SSIs) and development	48
2.3.1.2 Small-scale industry development policies	49
2.3.1.3 Suggested policies for small-scale industries' promotion	52
2.3.2 Industrial rehabilitation	52
2.3.2.1 The need for rehabilitation	52
2.3.2.2 The approach to rehabilitation	53
2.3.2.3 International assistance for industrial rehabilitation	55
2.3.3 Investment policy and investment promotion	57

	<i>Page</i>
2.3.3.1 Recent trends in foreign direct investment in LDCs	57
2.3.3.2 Past attempts to attract FDI	58
2.3.3.3 Proposed policies to attract FDI	60
2.3.3.4 International cooperation and foreign investment promotion	62
2.3.4 Private sector promotion and privatization	63
2.3.4.1 Recent evidence of privatization efforts in LDCs	63
2.3.4.2 Privatization issues	67
2.3.4.3 Required policy and initiatives in support of privatization	70
2.3.5 Human resource development	71
2.3.6 The development of new supporting industries and institutions	74
2.3.6.1 New supporting industries and institutions	74
2.3.6.2 Institutional support framework for promotion and development of SSIs	76
2.4 Regional cooperation	77
2.5 Conclusions and outlook	80
3. LINKAGES BETWEEN MANUFACTURING AND OTHER SECTORS OF THE ECONOMIES IN LEAST DEVELOPED COUNTRIES	84
3.1 The concept and importance of linkages	85
3.2 Evidence on linkages	86
3.2.1 Overall linkages	87
3.3 Manufacturing linkages to agriculture	91
3.3.1 Food processing industry	94
3.3.2 Paper and packaging industry	95
3.3.3 Textile industry	95
3.3.4 Fertilizer industry	96
3.3.5 Metal products and engineering industry	97
3.4 Manufacturing linkages to mining	99
3.5 Manufacturing linkages to construction	100
3.6 Manufacturing linkages to services	101
3.6.1 Employment generation implications of manufacturing services linkages	104
3.7 Prospects of industry multiplier effects	108
3.8 International dimensions of linkages	109
3.8.1 Role of subregional economic cooperation in industrial development	110
3.8.1.1 The Preferential Trade Area for Eastern and Southern African States (PTA)	112
3.8.1.2 The South African Development Coordination Conference (SADCC)	113
3.8.1.3 The Economic Community of West African States (ECOWAS)	114
3.8.2 Role of international organizations and technical cooperation	115
3.8.2.1 UNIDO's assistance	115
3.9 Summary, proposals and policy implications	117
3.9.1 Summary	117
3.9.2 Proposals and policy implications	118
4. STIMULATING RURAL SMALL-SCALE INDUSTRIES IN DEVELOPING COUNTRIES	120
4.1 Rural small-scale industry in developing countries: concepts and characteristics	120

	<i>Page</i>	
4.1.1	Definitions	120
4.1.2	The structural role of rural industry	123
4.1.2.1	Importance and scale	123
4.1.2.2	Efficiency and growth	125
4.1.2.3	Linkages	127
4.2	The effects of macroeconomic policy on rural and small-scale industry	128
4.3	Demand-side measures to promote rural small-scale industrial enterprises (RSIEs)	132
4.3.1	Products reservation schemes	132
4.3.2	The encouragement of subcontracting	133
4.3.3	Increasing market shares	134
4.4	Supply-side measures to promote rural small-scale industrial enterprises	135
4.4.1	Small industry development organizations (SIDOs)	135
4.4.2	Credit and finance	136
4.4.3	Infrastructure	138
4.4.4	Technology	139
4.4.5	Small producers' associations	141
4.4.6	Entrepreneurship and training	142
4.4.7	Raw materials	143
4.5	Integrated agro-industry initiatives	144
4.5.1	UNIDO Integrated Programme Approach	146
4.6	Women in rural small-scale industry	148
4.7	Suggestions for the development of rural small-scale industrial enterprises	150
4.7.1	Overall strategy components	150
4.7.2	Institutional framework	151
4.7.3	Other key issues	152
4.7.3.1	Infrastructure	152
4.7.3.2	Subcontracting	153
4.7.3.3	Credit	153
5.	TRAINING INDUSTRIAL MANAGERS IN LEAST DEVELOPED COUNTRIES	155
5.1	The need for industrial management training	157
5.2	Requirements for industrial management development	158
5.2.1	Training needs of pre-start up entrepreneurs	159
5.2.2	Training needs for small enterprise managers	160
5.2.3	Training needs of managers in larger enterprises	162
5.2.3.1	Knowledge and cognitive skills requirements of managers	163
5.2.3.2	Behavioural skills and attitudes requirements of managers	163
5.2.3.3	Training needs from an organizational perspective	167
5.2.4	Training needs of managers of development corporations	169
5.2.5	Effect of computers on training needs	170
5.2.6	Conclusion	172
5.3	Planning, implementing and evaluating management programmes	172
5.3.1	Programme planning	172
5.3.1.1	The role of sponsoring organizations	172
5.3.1.2	The role of a client	173
5.3.2	Programme implementation	174
5.3.2.1	Determining the scope of management development programmes	174

	<i>Page</i>
5.3.2.2 Scheduling	175
5.3.2.3 Instructional techniques	176
5.3.2.3.1 Non-computerized instructional techniques	176
5.3.2.3.2 Computer-assisted instructional techniques	178
5.3.2.4 Role of trainers	179
5.3.3 Evaluation, application and follow-up	182
5.3.3.1 Evaluation	182
5.3.3.2 Application and follow-up	182
5.3.3.2.1 Action plans and action learning	184
5.4 Policy proposals	185
6. POTENTIAL ROLE OF OFFICIAL DEVELOPMENT ASSISTANCE (ODA) PROJECTS IN PROMOTING INDUSTRY IN LDCs	189
6.1 The role of ODA assistance to industry in LDCs	189
6.2 Survey of local sourcing of manufactures for ODA projects	191
6.2.1 An overview	191
6.2.2 The information gap	192
6.2.3 Gaps in donor information exchange procedures	194
6.2.4 Procurement in theory and practice	196
6.2.4.1 General overview	197
6.2.4.2 Some project evidence	202
6.2.5 The problem of aid tying	204
6.2.6 Economic performance and local sourcing	208
6.3 Proposals and policy implications	209
6.3.1 Filling the information gap	209
6.3.2 Proposals at the country level	211
6.3.3 Altering the international agenda	213
7. AID COORDINATION AND INDUSTRIAL DEVELOPMENT IN LDCs	215
7.1 Introduction	215
7.1.1 Aid and industry in LDCs	217
7.2 Strategies for industrial development	218
7.2.1 Background	218
7.2.1.1 Past industrial development strategies	219
7.2.1.2 Present industrial development strategies	219
7.2.2 Implications for industrial sector planning and aid	222
7.3 Issues and trends of aid coordination	224
7.3.1 Background	224
7.3.1.1 The need for aid coordination	224
7.3.2 Individual donor responses	227
7.3.3 Collective responses: Consultative Groups and Round Tables	227
7.3.4 Coordination of technical assistance	228
7.3.5 Donor and recipient perspectives on aid coordination mechanisms	230
7.3.6 Likely trends in aid coordination for LDCs	231
7.4 Aid coordination for industrial development	232
7.4.1 Special features of industrial aid for LDCs	232
7.4.2 Importance of macroeconomic and sector policy framework	232
7.4.3 Making aid relevant to private sector development	233

	<i>Page</i>
7.4.4 Privatization and managing/reforming existing public sector enterprises	235
7.4.5 NGOs and industrial development in LDCs	235
7.4.6 Regional cooperation and coordination	236
7.4.7 Coordination amongst aid agencies	237
7.4.8 Role of UNIDO in aid coordination	237
7.4.9 Aid modalities	238
7.5 Conclusions and policy proposals	239
8. INTERNATIONAL SUPPORT FOR INDUSTRY IN THE LDCs	241
8.1 The need to mobilize public support for industry in LDCs	241
8.2 Industry in public perception	242
8.2.1 The place of industry in the international development dialogue	243
8.2.2 United Nations conferences on LDCs	245
8.2.3 Limited development assistance to industry	246
8.2.4 The role of industry in the New Programme of Action	247
8.3 Target and target groups	249
8.3.1 Setting targets	249
8.3.2 Identifying target groups	251
8.4 Outlining a strategy for media exposure of LDC industrial potential	256
8.4.1 Creating a coherent UNIDO profile	256
8.4.2 Publication and dissemination of UNIDO printed material	256
8.4.3 Compilation of fact-kits	256
8.4.4 Production and dissemination of UNIDO audiovisual material	256
8.4.5 Collection and dissemination of photographic/film material	257
8.4.6 Seminars and workshops	257
8.4.7 Expanding the media contact	258
8.4.8 Media field trips	259
8.4.9 Scholarships and awards for research and documentation	260
8.4.10 Financial incentives for publishing	260
8.4.11 A UNIDO award for journalism	261
8.4.12 Cooperation with other organizations	261
PART II	263
9. INDUSTRIAL ACTION PLAN FOR THE LEAST DEVELOPED COUNTRIES IN THE 1990s	264
10. INDUSTRIAL ACTION PROGRAMME FOR THE LEAST DEVELOPED COUNTRIES IN THE 1990s	289
11. UNIDO's SUPPORT FOR INDUSTRIALIZATION IN LDCs	305
REFERENCES	320
ANNEX I: List of the least developed among the developing countries, 1992	333
ANNEX II: List of participants of Workshop and Symposium on industrial development in the Least Developed Countries, Vienna, Austria, 1991	334
ANNEX III: Basic indicators of manufacturing - 25 selected LDCs, 1985-1990	342

List of tables

Chapter 1:

I.1	Population and growth of GDP per capita, by economic grouping, 1960-1990	9
I.2	GDP per capita levels and growth rates, by economic grouping, 1985-2000	10
I.3	Sectoral composition of GDP, by economic grouping, 1960-1987	10
I.4	Distribution of economic activity, major economic grouping, 1960-1987	11
I.5	Indicators of investment and saving performance in world economy, 1960-1987	11
I.6	Average annual rates of growth of exports and imports in the world economy, 1961-1987	12
I.7	Share of MVA in GDP, selected economic groupings, 1970-1988	14
I.8	Share of MVA in manufacturing sub-sectors in selected LDCs, 1984-1989	20

Chapter 3:

III.1	GDP share, MVA and MVA growth rates, LDC, developed and developing countries, 1980-1991	88
III.2	Average annual growth rate of value added of economic sectors, LDCs, 1990	89
III.3	Sector share in total constant GDP in market prices, LDCs, 1990	92
III.4	Mining sector contribution to economies of selected African LDCs, 1987	99
III.5	Population, labour force and employment in economic sectors, LDCs, 1960-1990	106
III.6	Total household consumption, selected LDCs, 1980-1985	108
III.7	LDC's membership in selected regional and subregional organizations	111
III.8	Technology capability and industrial skills in selected LDCs, 1970-1987	117

Chapter 4:

IV.1	Percentage of rural labour force with primary employment in rural non-farm activities	123
IV.2	Sectoral composition of rural non-farm employment in selected countries, 1970-1975	124
IV.3	Share of rural labour force in manufacturing and non-farm activities, selected countries, 1970-1983/84	124
IV.4	Employment in industry by size of firm	125
IV.5	Origin of modern small and medium private manufacturing firms	126

Chapter 6:

VI.1	Aid tying and total ODA, commitments of DAC bilateral donors to LDCs, 1987	205
------	--	-----

List of figures

1.	Sketch map of Least Developed Countries	ii
2.	Key issues and system linkages of industrialization in LDCs	3

Chapter 1:

I.1	Share of savings and investments in GDP, LDCs and developing countries, 1960-1987	12
-----	---	----

	<i>Page</i>	
I.2	Share of LDCs in MVA, manufactured exports and population of developing countries, 1970-1988	14
I.3	Share of MVA in total GDP, LDCs, 1980-1990	15
I.4	Annual growth of MVA and MVA per capita, selected economic groupings, 1970-1988	16
I.5	Rate of growth of MVA, and MVA per capita, LDCs, 1980-1990	18
I.6	Share of LDCs' manufacturing sectors in total MVA of developing countries, 1975-1986	19
I.7	Capacity utilization in LDCs' manufacturing industry	24
I.8	Level of capacity utilization by manufacturing sector, LDCs	24
I.9	Major reasons for capacity under-utilization in manufacturing, LDCs	25
I.10	Major economic policies and measures for industrial developments, LDCs	29
I.11	Major policy problems of manufacturing in LDCs	30
I.12	Level of foreign participation in manufacturing, LDCs	33
I.13	Industrial energy use, LDCs	34
I.14	Major transport problems of manufacturing industry, LDCs	37
I.15	Mass media for manufacturing industry	38

Chapter 2:

II.1	Rural and urban population, selected LDCs, 1960-1990	47
II.2	The manufacturing plant and its working environment: Top-down/ Bottom-up Approach	54

Chapter 3:

III.1	GDP share, MVA and MVA per capita growth rates, LDCs, developed and developing countries, 1980-1991	87
-------	---	----

Chapter 4:

IV.1	Integrated agro-industrial complex for rice	145
------	---	-----

Boxes

1.	Toward a revision of the criteria for identifying LDCs	6
2.	Case study of management development in an LDC: Uganda	181
3.	Coordinating Technical Assistance-NaTCAPs	229
4.	The Paris Declaration of the Second United Nations Conference on the least developed countries	318

INTRODUCTION

Socio-economic crisis and marginalization of the Least Developed Countries¹ (see Figure 1) a set of 47 countries with an estimated (1990) population of 508 million people - in the world economy pose a major challenge to the global community.

Numerous problems both internal and external hinder development in the LDCs. These problems are summarized by the UN Committee for Development Planning's new classification criteria of LDCs (see Box 1). Obstacles to development may be classified as physical (land lockedness and remote insular location), resource and market, savings and foreign exchange, human resource, infrastructural and institutional and social stability constraints. The well-known internal obstacles include poor infrastructure and communication, inadequate health and educational services, scarce and unreliable power supplies, and insufficient agricultural and industrial services, together with generally weak institutional and administrative capacity and capabilities for development. Progress often falters or is lost in the face of civil unrest and natural disasters. Vicious cycles of poverty can be found in many LDCs, where abject poverty in rural areas may lead to environmental degradation through unsound farming, or to rapid urbanization as a result of migration away from rural areas.

Compounding the already precarious situation of development in LDCs are several uncertainties about the international economic environment, including: changing patterns of industrial competition; changes in geographic and product composition of trade; changes in the determinants and the magnitude of foreign direct investment (FDI) and financial flows; the development of new technologies resulting in new production processes and new skill requirements; the development of strategic partnerships and agreements across national borders; the building of new regional trading blocks; and the uncertainties in exchange rates and raw material prices.

Developing countries in general, and LDCs in particular, are on the periphery of the international trade and development process. The latter's share in world exports amounted to only 0.3 per cent in 1988, as compared to 1.4 per cent in 1960. Three fifths of world trade takes place within the three major blocks, namely, North America, Western Europe and Asia/the Pacific blocks. Almost every globally significant R&D, technology, investment and marketing programmes originate from this block constellation. Also, there is a tendency for FDI flows to concentrate more than before on OECD host countries and in general on most advanced countries. There is a danger that LDCs may thus become further marginalized. National efforts to remedy this situation may appear limited, partly because of the heavy burden of debt-servicing requirements and low rates of domestic savings in the LDCs and partly because of inherent market and infrastructural constraints.

¹ In order to mobilize resources for development in the "poorest countries, the General Assembly approved of and recognized as such in 1971 a set of twenty-five countries denoted as "Least Developed Countries" (LDCs) by the United Nations Committee for Development Planning. The criteria used for the classification included the following (a) a per capita gross product of less than US\$ 100; (b) a share of manufacturing in gross domestic product of less than 20 per cent and; (c) an adult literacy of less than 10 per cent. At present, the LDCs are 47 in number (Madagascar, Zaire, Zambia, Cambodia and the Solomon Islands are the new recent member states) with 32 in Africa alone, 14 in Asia and the Pacific and one (Haiti) in the Caribbean.

The state of the global economy and the situation of the LDCs thus raises the following questions:

- What are the expectations for the magnitude and pattern of world economic growth in the coming years, and how will this affect LDCs?
- Given the marginalization of LDCs in the world economy, what trends in trade, investment and the organization of production are of most significance to them and what are the driving forces behind these?
- What are the prospects of increased manufactured exports from LDCs to world markets, and what are the policies and measures at the national level of LDCs through which these could be attained?
- What are the implications of international technology trends (automation, biotechnology, and new materials) for LDCs?
- What new initiatives can be conceived for co-operation among developing countries including LDCs for technology development and transfer?

The international community has responded and is continuing to respond in diverse ways to the challenges of socio-economic problems of LDCs. In 1981, the First United Nations Conference on the Least Developed Countries adopted the Substantial New Programme (SNPA) with the aim of speeding up economic recovery through specific programme and actions.

Despite the SNPA's recovery programme undertaken at country, regional and global level, the LDCs, contrary to expectations performed poorly - growth rate targets set were hardly met in the 1980s.

The seriousness of their development problems prompted the United Nations in 1990 to convene in Paris the Second Conference on the Least Developed Countries, which adopted the Paris Declaration and a Programme of Action. This programme seeks to revitalize development in LDCs through concrete measures and international commitments.

As a follow-up to the Paris Declaration and Programme of Action, and recognizing that industrialization is an indispensable path to development, UNIDO with financial support from the Government of Italy, organized a workshop and symposium on industrial development in the least developed countries in August and November 1991. The workshop and symposium reviewed the state of industry, analyzed some salient issues of industrial development and approved a draft industrial action plan and programme for industrial growth in the LDCs. Both action plan and programme for industry were subsequently adopted by the fourth General Conference of UNIDO in November 1991. It is hoped that with sufficient financial resources and international support the proposed set of actions would be effectively implemented to help boost industrialization and socio-economic recovery of LDCs.

This report embodies two main parts: Part I dealing with some key issues of industrial development and Part 2 with special activities of UNIDO in furtherance of growth and development.

Part I includes seven chapters.² Figure 2 depicts the issues raised and discussed in the chapters as well as the interrelationship between them. In chapter 1, a systems approach is used to assess the immediate industrial outlook and possible areas for policy action are identified. Included are measures for industrial diversification, expansion of linkages between manufacturing and services sectors and optimum production capacity.

Pragmatic and lucid policy is crucial for industrial growth. Chapter 2 highlights on the major challenges of industrial policies. While there is no one policy prescription for all LDCs, certain policy choices were found to be relevant and of general applicability. These include: policies for creating enabling and supportive environment for industry - privatization, liberalization and other policies for better macroeconomic framework; targeted policies for development of industrial entrepreneurship; selective policies for resource-based and decentralized industrial development; and policies for expansion and rehabilitation of existing industries.

Past economic policies have tended to generate little or no economic linkages. In chapter 3, attempt has been made to analyze economic linkages vis-a-vis prospects of industrial growth and development. It is observed that: economic planning has been a problem area - planning was compartmentalized and carried solely on sectoral basis with little or no reference to the inherent virtues of intersectoral linkages, that LDCs industry's links with other sectors - services and to some degree agriculture, mining and construction were stronger than those within manufacturing itself; and that the dearth of statistical databases poses a serious drawback to effective identification and delineation of economic linkages. In chapter 3, possible measures for the development and fostering of economic linkages are proposed.

Past policies such as import substitution, neglect of rural small-scale industries and other measures resulted in the proliferation of unprofitable state-owned large-scale industries, which were incapable of generating effective economic linkages. Rural small-scale industry is a key sector in most LDCs. It plays a critical role and has large potential for generating intersectoral linkages, intrasectoral linkages within manufacturing and in generating incomes and employment for women and the rural and urban poor.

² Parts I and II are based on the studies prepared for the Workshop and Symposium on Industrialization in Least Developed Countries convened in Vienna, Austria, August 19-23 and 14-22 November 1991. See the following UNIDO documents (1991): Linkages between manufacturing and other sectors of the economy in the Least Developed Countries (ID/WG.515/1(SPEC)); Industrial policies in the Least Developed Countries: Major Challenges (ID/WG.515/3(SPEC)); The potential role of industrial development assistance (ODA) projects in promoting industry in the Least developed Countries (LDCs) (ID/WG.515/3(SPEC)); Stimulating rural small-scale industries in developing countries (ID/WG.515/4(SPEC)); International support for industrialization in the Least Developed Countries (LDCs) (ID/WG.515/5(SPEC)); Training industrial managers in Least Developed Countries (ID/WG.515/6(SPEC)); Status of industry in the Least Developed Countries (ID/WG.515/7(SPEC)); Aid co-ordination and industrial development in the Least Developed Countries (LDCs) (ID/WG.515/8(SPEC)); Industrialization in the Least Developed Countries: Issues paper (ID/WG.515/9(SPEC.)) and; Draft industrial action programme for the Least Developed Countries (ID/WG.521/3(SPEC.)).

In chapter 4, a number of observations were made: regional differences in rural small-scale industry's backward linkages with other economic sectors such as agriculture; and a large gap between micro - and large enterprises, the result of inappropriate planning. It also pinpointed a set of policy proposals for stimulating rural small-scale industry, for example: the implacement of preferential interest rates; provision of adequate investment capital and infrastructure; development of appropriate technology to suit the needs of rural small-scale industry; development of industrial estates; and adoption of an integrated or filière approach to rural industrialization.

Efforts by LDC governments at macroeconomic stabilization institutional reforms, privatization of the public sector in a bid to pave the way for private sector led growth, as well as new emphasis on small-scale enterprise development have given the cause to raise the questions how best to mobilize, develop and maintain human resources for industrialization. Thus chapter 5 analyzes a single but very important aspect of human resource development, the problems of training of industrial managers. The chapter has the following message: that management training needs to be adapted and developed to reflect the cultures of least developed countries; that particular adjustments need to be made in management training programmes to accommodate not only the needs of busy entrepreneurs, but also women in industry; and that management development need to be made an integral part of negotiation on investment and privatizing issues.

Given their reduced capacity to generate the levels of finance required to restore and maintain growth from their own resources, LDCs would continue to rely on the support of development partners for aid. Improvements in both the volume and quality of aid provided is crucial. Since the share of aid channelled to industry is significantly smaller than that of other sectors - recent estimated flow was less than 3 per cent - chapter 6 attempts a review of the prospects for greater links of the local manufacturing sector with ODA projects whereby industry would provide some of local manufactured inputs required. Factors which hinder local sourcing: as donor bias against local procurement; unfavourable international bidding procedures; paucity of data and information on domestic sourcing possibilities; and widespread aid tying are discussed in chapter 6. Policy proposals and measures to stimulate industry through increased local sourcing of local manufactures are also advanced in the chapter.

In view of the rather bleak prospects for substantial increase of ODA flowing to LDCs and to their industry in particular, it is even more important that the resources flow be as well better coordinated and managed as possible. Thus chapter 7 addresses the issues of aid coordination and the development of feasible mechanisms and institutions for better aid coordination. Proposals are made for aid coordination on the national and supranational level to help avoid duplication of efforts at the operational level or common administrative technical/problems and facilitate thereby use of scarce resources.

Due to the tendency of the general public in industrialized and developing countries including LDCs to lose sight of the plight and potential of industry in LDCs, the last chapter of Part I reviews possible effective means of enhancing public awareness about the role of industry in the development process. The chapter also identifies a number of specific mechanisms for reaching target groups through the media and other information channels in order to augment public support - especially those of bilateral donors and non-governmental agencies - for industry in the LDCs.

Part II of this report focuses on the role and specific activities of UNIDO in the industrial development of LDCs - the main features are the plan of action and programme for industrial development in LDCs, and recent developments in UNIDO technical cooperation assistance to LDCs. Appended to this report is a list of basic indicators of manufacturing in selected LDCs.

Box 1: Toward a revision of the criteria for identifying LDCs

In order to give some guidance to donor agencies and countries about an equitable allocation of foreign assistance to the "poorest" countries, the United Nations Committee for Development Planning in 1971 came up with a list of twenty five countries termed "least developed countries". The classification criteria used in delimiting those countries consist of a blend of indicators depicting structural features of slow growth, poverty (unfavourable geographical location, poor climate, small size, undeveloped human resources and inadequate economic infrastructure) and low average income itself. Significant modifications to the original criteria have been made since 1971, one in 1973 and the other in 1981. Since 1981, more countries have been included in the list of least developed countries based on fixed cut-off points for three indicators:

- upper cut-off points for per capita GDP;
- a manufacturing share of 10 per cent or less in total GDP; and
- a literacy rate of 20 per cent or less.

A country was recommended for LDC status if it satisfied at least the last two criteria.

Reasons for revision

Dissatisfaction over the application of the original classification criteria has been expressed on several occasions both within and without the Committee. The main reason for this is that the criteria no longer reflect current thinking on development problems. They instead characterized features of a country, whereas today the focus has shifted towards people and policies issues of countries. In practical terms the list is no longer useful because aid donors are increasingly thinking in terms of completely different categories when taking decisions about aid allocations: the size of the country is less relevant; the extent of poverty is more crucial. Also there are statistical problems - low quality of available data makes it difficult to assess accurately the level of average income per head, and data on micro countries even makes comparison and interpretation difficult. In 1990, the Committee summed its position on the need for revision thus:

"The Committee wished to reiterate - as it had done several times in the recent past - that the existing criteria, which were tentatively formulated some two decades ago under the constraint of a paucity of data on development indicators for developing countries, were not adequate to bring out in a conclusive manner long-term structural weakness which underlay the concept of "least developed".*

General considerations

In formulating the new set of criteria, the Committee attaches importance to a number of considerations including:

- elucidating the salient characteristics of the LDCs - poverty combined with structural impediments make achievement of sustained development without special assistance from the international community;
- minimizing the likelihood of easy reversibility from LDC status and vice versa by using robust indicators which help to avoid fluctuations in one or single indicator;
- use of transparent and consistent indicators for which reliable data are available on regular basis and;
- application of less rigid/mechanical criteria - for inclusion or graduation of countries in the list, criteria would have to be judiciously applied, especially on borderline cases such as in deliberations over:
 - country's poverty and long-term structural impediments;
 - inclusion of additional indicators in order to assess country's status; and
 - need for in-depth country studies that might be needed to dispel doubts over country's status.

(Box 1: Continued)

The Criteria

By definition, the revised concept of the least developed countries means countries with low-income and those that are suffering from long-term handicaps of growth, in particular, low levels of human resource development and/or severe structural weaknesses. Indicators used in their grouping as defined in the new criteria of the Committee include:

- **Level of poverty index** - measured in terms of per capita GDP.
- **Augmented physical quality of life (APQLI)** - comprising four indicators: (a) life expectancy at birth, (b) per capita caloric supply, (c) combined primary and secondary school enrolment ration, and (d) adult literacy rate.
- **Economic diversification index (EDI)** - comprising four indicators: (a) *share of manufacturing in GDP*, (b) per capita electricity consumption per year, (c) export concentration ration, and (d) *proportion of labour force in industry*.
- **Natural handicaps** - such as small population size, geographical isolation (for example, island countries), landlockedness or high risks of climatic disasters measured by the instability index of agricultural production or by process to droughts, floods and cyclones.
- **Structural weakness** - includes: (a) natural endowment index - agricultural land per capita, exports of minerals as percentage of total exports, and average rainfall and rainfall variability, (b) instability of agricultural production index or specific climatic risks, (c) exports of petroleum as percentage of total exports, and (d) official development assistance as percentage of GNP.

For operational purposes, the Committee selects benchmarks or cut-off points for the composite indicators - per capita GDP of US\$600 or less, population of US\$75 million or less, APQLI of 47 points or less, and EDI of 22 points or less.

Inclusion rule: A country is eligible for inclusion in the list if it meets all the four formal criteria - population size, per capita income, the APQLI and the EDI, subject to the judgement of the Committee on the natural endowment index and its component indicators - exports of petroleum as a percentage of total exports and official development assistance as a percentage of GNP; or if it meets the population and the per capita income criterion, and the APQLI or the EDI and is landlocked, is a small country with a population of one million or less, suffers from frequent severe climate risk, such as drought, floods and cyclones.

Graduation rule: A country will be graduated from the list if it has exceeded the cut-off point on the per capita income criterion at the time of a review and the cut-off point on either the APQLI or the EDI for three years, or if it has exceeded the cut-off points on both the APQLI and the EDI, even if its per capita income remained below the cut-off point on the per capita income criterion. The margins by which the cut-off points need to be exceeded are set at US\$100 per capita income 5 points on the APQLI and 3 points on the EDI.

On the basis of the new set of criteria and the new inclusion and graduation rules, the Committee recommends that (a) all 42 countries currently on the list (1990) be retained - except Botswana, for which it recommends for graduation; (b) six new countries (Cambodia, Ghana, Madagascar, Solomon Islands, Zaire and Zambia) be included in the list bringing the total to 47 countries*** (see Annex table 1). The list is subject to general review every three years by the Committee to accommodate changes in the socio-economic indicators and policies in LDCs in particular and developing countries as a whole.

- Notes:
- * See UN, Economic and Social Council, Report of the Committee for Development Planning on its twenty-seventh session (E/1991/32). 13 June 1991, pp. 6-7, and
 - ** See Official Records of the Economic and Social Council, 1990, Supplement No. 7 (E/1990/27), p. 46.
 - *** For technical and analytical reasons Botswana has been maintained and Ghana not included in this report.

PART I.

Development by definition basically implies both quantitative and qualitative changes that contribute to improve the quality and standard of living of the people. Thus progress in industrialization would play a potential and critical role in economic development and enhance the economic welfare of the population. In reality, however, the role of industry as the "engine" of development in LDCs has been minimal and since the last decade, the pace of industrialization in the LDCs has retrogressed considerably.

The question as to how to revitalize industry so as to make it capable of performing its role in LDCs' development has called for a critical examination of industrial performance and possible approaches or strategies to improve its efficiency.

Industry can be perceived as a sector which maintains a functional relationship within itself, and with other sectors such as agriculture, mining, services, labour, capital and the external system - imports, exports and development assistance. It is within this systems framework that Part I of this report is organized. A discussion of salient issues, factors and strategies considered relevant to industrialization in the LDCs: the role and status of industry; resource supply for industry; linkages between industry and other economic sectors; rural industrial development; an aspect of human resource development - industrial management skills training; development assistance; and international support for industrial development will be made in the following chapters.

1. THE STATUS OF INDUSTRY IN THE LEAST DEVELOPED COUNTRIES

Chapter 1 examines the present status and development potential of industry in LDCs. It looks at the status of industrialization as a system and an important component of socio-economic progress. It also briefly summarizes the current state and challenges of industrialization, and recommends policies for industrial development in the LDCs.

1.1 Progress and problems in the industrialization of LDCs

1.1.1 LDCs' status in global socio-economic development

According to a recent United Nations study, the disparities in economic and social development between developed countries and the LDCs are expected to widen markedly in the 1990s (see Tables I.1 and I.2).³ Economic growth in the LDCs has been relatively poor in relation to their rate of population growth. Thus, not only has the gap with developed countries widened, but as a result, their average gross domestic product per capita in 1990 was some 5 per cent lower than in 1970.

Table I.1: Population and growth of GDP per capita, by economic grouping, 1960-1990*

Country, economic grouping	Population (1980)		Average annual rate of growth of GDP per capita			GDP per capita			
	Millions	Share (Per cent)	60-70	70-80	80-90	1960	1970	1980	1990
World	4,371***	100.0	3.2	1.9	1.3	1,601	2,191	62,647	3,000
Developed market economies	768	17.6	3.9	2.4	2.1	5,501	8,042	10,185	12,480
Eastern Europe and the USSR**	378	8.6	6.2	4.2	2.3	1,154	2,101	3,192	4,010
China	996	22.3	2	4.1	7.5	169	198	290	600
Developing countries	2,230	51.0	3.3	2.4	0.1	556	763	971	980
By regions:									
North Africa	88	2.0	8.2	1.2	-0.3	590	1,284	1,438	1,400
Sub-Saharan Africa	364	8.3	1.8	-0.4	-2.6	514	606	580	440
Western Asia	88	2.0	4.1	1.0	-4.3	2,478	3,700	4,180	2,730
South and East Asia	1,262	28.9	2.6	4.1	3.7	228	293	435	620
Latin America and the Caribbean	361	8.3	2.7	2.4	-1.1	1,409	61,831	2,320	2,090
Mediterranean	68	1.6	3.7	3.7	1.1	924	1,322	1,936	2,160
Least Developed Countries	312	7.1	1.1	-0.2	-0.3	227	264	248	240

Source: United Nations, *Global Outlook 2000 - An Economic, Social and Environmental Perspectives*, N.Y.: 1990, p. 10

Notes: * At 1980 US dollars and net exchange rates

** Based on net material product (NMP)

*** Excludes countries and territories with a combined population of 79 million people in 1980 for which income data are not available

³ The figures given in these tables were based upon official data up to 1988. For the period 1988-1990, preliminary estimates and project LINK and UN Secretariat assessments were used. World economic growth beginning in 1991 was projected using the Global Econometric Model (GEM) of the UN Secretariat on the assumption that long-term trends in macroeconomic indicators would be sustainable. This assumption was translated country by country into expected magnitudes for investment and investment efficiency. GDP growth was derived as the share of investment in GDP divided by the incremental capital output ratio (ICOR).

Table I.2: GDP per capita levels and growth rates, by economic grouping, 1985-2000*

Country, economic grouping	Growth rates					
	GDP		GDP per capita		GDP per capita	
	1985-90	90-2000	1985-90	1990-2000	1985	2000
World	3.3	3.5	1.6	1.8	2,770	3,580
Developed market economies	3.0	3.1	2.5	2.6	11,100	16,130
North America	2.9	3.0	2.0	2.3	12,750	17,780
West Europe	2.9	2.8	2.6	2.6	10,840	15,910
Other	4.2	3.9	2.8	3.0	9,150	14,200
Eastern Europe and the USSR**	2.7	3.6	1.9	3.0	3,650	5,370
China	8.0	5.6	6.6	4.2	430	900
Developing countries	3.4	4.3	1.0	2.0	920	1,200
Least Developed Countries	3.5	3.1	0.7	0.2	240	270

Source: United Nations, *Global Outlook 2000*, op. cit., 1990, p. 11.

Notes: * At 1980 US dollars and net exchange rates ** Based on net material products (NMP)

The speed and character of structural change varies worldwide, but certain trends can be noticed (see Tables I.3 and I.4). There is a shift out of agriculture and a strong shift towards the service sector. Some of the major forces behind these structural changes are: the development of new technologies and their rate of diffusion among industries and countries, and changes in the organization of industrial activities (such as redeployment of industries due to comparative cost advantages). The creation of domestic capacities for the absorption and adaptation of new technologies for industry and agricultural activities is thus an important although costly policy for LDCs to pursue.

Table I.3: Sectoral composition of GDP, by economic grouping, 1960-1987
(Per cent, in current prices and exchange rates)

Country, economic grouping	Agriculture		Mining and quarrying		Manufacturing		Utilities		Construction		Services	
	1960	1987	1960	1987	1960	1987	1960	1987	1960	1987	1960	1987
	Developed market economies	6.4	2.7	2.7	2.0	30.4	23.1	2.6	3.0	5.7	5.8	52.2	63.3
Major industrialized economies a/	5.6	2.4	2.6	1.8	30.9	23.3	2.6	3.1	5.5	5.7	52.6	63.7
Other developed economies	12.5	4.7	2.8	3.3	26.3	21.1	2.3	3.0	7.3	6.6	48.9	60.8
Eastern Europe and the USSR b/	21.0	18.0			52.9 c/	50.5			9.7	9.4	16.4	22.1
China	38.2	33.8			42.4 d/	45.7 d/					19.4 e/	20.4 e/
Developing countries	31.5	16.0	3.9	5.7	16.8	21.0	1.0	2.4	4.9	5.8	42.0	49.1
Least Developed Countries	57.4	42.7	0.8	2.4	5.7	8.5	0.7	1.1	3.0	4.4	32.4	41.0

Source: United Nations, *Global Outlook 2000*, op. cit., 1990, p. 34

Notes: a/ North America, Europe and Japan. b/ Composition of net material produced, listed under 1987 relate 1965.

c/ Data listed under 1980 relate to 1970. d/ Includes mining, quarrying and utilities. e/ Includes construction.

Table I.4: Distribution of economic activity, major economic grouping, 1960-1987
(Per cent)

Economic grouping	Agriculture		Mining and quarrying		Manufacturing		Utilities		Construction		Services		GDP	
	1960	1987	1960	1987	1960	1987	1960	1987	1960	1987	1960	1987	1960	1987
	World market economies	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Developed market economies	56.2	47.3	77.3	64.9	90.0	85.4	90.0	87.2	85.1	84.1	86.0	87.2	83.2	84.1
Major industrialized economies	39.3	36.6	68.3	51.1	81.3	75.2	84.1	76.3	73.1	71.9	77.1	76.5	74.0	73.3
Other developed economies	10.9	10.7	9.0	13.8	8.6	10.2	8.6	10.9	10.9	12.2	8.9	10.7	9.2	10.8
Developing countries	49.8	52.7	22.7	35.1	10.0	14.6	7.0	12.8	12.8	15.9	14.0	12.8	16.8	15.9
Least Developed Countries	5.5	4.2	0.3	0.4	0.2	0.2	0.3	0.2	0.5	0.4	0.7	0.3	1.0	0.5

Source: United Nations, *Global Outlook 2000*, op. cit. 1990, p. 35

Note: Share of economic groups in gross sectoral product of world market economies measured at current prices and exchange rates

For the developed countries, the structural changes represent a process of gradual adjustment and adaptation to technical advancement and higher incomes. In LDCs, however, the process of industrialization has often been of an enclave type, i.e. large-scale industries were established which had no clear connexion with the rest of the economy. Other economic activities remained geared to traditional production and marketing patterns. The LDCs thus remained heavily dependent on the exports of primary goods which have a very low demand elasticity. Productivity growth in the services and agricultural sector has remained low, and in the foreseeable future productivity in most of these activities is unlikely to increase significantly. In general, there is neither the necessary diversity nor flexibility for a painless process of structural change. Structural change could be more easily accommodated if development strategies for the agricultural and manufacturing sectors were better attuned to each other.⁴

An important precondition for economic growth and structural change is capital formation. Faster economic growth is achievable through increase in investment and improvement in efficiency of capital use. Although the rate of capital formation in LDCs rose from less than 10 per cent of GDP in 1960 to about 17 per cent in 1980 before falling back to about 15.1 per cent in 1987, investments still remain significantly below the level in the developed and other developing countries. Taking into consideration the income per capita gap, saving and investment in LDCs has been low. (See Table I.5 and Figure I.1). Factors accounting for this trend, include financing difficulties resulting from the heavy debt burden and commodity price fluctuations, all of which adversely affected investment allocation and reduced capital efficiency in a number of sectors in the LDCs.

Table I.5: Indicators of investment and saving performance in world economy, 1960-1987*

Economic grouping	Growth of GD per capita*			Share of gross capital formation in GDP				Share of national savings in GDF				Share of external resources in GDF			
	60-70	70-80	80-87	60	70	80	87	60	70	80	87	60	70	80	87
	World market economies	3.0	1.5	0.4	21.0	22.8	23.6	21.5	21.1	22.9	23.5	21.4	0.0	-0.1	0.1	0.2
Developed market economies	3.9	2.4	1.9	21.4	23.1	23.1	21.3	22.2	23.6	22.8	21.4	-0.7	-0.7	0.3	-0.1
Major industrialized economies	3.8	2.5	2.1	20.9	22.4	22.8	21.2	22.0	23.4	23.1	21.5	-1.0	-1.1	-0.2	-0.3
Other developed economies	4.2	1.9	1.1	24.7	27.4	24.4	21.7	23.8	25.0	21.6	20.8	-1.0	-2.3	-2.7	-0.8
Developing countries	3.3	2.4	-0.5	19.1	21.2	25.6	22.8	15.8	18.5	26.1	21.0	3.3	2.8	-0.5	1.8
Least Developed Countries	1.1	-0.2	0.3	9.6	12.2	16.5	14.5	5.1	7.5	4.7	4.5	4.5	4.8	11.7	10.0

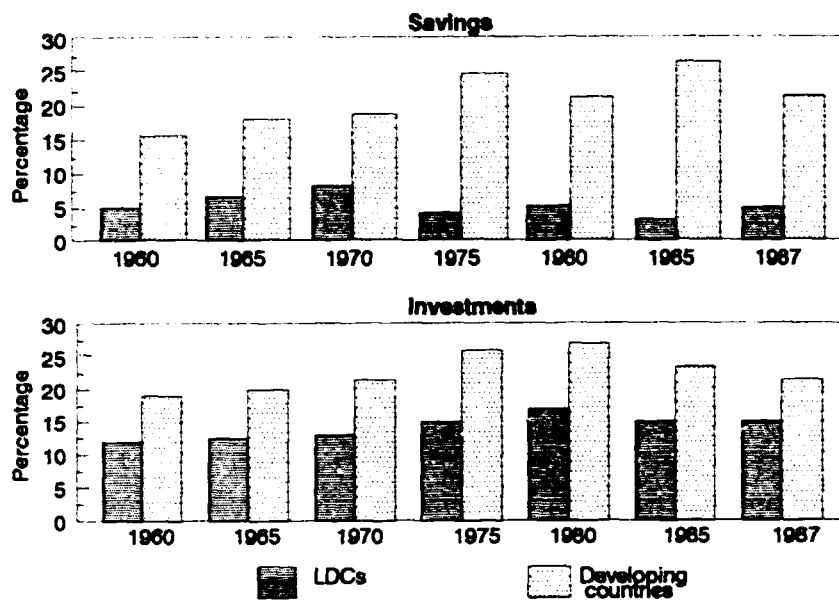
Source: United Nations, *Global Outlook 2000*, op. cit. 1990, p. 36

Notes: * Percentage share of capital formation, gross national savings and external resources in GDP measured at current prices and exchange rates.

** Measured at 1980 prices and exchange rates

⁴ The changes in manufacturing share are not so marked, and can be largely attributed to changes in relative prices.

Figure I.1: Share of savings and investments in GDP, LDCs and developing countries, 1960-1987



Source: United Nations, Global Outlook 2000, op. cit., p. 24.

The most dynamic component of world trade during the period 1960 to 1989 was trade among the developed economies of North America, Western Europe and Japan/Asia. The almost insignificant share of LDCs in world trade (see Table I.6) shows how they lie at the periphery of the world economic system and is another indicator for their low level of development.

Table I.6: Average annual rates of growth of exports and imports in the world economy, 1961-1987* (Per cent, at 1980 prices and exchange rates)

Economic grouping	Period	Exports	Imports	GDP**	Gross national income
World	1961-70	8.1	8.2	5.2	5.3
	1971-80	5.3	5.7	3.8	3.8
	1981-87	3.9	4.3	2.6	2.7
Developed market economies	1961-70	8.1	8.9	4.9	5.1
	1971-80	6.0	4.8	3.2	2.9
	1981-87	3.7	4.5	2.5	2.8
Developing countries	1961-70	8.0	6.0	5.9	5.3
	1971-80	3.2	9.2	5.0	6.7
	1981-87	2.4	1.6	1.7	1.4
Least Developed Countries***	1961-70	4.1	4.4	3.6	3.5
	1971-80	2.6	4.9	2.3	2.2
	1981-87	5.6	7.7	1.8	2.7

Source: United Nations, Global Outlook 2000, op. cit., 1990, p. 37

Notes: * Average annual rates of growth of exports and imports of goods and non-factor services measured at 1980 prices and exchange rates. ** For Eastern Europe and the former USSR (based on NMP). *** Despite the relative strong physical increase of exports originating from LDCs, the value of exports increased by only 1.0 per cent per annum in the 1980s as compared with 7.0 per cent for all developing countries. This indicates that the LDCs suffered from a heavy fall in the prices of their exports (See UNCTAD, The Least Developed Countries 1989 Report, op. cit., p. A 14.)

1.1.2 The role of manufacturing in socio-economic development

Industrialization is an indispensable part of general socio-economic growth and development. Industry is capable of producing a wide range of consumer goods and a range of intermediate and capital goods for the other sectors and branches of the economy such as agriculture, services, mining, construction and utilities, as well as the equipment needed for various manufacturing industries themselves. Directly and indirectly, industry is also capable of generating substantial employment, and is the most dynamic sector of the economy in generating and disseminating technological change. A shift of labour and other resources from the low-productivity primary sector to high productivity manufacturing (thus providing and increasing personal incomes and creating effective demand for manufactures, services etc.), and the creation and fostering of linkages between manufacturing, agriculture, mining etc., are part of the conditions reaching adequate living standards through a dynamic growth process. However, industrialization obviously does not have the same potential in all LDCs. The potential is determined inter alia by market size and access, natural and human resources, and LDCs differ widely in these. The overall potential of industrial development can only be realized through specific national strategies and policies varying in scale, scope, and timing.

Individually and collectively, LDCs are far away from the expected or possible gains of industrialization cited above. Manufacturing production in most LDCs is characterized by a dominance of consumer goods industry (for example, food products, beverages, tobacco etc.) which accounts for more than half of total manufactured output. Their production and/or importation is likely to be particularly dependent on the availability of FDI and project aid.

There is a need to critically reassess the current pattern of industrial development and growth in individual LDCs and to elaborate alternative options on which focussed international assistance endeavours can be based. Among the critical issues for such an assessment are:

- What are the most promising routes for industrial diversification in different types of LDCs?
- In which industrial branches and through which specific measures can LDCs be more closely integrated into the international division of labour?
- How can the strong import dependence of industrial production in LDCs be gradually reduced?
- Which pattern of industrial development would best serve the objectives of poverty eradication and employment creation? Which crucial trade-offs are to be taken into consideration?

1.1.3 The status of the manufacturing sector in LDCs

1.1.3.1 Levels of manufacturing in LDCs

The size of the manufacturing sector has explicitly entered into the definition of what is an LDC, where the fact of a small manufacturing sector (i.e. less than 10 per cent of GDP) is recognized as being one of the characteristics of an imperfectly developed economy, (see Table I.7) one where special efforts are needed at the national and international level for its survival and growth.

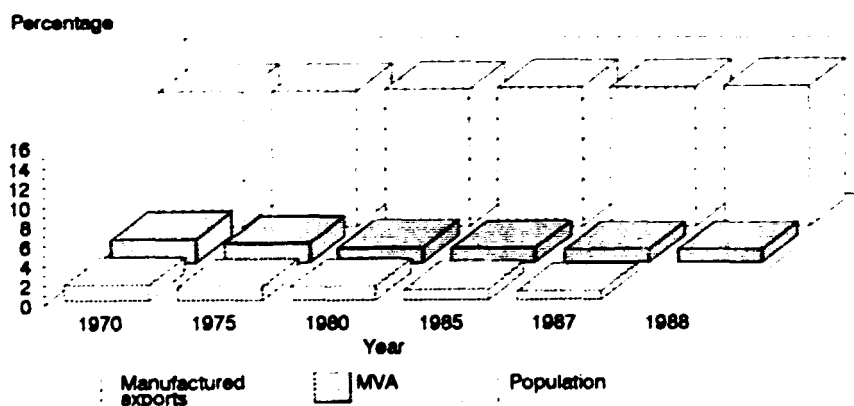
Table I.7: Share of MVA in GDP*, selected economic grouping, 1970-1988
(Per cent)

Economic grouping	1970	1975	1980	1985	1987	1988
World	24.8	25.0	25.9	26.8	27.0	27.4
Developed market economies	25.1	24.3	24.7	25.2	25.0	25.5
Centrally planned economies	30.8	44.0	47.2	49.1	49.7	49.6
Developing countries	15.4	16.6	17.9	19.0	20.1	20.2
Least Developed Countries	7.8	8.1	7.7	7.7	7.7	7.7
African LDCs	8.7	8.0	7.2	6.9	6.9	6.9

Note * GDP in constant US dollars

The manufacturing base in LDCs is very small, even, smaller than that of developing countries as a group. While LDCs account for 14.2 per cent share of developing of total developing countries' population, they were only able to produce 1.4 per cent of total developing countries' manufacturing value added in 1988. This share indicates a decline of 2.5 per cent compared to the 1970 MVA level. LDCs' share in total population of developing countries, however, increased from 13.7 to 14.2 per cent. Other unsatisfactory performances of LDCs' economies occurred in the both the manufactured goods export sector and in the level of manufacturing sector composition in gross domestic product (GDP). Also, the share of LDCs in total developing countries' exports of manufactured goods amounted to just 0.9 per cent in 1987, compared to 1.6 per cent in 1970 (see Figure I.2).

Figure I.2: Share of LDCs in MVA, manufactured exports and population of developing countries, 1970-1988



Source: UNIDO, Handbook of Industrial Statistics 1990, Vienna, 1990 (table 1.3), p. 29
Notes * MVA at constant 1980 prices ** At current prices

Within the LDCs themselves, the share of manufacturing in GDP of 18 LDCs decreased considerably during the period 1980-1990, thus a phenomenon that could be called "de-industrialization" process was noticeable (see Figure I.3). In the United Republic of Tanzania, Haiti and Guinea-Bissau, the decline in manufacturing contribution to growth was well pronounced.

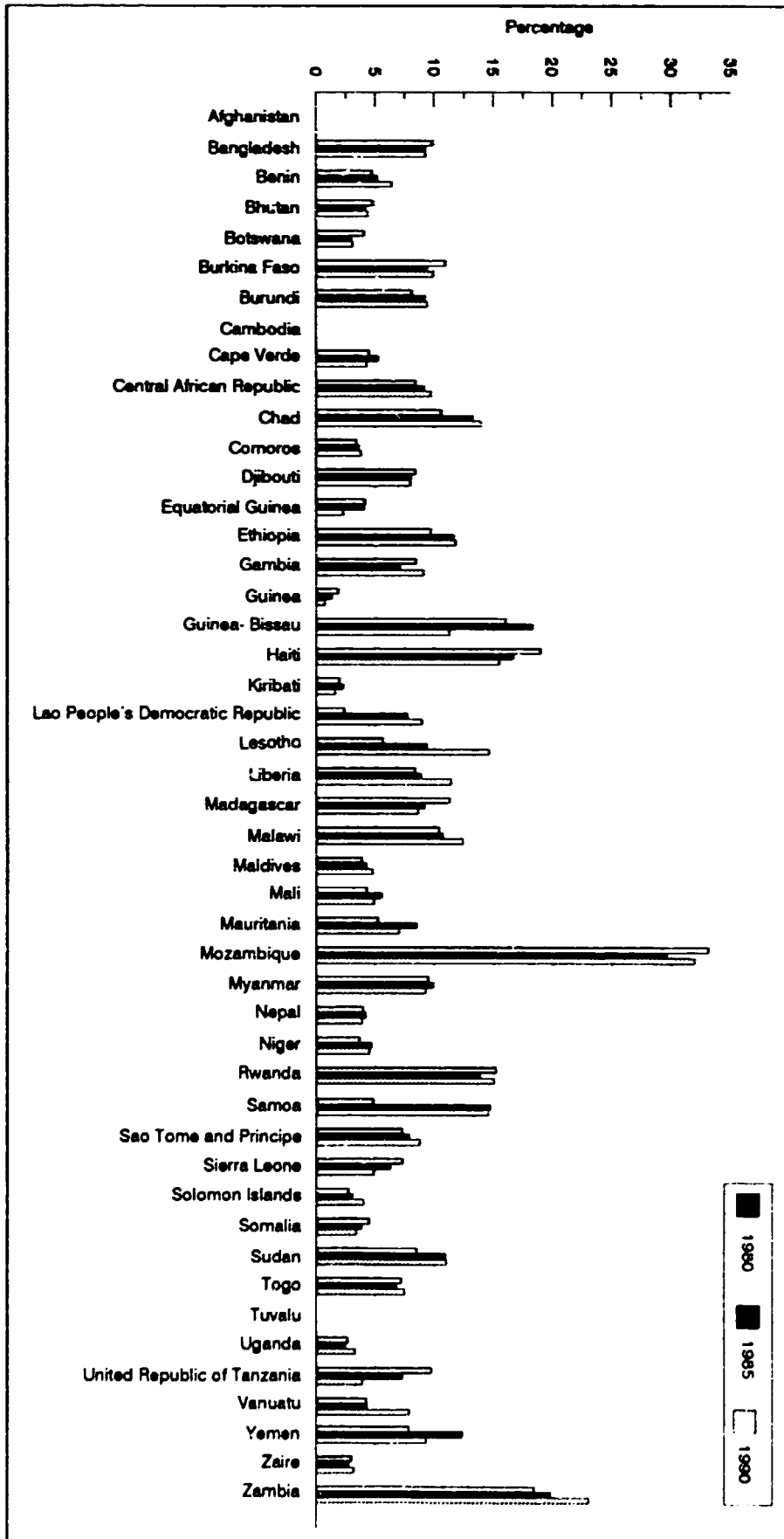


Figure 1.3: Share of MVA in total GDP, LDCs, 1980-1990

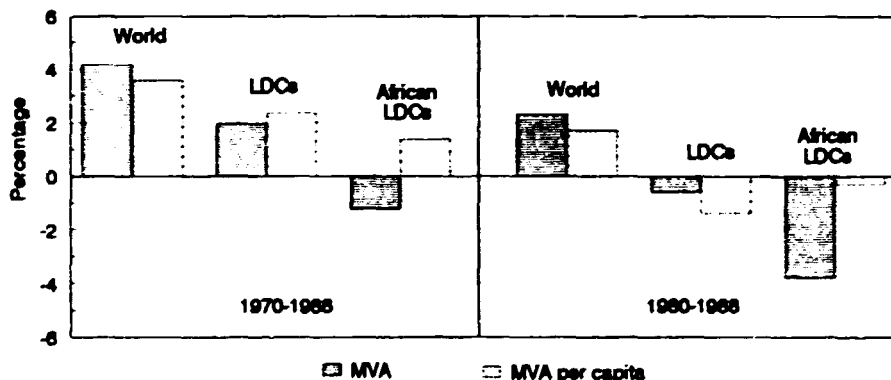
In the past 20 years, the share of the manufacturing sector in GDP composition (in 1980 constant \$US)⁵ in the LDCs stagnated markedly at about 7.7 per cent in contrast to the global increase from 24.8 per cent in 1970 to 27.4 per cent in 1988. From Table I.7, it can be observed that the importance of manufacturing in African LDCs' economy declined drastically. Their MVA share in GDP declined from 8.1 per cent in 1970 to 6.9 per cent in 1988 (about 17.4 per cent decline).

Manufacturing sector output in LDCs was not able to expand more than the overall economy. A number of factors such as protection of the domestic economy (quantitative import restrictions, import tariffs, etc.), political upheavals, devaluation patterns and regimes, price controls, as well as a variety of external factors contributed to inefficiencies in the production process and consequent increases in prices of manufactured goods.

The relative low growth of GDP in LDCs is a clear indication of a small and less resilient manufacturing sector which is too weak to act as a driving force in the development of the LDCs.

The indicators growth rate of MVA and MVA per capita reflect overall industrial performance and progress, and the degree of industrialization attained in the LDCs. At the global and sub-group level, African LDCs performed poorly in terms of MVA growth (1.4 per cent; at constant 1980 prices), whereas the LDCs as a group increased their average annual MVA by 2.4 per cent during the period 1980-1988⁶ (see Figure I.4).

Figure I.4: Annual growth of MVA* and MVA per capita, selected economic groupings, 1970-1988



Source UNIDO, Industrial Statistics 1990, op. cit., Table I.4, p. 32.

Note * MVA at constant 1980 prices.

Growth of MVA is not only an indicator of overall performance in industry. It also shows to some extent the resilience and flexibility of the manufacturing sector in the LDCs.

⁵ In contrast to MVA share measured in constant prices, MVA share in GDP measured in terms of current US dollars (see UNIDO, *Handbook of Industrial Statistics 1990*, Vienna 1990, Table 1.5., p. 33) shows a progressive increase in MVA for LDCs and African LDCs, and decline for developed market economies during the period 1970 and 1988. Developed market economies were not able in absolute and relative terms to increase manufacturing output (on the contrary, output and prices in other sectors of the economy such as services increased significantly).

⁶ According to the Paris Declaration and Programme of Action of the Second United Nations Conference on the Least Developed Countries, A/CON/147/Misc.9, para.2, of 15 Sept. 1990, the MVA growth rate of LDCs was even only 2.2 per cent in the 1980s.

That is, it gives some indications as to the ability of industry to respond positively to unfavourable circumstances and the ability to perform consistently.

A measure of general consistency of performance is given by an indicator that counts the number of years in which a non-negative growth is achieved among the LDCs. Twenty-three LDCs show positive growth of MVA during the period 1980-1990. These countries are as follows: Bangladesh, Benin, Bhutan, Botswana, Burkina Faso, Burundi, Central African Republic, Chad, Comoros, Ethiopia, Gambia, Lao People's Democratic Republic, Lesotho, Malawi, Maldives, Mali, Mauritania, Nepal, Solomon Islands, Sudan, Yemen and Zambia.

This type of consistently positive performances suggests that the manufacturing sector in these countries is sufficiently well established, even if not large, for it to be able to withstand cyclical downturns in the economy as a whole or changes due to external shocks, such as balance of payments crises, negative developments in world trade, internal crises etc. Burkina Faso, for example, witnessed continuously positive, but low growth rates during the period. This suggests the capability of that country to recover and established a basis for sustained industrial growth and development in the future.

Another category of LDCs, which did not manage to achieve positive MVA growth in any of the years in question includes Haiti, Sao Tome and Principe, Madagascar and the United Republic of Tanzania. For these four countries, the last decade has been one of decline in industrial performance. This major de-industrialization process subjected the already fragile industrial base to consistently unfavourable developments. Major characteristic features of the state of industry in these LDC category include capacity under-utilization caused by lack of replacement investment, let alone expansion. However, this LDC group and many others include countries which have in addition been hard hit by unfavourable climatic changes, wars and social upheavals.

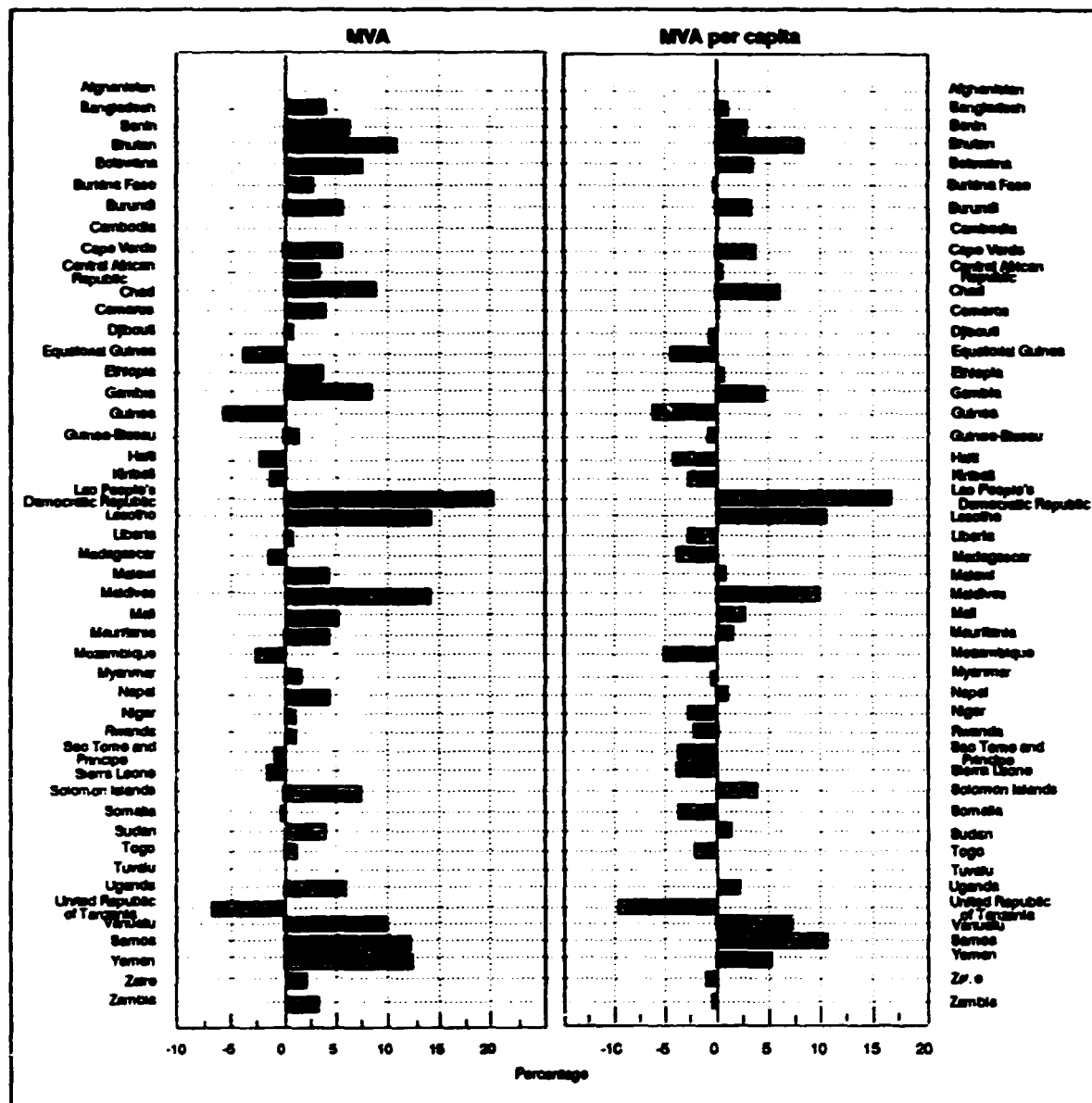
Distribution of growth of MVA among LDCs is unevenly distributed (see Figure I.5). Annual average growth of MVA ranged between -6.8 per cent (United Republic of Tanzania) and 20.1 per cent (Lao People's Democratic Republic) during the period 1980-1990 (see figure on MVA rate of growth). About half (47 per cent) of total LDCs have MVA growth rates below the LDC average of 2.8 per cent. Furthermore, only seven LDCs attained or surpassed the SNPA target growth rate of 9 per cent for the manufacturing sector. The highest annual average MVA growth rates above the SNPA average were achieved by Bhutan (10.8 per cent), Lao People's Democratic Republic (20.1 per cent), Lesotho (13.9 per cent), Maldives (13.8 per cent), Samoa (12.1 per cent) and Yemen (12.3 per cent).⁷ On the whole, the MVA growth rate of many LDCs did not surpass their population growth rates.

Rapid population growth slowed the pace of industrialization in the LDCs and in the African LDCs in particular. On the average, MVA per capita in 1988 and 1990 remained almost constant (20.95 and 21 per cent) for the 4 group of 47 LDCs. In absolute terms, nearly half (about 47 per cent) of the total LDCs registered MVA per capita figures below the LDC average (see Figure I.6).

For the African LDCs and the LDCs as a group, the annual average growth of MVA per capita were negative (-1.4 and 10.3 per cent) in contrast to the global level (1.7 per cent) during the period 1980-1988 (see Figure I.5).

⁷ UNIDO, PPD/IPP/REG.

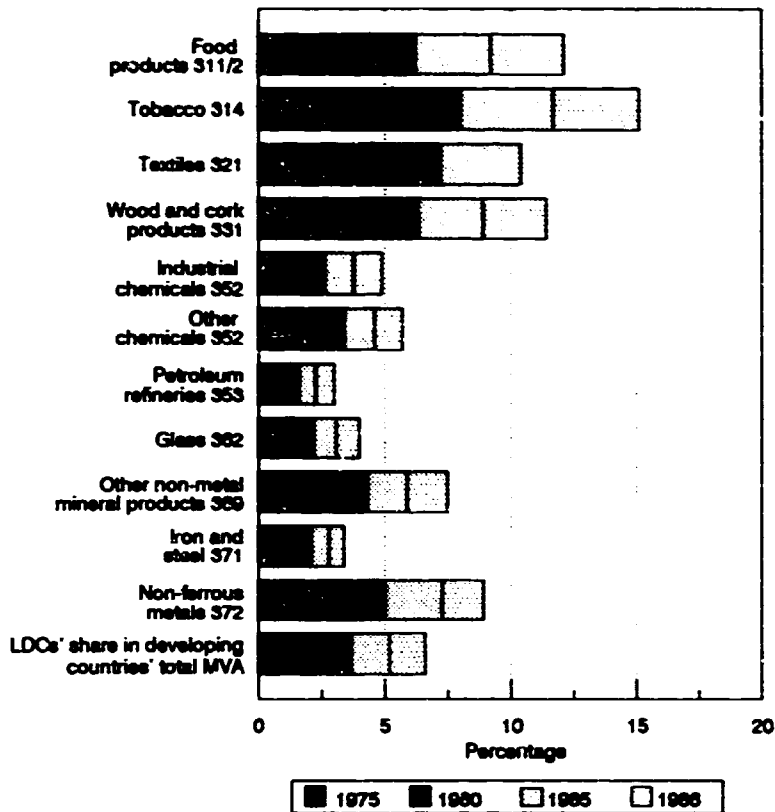
Figure I.5: Rate of growth of MVA and MVA per capita, LDCs, 1980-1990
(in constant US dollars)



Source: UNIDO, PPD/IPP/REG

Annual average growth of MVA per capita (in 1980 constant prices) for the individual 47 LDCs during the period 1980-1990 range between -9.7 per cent and 17 per cent. About 42 per cent of the total LDCs experienced negative MVA per capita growth rates, while 25 per cent attained growth above the 3 per cent mark.

Figure 1.6: Share of LDCs' manufacturing sectors in total MVA of developing countries, 1975-1986



Source: UNIDO, Handbook of Industrial Statistics, op. cit., p. 42.

The above indicates the general low level of industrialization and growth attained by the individual LDCs and the LDCs as a whole compared to the other economic groupings.⁸ Although some signs of progress and recovery was observed in the manufacturing sector during the late 1980s⁹, the rate of recovery, however, was far below the target rate of 9 per cent set out at the First Paris Conference on the Least Developed Countries in 1981.

The problem of industry in LDCs in general calls for urgent as well as consistent recovery strategies and measures to salvage industry. This may involve the identification and analysis of industry-specific and sector-related problems and implementation of relevant and appropriate rehabilitation and build-up measures for industrial growth.

1.1.3.2 Sectoral composition of manufacturing in LDCs

Food processing, textiles and clothing industries are the predominant sub-sectors of manufacturing in the LDCs. They are primarily final consumer oriented sectors and account for a very large share of MVA (about 70 per cent). With the exception of one country

⁸ UNIDO, Handbook of Industrial Statistics 1990, Vienna 1990, Table 1.4., p. 30.

⁹ See also UNCTAD, The Least Developed Countries 1989 Report, New York 1990, p. 22.

(Malawi), more than 50 per cent of total MVA of 25 LDCs for which data is available (see Table I.8) is accounted by food processing and textile industries. Food processing by itself accounts for more than 50 per cent of MVA of the 14 LDCs. Only in a few cases are other sub-sectors of manufacturing significantly large.

The most important sub-sector of manufacturing in LDCs, is food processing with an average share of over 50 per cent of MVA. For instance, in Burundi its share in MVA is as high as 83 per cent, and lowest 22.5 per cent in Malawi.

Table I.8: Share of MVA in manufacturing sub-sectors* in selected LDCs, 1984-1989
(Percentage share in total MVA)

Country	Year	Foods	Textiles	Wood	Paper	Chemicals	Non-metallics	Basic metals	Machinery & equipment	Other
Bangladesh	1989	23.1	38.3	1.0	2.4	26.8	1.4	1.4	6.2	0.5
Benin	1987	46.4	15.4	7.8	2.5	8.4	14.3	0.0	5.3	0.0
Botswana	1989	53.6	10.2	9.1	3.2	6.0	0.0	0.0	8.7	16.8
Burkina Faso	1989	62.2	21.9	1.6	1.2	3.8	0.1	1.1	2.1	5.9
Burundi	1989	83.0	5.0	0.3	1.1	10.0	1.2	0.0	4.4	0.0
Cape Verde	1988	40.1	14.5	0.0	13.1	3.3	0.0	0.0	28.7	0.3
Central African Republic	1986	47.4	25.9	16.6	0.0	4.7	0.0	0.0	3.1	2.4
Equatorial Guinea	1987	64.6	0.2	23.2	0.8	11.2	0.0	0.0	0.0	0.0
Ethiopia	1989	48.3	19.8	1.7	3.2	19.3	3.2	1.5	3.2	0.0
Gambia	1989	65.1	4.0	6.4	3.9	2.6	1.3	0.0	1.6	15.3
Haiti	1988	38.0	13.9	0.0	0.0	5.9	5.1	0.0	23.6	13.6
Lesotho	1985	71.6	13.6	1.8	1.3	6.0	1.9	0.0	2.9	0.9
Malawi	1989	22.5	19.4	3.1	8.5	34.8	1.4	0.0	10.4	0.0
Mali	1989	26.5	51.7	0.1	1.2	2.7	1.2	0.0	16.6	0.0
Mauritania	1984	69.9	2.9	0.0	0.0	10.5	4.1	0.0	11.8	0.8
Mozambique	1988	54.1	13.0	6.1	3.1	10.4	2.4	1.9	8.1	0.0
Nepal	1987	41.3	30.2	0.3	0.2	7.9	12.3	1.8	6.3	0.9
Rwanda	1989	62.9	0.0	4.7	1.8	6.5	13.4	0.0	10.7	0.0
Sierra Leone	1986	65.3	0.7	17.1	0.5	4.3	7.5	0.0	4.5	0.0
Somalia	1989	61.6	12.6	7.3	2.1	9.7	2.8	0.1	2.3	1.5
Sudan	1989	58.1	12.9	0.4	3.8	9.5	1.3	4.9	8.8	0.2
Togo	1989	58.5	25.4	1.4	2.8	4.7	5.9	1.7	0.1	0.4
Uganda	1986	23.7	29.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0
United Republic of Tanzania	1989	37.0	16.4	2.4	6.8	14.5	1.3	3.9	17.2	0.4
Yemen	1989	66.7	4.0	0.0	0.0	0.0	20.0	0.0	9.3	0.0

Source: UNIDO, PPD/IPP/REG

Note: * Based on two-digit ISIC code

Textiles is almost always the next most important sector in manufacturing in LDCs. Like food processing, it is a sector close to final demand, with, at this level of aggregation, few backward or forward linkages to other productive sectors. Textiles (which includes garments and the leather industries such as footwear) has an average value of almost 16 per cent of MVA for the LDCs. However, there are at least three countries (Bangladesh, Mali, and Uganda) where it is the largest branch of manufacturing. The highest value for textiles is found in Mali, where it is almost 52 per cent of all manufacturing. Although not the largest branch, textiles has a high share in the manufacturing sector of Nepal, where it reaches a value of over 30 per cent, and in several countries such as Burkina Faso, Central African Republic, and Togo, it has values of over 20 per cent. There are also some countries, such as Burundi, the Gambia, Mauritania, Rwanda, Sierra Leone and Yemen, where the share of textiles is extremely low, i.e. 4 per cent

or less, which points to a potential for increased production, although it would be based, as in most LDCs, on the domestic market.

Chemicals is another sector that for a number of LDCs is of considerable importance. Chemicals is more than 10 per cent of MVA in Yemen, United Republic of Tanzania, Niger, Malawi, Mozambique, Ethiopia and Somalia. It is also relatively important for Bangladesh. On average it amounts to almost 9 per cent of MVA in LDCs.

The next most important manufacturing activity is **machinery and equipment**. On average, it accounts for 8 per cent of MVA. There are a few countries where it is a very important sub-sector: in Cape Verde it forms 28.7 per cent share of total MVA, and in Haiti 23.6 per cent. In several African countries (Malawi, Mali, Mauritania, Rwanda, United Republic of Tanzania and Guinea-Bissau), its share in total MVA ranges between 10 and 20 per cent of MVA. However, in almost all cases, this production refers to very simple tools and equipment and not to capital goods.

The concentration of manufacturing on a few sectors is a common feature of the structure of manufacturing in LDCs. In addition, the shares of these sectors in MVA of developing countries is minimal. LDCs share in total MVA developing countries was 1.5 per cent in 1985. The LDCs accounted for an above average share especially in the following manufacturing sectors/sub-sectors: tobacco, textiles, food products, wood and cork products and non ferrous metals. In general iron and steel, petroleum refining, and glass and chemical processing were in general minor manufacturing activities well below the LDCs' MVA share (see Figure I.6).

1.1.3.3 Diversification of the manufacturing base in LDCs

Another approach to assessing the degree of industrial progress achieved is looking at the extent to which diversification has taken place within the manufacturing sector. As already stated, LDCs - as a group - are characterized by a concentration of their manufacturing activities in a few sub-sectors. A dispersion of MVA across a wider range of activities indicates the extent of development of a complex and flexible manufacturing sector. If the structure, on the other hand, is dominated by one or a few large sub-sectors, then the industrial structure may be described as highly skewed. One indicator is the standard deviation of the shares of MVA formed by the ISIC 2-digit classifications which indicates the degree to which the activity in manufacturing is distributed across more than one sector¹⁰.

Deriving from the diversification criterion analysis it can be said that LDCs made only limited progress towards a more diversified manufacturing base during the past decade. Prospects for future diversification may even seem bleak, since clear strategies and measures for promoting manufacturing and economic sector linkages are lacking in many LDCs. The most skewed manufacturing sector is found in Burundi, with Lesotho, Mauritania, Yemen, Equatorial Guinea and Sierra Leone also having a dispersion index above 20. Highly concentrated industrial structures are also found in Botswana and Sudan. At the other end of the continuum are countries such as Bangladesh, Haiti, Malawi, Uganda and United Republic of Tanzania. In the case of Bangladesh, the strong chemicals sector has helped to diversify the manufacturing sector, and in Haiti substantial shares of MVA are reached by machinery,

¹⁰ This does not suggest that the shares should ideally be uniform in size, only that a high standard deviation will occur when very few sectors (as was already seen in the case of food and textiles) dominate the structure of manufacturing in the countries concerned.

equipment and others. In Malawi it is the strong chemicals sector, and in the United Republic of Tanzania the chemicals and machinery and equipment sectors both with large shares of MVA) which are attributable to their strong dispersed industrial structure. These countries had industrial structures almost as diverse as more advanced African countries such as Algeria, Egypt, Kenya or Zimbabwe. However, it has to be noted that the statistical figures do not indicate a strong positive correlation between the state of diversification and economic progress achieved. Strongly diversified LDCs such as the United Republic of Tanzania or Haiti have suffered dramatic declines in their MVA/capita whereas countries such as Lesotho, Yemen, Mauritania or Botswana with an overall low degree of diversification have been in the group of those LDCs that have shown the best results in the 1980s. This is not to say that a diversification strategy should not be followed, but it indicates that diversification per se (especially one which is not characterized by strong linkage effects) is certainly not a sufficient condition for economic progress.

Furthermore it has to be noted that manufacturing production in LDCs is usually the product of a small number of enterprises, and the closure of a factory or the opening of a new one can affect the statistical picture dramatically. The case of the Central African Republic illustrates this point and also shows the vulnerability of industrial progress in an LDC. In 1980, the textile and clothing industry's share of total manufacturing output dropped by over one third from the previous level to less than 12 per cent after financial difficulties had forced one factory to close. Value added from the textile and clothing industry seems to have completely disappeared, as do later achievements in machinery and chemical processing. The conclusion that may be drawn is that:

"...structural fragilities rather than rigidities seem to have been the greatest of the problems encountered by the country in its relatively short history of industrialization".¹¹

A discussion concentrated on statistical data in value added terms can on its own give only an imperfect picture of industry in LDCs. It does however indicate, in terms of general attainments and sub-sectoral focus, the aggregate condition of industry in LDCs. This is important because any discussion of prospects for industrialization in LDCs has to recognize the base point from which progress can take place. A small and undiversified manufacturing sector offers limited prospects for expanding linkages and generates few services of the kind needed by a newcomer. The figures indicate the rudimentary stage of industry in most LDCs. To the extent that new industries will need industrial inputs, they will be often dependent, at least initially, on external sources, and thus on access to foreign exchange resources.

Yet the establishment of new industries in LDCs must not be neglected, simply because so few industries exist at present. This is not to deny the utmost importance of rehabilitating existing industries when it is at all possible, in order that the capital and expertise so painfully acquired be not lost for good. Nor is it to imply that new industries must be large scale investment projects of the kind that have in the past been the usual focus of discussion at the international level. The kinds of new industries that are to be established will be largely decided, in the end, by entrepreneurs in the countries themselves (and in some cases by international investors also). Discussion of industrial strategies for LDCs, whether at the national or international level, has to give due attention to this fact, and to the need to provide the right kinds of guidance, incentives, assistance and support to those who will make the investment.

¹¹ UNIDO, *Industry and Development Global Report 1989/90*, Sales No.E.89.II.E.5, 1989.

1.1.4 Level of capacity utilization in manufacturing

One major problem of widespread occurrence of manufacturing in the LDCs is that of capacity under-utilization which is, perhaps, the major determinant of the de-industrialization process. Production plants are shut-down, because of chronic foreign exchange shortages, lack of machinery spare parts and lack of machinery maintenance, lack or delays in raw materials supply and inadequate or lost returns on investment capital. Employees are laid off as a result of plant close downs, this goes to worsen the already critical social and economic problems of LDCs.

Structural adjustment programmes (implemented in about 22 LDC, as of June 1989) have both positive and negative effects on industry of LDCs¹². The negative side-effect is the low capacity utilization rates, especially in intermediate and capital goods industry, due mostly to reduction in protection and import controls. In Zambia, for instance, capacity utilization in five less-efficient parastatals fell from 56 to 25 per cent during the period of the reform programme (1984-1986)¹³.

Statistical evidences on manufacturing capacity under-utilization is fragmented and incomplete at the national, sector, sub-sector, branch and plant levels. Analysis of 20 LDCs for which data was available will be used to describe the problem of capacity utilization in manufacturing¹⁴.

Overall rate of capacity utilization in manufacturing in the 20 LDCs is shown in Figure I.7. Capacity utilization rates were found to be very low, below 20 per cent in about a half (45 per cent) of the total LDCs studied. In five countries (25 per cent) were utilization rates between 20 to 40 per cent. Only in two countries, namely Ethiopia and Malawi were capacity rates found to exceed 60 per cent.

Sectoral level performance is also varied (see Figure I.8). Performance of agro-based industries with ample domestic source of raw materials supply (i.e. food, beverage, textile, wood, and paper processing) were impressive. Their capacity utilization rates were high above 80 per cent. About half of all food processing industries of LDCs surveyed operated at capacities between the 60 and 80 per cent range. With the exception of the agro-based and basic metals industries, capacity utilization rates in other sectors of manufacturing, especially import-dependent ones were found to be quite low, below 20 per cent.

A number of reasons account for capacity under-utilization in manufacturing the surveyed LDCs. The major reasons are depicted in Figure I.9. The prevalent reasons are:

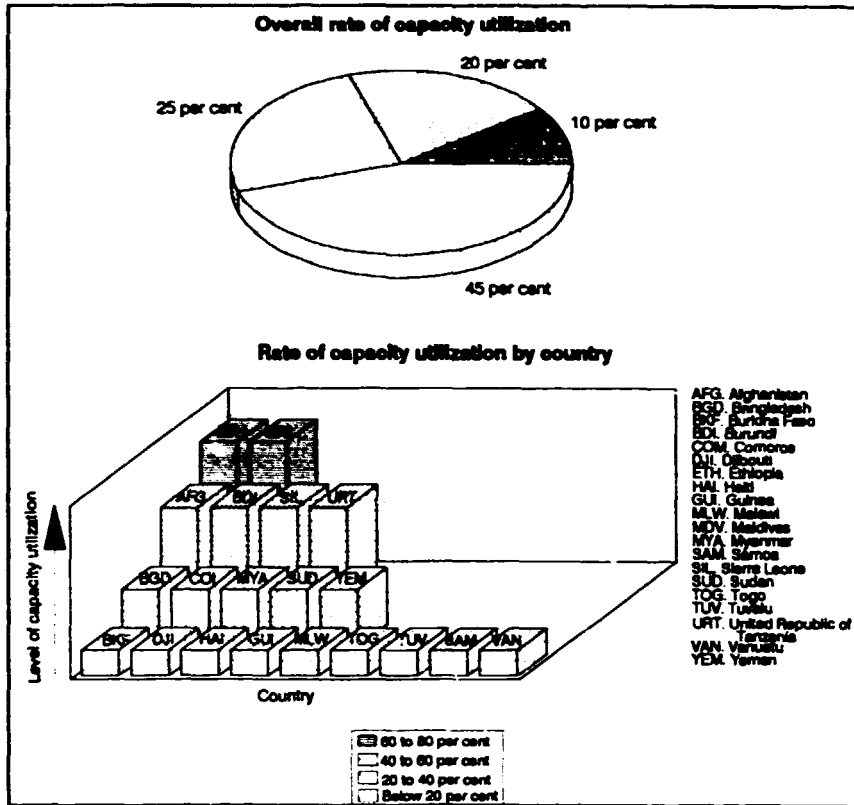
- shortages or delays in supply of imported raw materials;
- difficulties in obtaining external investment funds;
- small size of domestic market (low purchasing power) for manufactured goods;
- lack of or delay in procurement of machines and spare parts;

¹² LDCs with strong reform programmes (as of 1989) are: Burundi, Central African Republic, Gambia, Guinea, Guinea-Bissau, Ethiopia, Liberia, Mali, Sierra Leone, Somalia, Sudan, and Zambia.

¹³ World Bank, *Sub-Saharan Africa: From Crisis to Sustainable Growth*, p. 117, 1989.

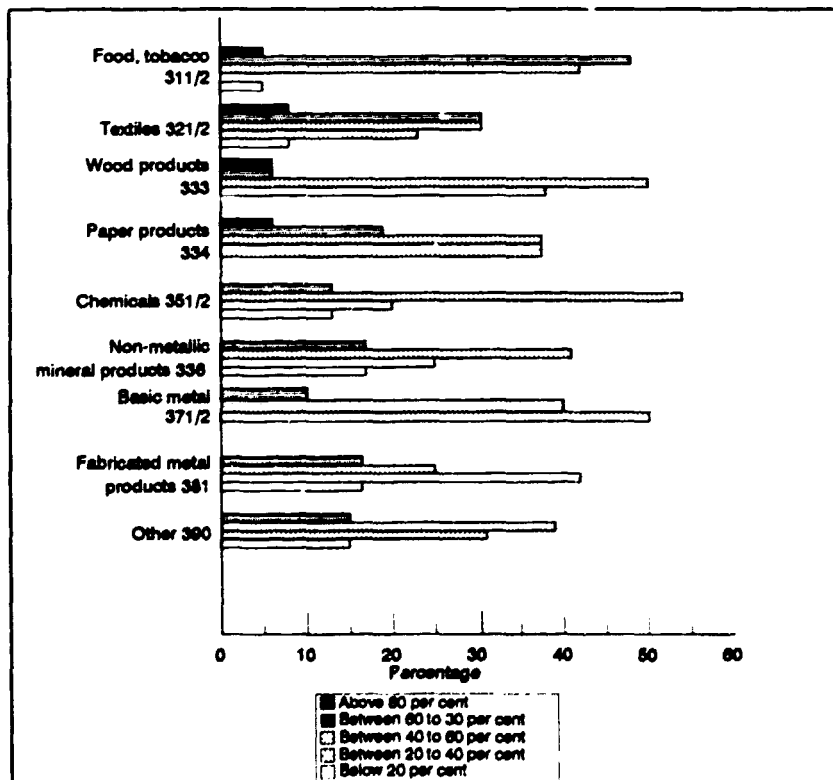
¹⁴ Data and information is derived from questionnaires sent in 1991.

Figure 1.7: Capacity utilization in LDCs' manufacturing industry



Note: Data based on 20 LDCs.

Figure 1.8: Level of capacity utilization, by manufacturing sector*, LDCs

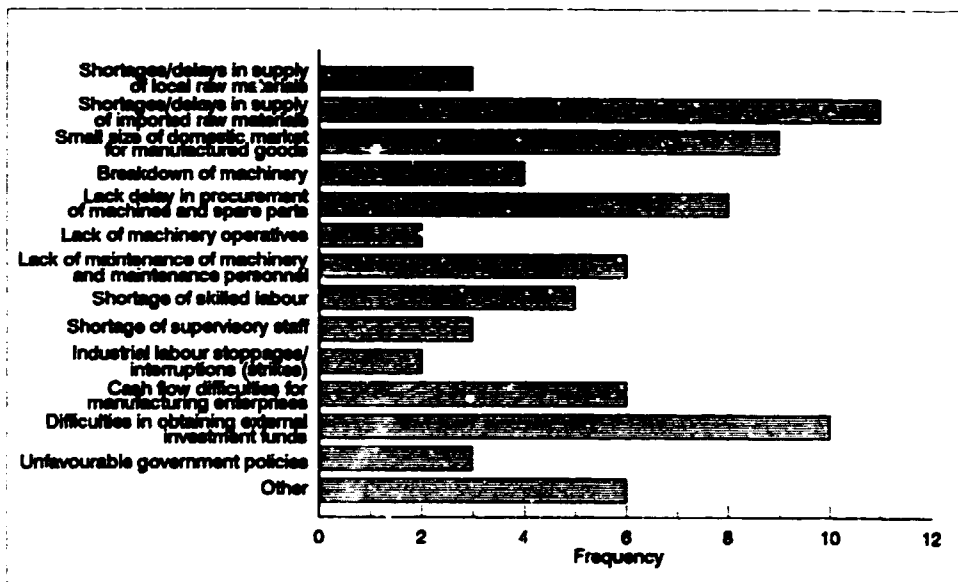


Notes * By ISIC. Data based on 20 LDCs.

- lack of maintenance of machinery and maintenance personnel;
and
- cash flow difficulties.

Solutions to the capacity under-utilization problems would require that policy makers understand the location, structure, extent and causes of under-utilization. This challenge would require the restructuring of the macroeconomic environment within which local plants/industries operate (i.e. enabling environment), building up supporting industrial institution (i.e. technical, design, quality control, management, R&D, etc.) and fostering regional integration (to utilize the benefits of large market, etc.).

Figure 1.9: Major reasons for capacity under-utilization
in manufacturing, LDCs*



Note: * Data based on 20 LDCs.

1.2 The status of the industrial system in LDCs

An assessment of the problems and prospects of industrialization in LDCs can be conceptualized within a simple systems framework. Such a system can be viewed one of inter-linked socio-economic components (internal and external) in development process. The distinction is made between raw material current inputs (from agriculture and mining), and industrial current inputs (from within the manufacturing sector). Other inputs include capital goods, and labour (distinguishing between skilled and unskilled). Sub-dividing these categories into those of imported and domestic origin is also necessary. Issues in the supply of material inputs from the domestic market may be considered under three headings namely, inputs from agriculture, mining, and the manufacturing sector itself.

1.2.1 Inputs from agriculture and mining

In LDCs, the agriculture sector is largely of a subsistence nature. Commercial agriculture is mostly of plantation cultures, for example cotton in Mali and Sudan, coffee in Burundi, Ethiopia and Uganda, jute in Bangladesh, and cocoa in Benin and Sao Tome and Principe. The possibilities for processing of agricultural products in the manufacturing sector may be limited due to seasonal shortages or bottlenecks in transportation, distribution and storage systems. However, the manufacturing sector has an important role to play in guaranteeing food supplies and in food security programmes, in that it can improve the conservation and distribution possibilities of food even within a rural area. Much activity of this kind (principally in the form of such activities as milling, drying, etc.) may have already been carried out within the informal sector.

Industrial processing of agricultural raw materials including fishery products is not only a case of increasing value added. In some cases it can include the industrial processing of materials which are otherwise regarded as waste. Thus in Bangladesh the establishment of a Sheep Wool Development Centre motivated owners to shear the sheep and use the wool for productive purposes. This then encouraged others to set up small industries, such as the production of hand-knotted woolen carpets.¹⁵

One measure of the suitability of the existing agriculture sector for the supply of inputs to manufacturing is the degree to which an exportable surplus exists. There may then be prospects of increasing value added through industrial processing of agricultural raw materials. From this point of view, the most promising countries would be Equatorial Guinea, Gambia, Malawi, Maldives, Mauritania, Sao Tome and Principe, Togo, Uganda, Vanuatu and Samoa. In 1986, these countries had exports of agricultural products of at least \$US 30 per capita, with Maldives the highest \$US 156, followed by Mauritania with \$US 120. None of these are large countries in population terms, but they have all maintained, relative to their size, a high level of agricultural exports for many years.¹⁶

The position with respect to the mining sector is analogous in some respects to that of the agriculture sector, in that the presence of a strong mining exports pattern may indicate the possibilities in principle of increased value added due to mineral processing. The mining sector is of an internationally integrated system of processing and distribution, the degree to which public policy can successfully encourage domestic raw material processing may be limited. Domestic processing of the mineral resources hardly guard against shifts in technology or world market trends that reduce demand for the product. The different steps in the mineral processing chain offer, in general, fewer possibilities for small scale dispersed production. These are often associated with higher investment costs than is the case for manufacturing in general. Mining and mineral processing require highly specialized equipment and other inputs (capital and intermediate) which generally, are not feasible to produce in any LDC or in the developing countries in general. For all these reasons, the consideration of mining inputs to the manufacturing system has to be viewed as a special set of problem as well as the more general

¹⁵ "Promotion of hand knotted woolen carpet industry, DP/BGD/84/014, Technical Report: Evaluation report on handknotted woolen carpet training project." UNIDO, April 1986.

¹⁶ However, it should also be noted that the classification systems normally used for commodity trade do not fully reflect those used for economic activities. Thus many agricultural and mining commodity exports have already undergone a degree of industrial processing.

problems associated with the supply of any material inputs to the manufacturing system in LDCs.

Although limited progress has been made in exploitation and processing of minerals for industrial use, mining plays a significant role in the economies of a handful of LDCs. Mining contributes largely to fiscal revenues and foreign exchange in countries such as Botswana (diamonds)¹⁷, Guinea (bauxite), Mauritania (iron ore), Niger (uranium). In Guinea, for instance, 90 per cent of export earnings and 80 per cent of public revenue is accounted by the bauxite mining sector. Per capita value of mining exports were highest over US\$ 1000 in Botswana (1989). Of lesser magnitude are the export per capita values of Mauritania (\$US 90 in 1986) and Togo (\$US 36).

For the LDCs and developing countries as a whole, future prospects of the mining sector is stymied by recent weakening demand for traditional minerals and trends towards increasing demand for high-technology products (light-weight alloys, ceramics and other new materials). For LDCs to benefit from exploitation of the potential mineral resources, there is a need for: an enabling mining environment- favourable exchange regime to allow import of machinery and spare parts, etc; favourable investment policies and; effective regulatory and institutional framework to enable the development of mines, infrastructure and other support services, etc. This would enable high-risk capital to be attracted for the exploitation of mineral reserves, the development or rehabilitation of existing mines, and further downstream processing of minerals.

1.2.1.1 Agro-related industries: the case of metal-working

Linkages with agriculture and mining are, for the manufacturing sector, not only a matter of processing the raw materials that they produce. These sectors can use a wide variety of manufactured goods: careful attention to these possibilities in the industrialization process can give assured markets for the manufacturing sector and provide the other sectors with inputs for which they would otherwise depend on imports. UNIDO has recently given extensive consideration to the metal working industry as it relates to the manufacturing of agro-related products. By adopting the programme approach, UNIDO seeks to define the technical cooperation requirements of agro-industrial systems, both within the framework of the Programme for the Industrial Development Decade for Africa (IDDA 1 and IDDA 2) and the Special Programme for the Industrial Development of Asia and the Pacific with special emphasis on the Least Developed Countries.¹⁸

Information on metal working and engineering facilities in African LDCs suggests ample potential for the metal industry branch. Forges, the rudimentary facilities of this branch are found in 26 African LDCs. Stamping facilities are, however, found in only five. Nine LDCs possess limited machine shop facilities, and 19 had none at all. Foundries were present in only 15 of the African LDCs, and mostly out of operation. Associated with these sparse metalworking facilities was a pattern of limited manufacturing capabilities in terms of agricultural tools and machinery. Thus, manufacturing facilities for hand tools were found in only 20 of the African LDCs. Facilities for the manufacture of animal-drawn equipments were found in only 9 African LDCs, and for simple power-operated machinery in only three of the countries (Malawi, Mozambique, and United Republic of Tanzania).

¹⁷ Estimated at over \$1000 per capita in 1988, according to the Economist Intelligence Unit Country Report on Botswana, No.4, December 1989.

¹⁸ Adopted by the General Conference of UNIDO in November 1989 under resolution GC.3/Res.18.

From the point of view of agro-related metalworking industries, Asian LDCs may be divided into four groups.¹⁹ The first are those with an active agro-related metalworking sector. This include Bangladesh and Nepal. The second group is of countries have or have had such a sector which is now dormant or working below capacity, or whose status is not known. This group includes Afghanistan, Lao People's Democratic Republic, Myanmar, and Yemen. The third group of countries, namely Bhutan, Vanuatu and Samoa are those with little or no experience in this sector but which, nevertheless, have potential. The fourth group of countries are those with very limited potential in this field, they include, Kiribati, Maldives and Tuvalu.

1.2.2 Inputs from the manufacturing sector itself

One characteristic of a modern industrial economy is that many of the possible links between its different components do in fact take place, and that the different production and service activities in the economy depend on one another as suppliers and as markets. Indeed, the role of a manufacturing sector can be seen as providing several types of essential links so that the complex as a whole can have the maximum resilience to deal with external shocks and the maximum flexibility to take account of new opportunities. In some cases small and medium scale activities are seen as the best embodiment of the virtue of links, and is put forward as an appropriate policy choice for developing countries and particularly for LDCs. The point made here is that diversification is the means by which the necessary flexibility can be achieved.

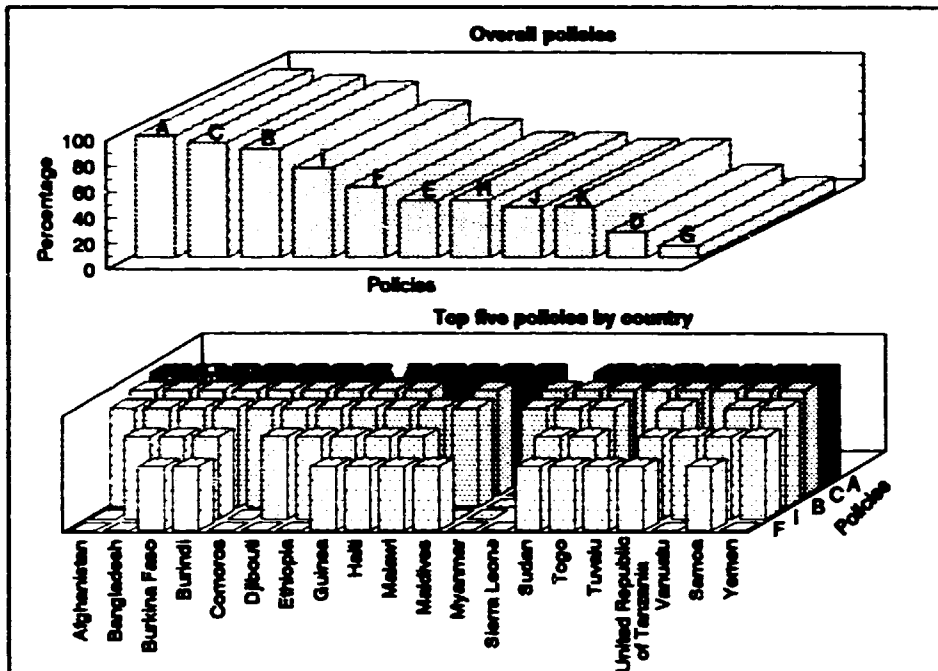
A diversified manufacturing sector means that a wide variety of intermediate and final products are produced, and this means that new products may be developed because of the availability of the materials and components necessary for making them. The diversified manufacturing sector thus contributes to the availability of materials, the essential pre-condition for further development of industry. As noted in Section 1.3.2, most LDCs have a highly skewed industrial structure, with a heavy concentration on food processing and on the clothing and textile sectors. The policy implications of such skewed structures are direct if in some cases unpalatable: they are that the necessary industrial inputs will have to be imported. In a few cases, this can be achieved using sources within the region concerned. For this reason there are important grounds for encouraging regional and sub-regional cooperation. However, it is quite usual that most countries of regional economic groupings, especially those of Wes. African LDCs have very similar industrial structures. The likelihood of being able to meet the input requirements of industrial development from within the sub-region are small.

Short-term remedial measures to the problem of inadequate input requirements of industries may be in the form of appropriate financing mechanisms with support from the international community. Regarding the issue of appropriate financing mechanisms, about three quarters of the total LDCs surveyed ranked as very important the following policies (see Figure I.10):

- Measures to attract direct foreign investment (FDI);
- Arrangements to facilitate easy repatriation of business profits and;
- Special tax incentives or concessions for industrialists.

¹⁹ UNIDO, Preparatory Phase of the Special Programme for the Industrial Development of Asia and the Pacific, Agro-Related Metalworking Industry Sector: Report, by Peter C. Baker, Frederikke Roekjaer, 11 April 1990.

Figure 1.10: Major economic policies and measures for industrial development, LDCs*



Notes: A. Policies to attract FDI.
 B. Arrangements to facilitate easy repatriation of business profits.
 C. Special tax incentives/concessions for manufacturers.
 D. Special tax incentives/concessions for R&D.
 E. Measures for effective industrial programmes.
 F. Privatization policies/measures.
 G. Extensive price control policies/measures.
 H. Relaxed price control measures.
 I. Creation/planning of EPZ(s).
 J. Simplified bureaucratic procedures for establishment of enterprises.
 K. Development programmes for rural manufacturing industries.
 * Data based on 20 LDCs.

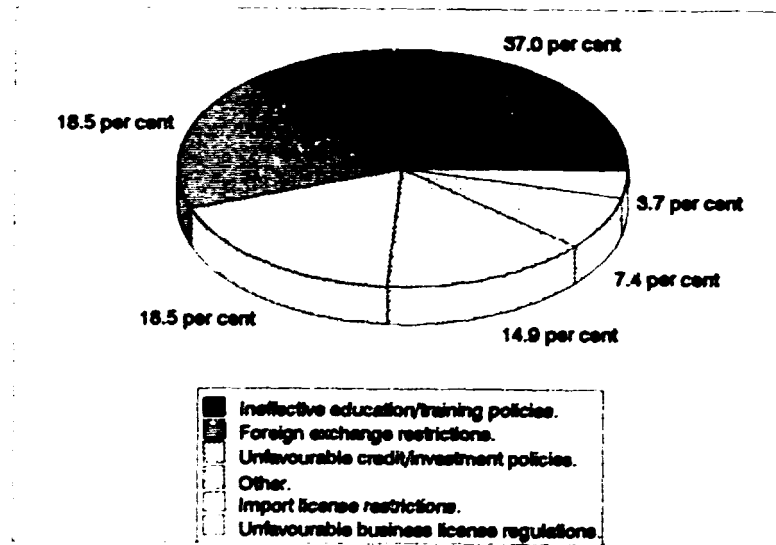
In general, there is a need to make these financial policies and mechanism specific to the needs of industry, rather than only balance of payments support, which has a natural tendency to reinforce the existing structure of foreign exchange use in a country and thus, for instance, to perpetuate the import structure of the commercial sector. This means that importers and wholesalers might continue to have preference for foreign exchange allocations, and the industrialist anxious to start or develop his or her business may have difficulty in obtaining the necessary foreign exchange. Industry, in general, needs to be cordoned off from acute shortages of foreign exchange. This can be done through sector specific programme lending, through mechanisms such as export revolving funds, detailed commodity import programmes (which are sometimes a feature of bilateral assistance programmes), special balance-of-payments support schemes, and other methods. The need for foreign exchange allocations for intermediate inputs to be reviewed in the light of the potential for domestic or sub-regional production has demanding analytical and administrative implications. At the same time it is better to make some attempt at it than to have the allocations made without any reference to longer-term possibilities for their reduction. Finally on this subject it should be noted that the administrative overheads of any foreign exchange allocation system are heavy, and the allocation made is unlikely to be optimal. An adjustment of economies to a free market system cannot be made quickly, but it has to be a longer-term goal.

1.2.3 Labour

The problems of labour relate both to supply of labour and to skills. In the absence of adequate transport and other infrastructure, there will be special constraints on the location of industry both in order to assure a reasonable supply of labour as well as to meet the normal transport requirements of the industry. The supply of labour will also be limited by characteristics of the regulatory framework such as the rights of workers and the responsibilities of the employer, as well as the degree to which women find it easy to enter the work force.

The skills problem is the most pervasive and far-reaching in its consequences. Ineffective policies of education and training were observed as a major policy problem of industry in the LDC survey. In about 37 per cent of the countries of the survey, this was considered a crucial problem of industrial human resource development (see Figure 1.11). The lack of skills at every level, from professional engineers, managers and supervisory staff to technicians and experienced factory workers means that the industrial system not only operates imperfectly, but that it does not act as the implicit training ground that an efficient industrial system constitutes. Unfamiliarity with correct practices and procedures continues in most LDCs. The problem of human resource development need to be one of the principal focuses for international action in support of LDCs industrialization. Primary and secondary education development will also have to play an essential role in establishing the pre-conditions for industrial training and balanced human capital development.

Figure 1.11: Major policy problems of manufacturing in LDCs*



Note * Data based on 20 LDCs

Human resource development covers a wide range of activities both planned and autonomous. While it is the most crucial component of an industrial development strategy, it is as well the most difficult to implement because of the number of targets concerned - the industrial work forces, actual and potential. The number of persons at present engaged in manufacturing activity in the LDCs is about 1.6 million²⁰; all of these need some kind of

²⁰ This is a rough estimate using a variety of sources; it excludes all those in informal manufacturing or in establishments whose total employment is below the national limit for inclusion in industrial censuses. Usually such censuses include only establishments with 5, 10, 20 or more employees.

training or skill upgrading to meet the product requirements of world markets and technological change. The potential labour force, to meet the requirements of the hoped-for industrial expansion in many LDCs, will also need training. To this extent, the foundations being laid at present by the educational systems suggest that the numbers under consideration are inadequate. Third level education figures for LDCs indicate that in total there are only about 740,000 in third level education, while the total population of LDCs is 508 million. Of these students, the percentage taking science and engineering subjects was less than 10 per cent in three cases, between 10 and 20 per cent in 15 cases, between 20 and 30 per cent in 5 cases, and only in two cases was the share over 30 per cent (Guinea, where it was 66.9 per cent and Mozambique where it was 36.1 per cent). Given the fact that the number of successful students actually choosing a career in industry will be much lower than these totals would suggest, the prospect for improved professional scientific and engineering skills in LDCs are not good, and dependence on expatriate labour and the lack of new, high quality investment is likely to persist. Professional skills are by no means the only ones needed, naturally, and the need for training and apprenticeship schemes emerges from almost every industry analyzed by UNIDO.

1.2.4 Markets and supplies

The need for imports creates many difficulties in the context of industrial development in an LDC. As well as the obvious need for foreign exchange, there are also a number of associated hidden costs, in terms of delays and uncertainties, which are often such as to raise the price of the product to an uneconomic level. These arise from the choice between maintenance of inventories and delays in receipt of orders, as well as the difficulties of obtaining information for the purpose of selecting the best source of the needed goods. The fundamental problem of under-utilization of capacity is often associated with a shortage of spare parts for the machinery used. In some cases the need to maintain inventories of spares in order to overcome supply difficulties adds further to the overhead costs of production.

These problems are common to most developing countries, but they are exacerbated in LDCs because of widespread weaknesses in the physical and commercial infrastructure. These weaknesses are such as to make difficult not only the assurance of regular supplies and services, whether from within or outside the country, but also to make equally difficult the process of marketing and distribution of the products. The problems can be summarized under the following headings:

- **Transport:** this includes all types of transport, domestic and international;
- **Communications and information flows:** this includes both telephone facilities and also media for information exchange such as newspapers, radio and television
- **Financial services:** this includes banking facilities as well as insurance, accounting, etc.

Imports problems are analogous in many respects to export problems, in that they amount to a separation or imperfect connection with the fast moving international industrial system.

Exports of manufactures face therefore all the associated problems of transport, finance and payments difficulties together with the additional problem of marketing. By this is meant

the identification of opportunities, the investment necessary for the preparation and development of an appropriate product, the financing of export credits, the selection of agents, etc. In practice the choices available may be very limited. It will usually not be possible to set up independent marketing and distribution channels. The only option may be to sell directly to a wholesaler in another country. The nearest the manufacturer may come to a feeling for the export market concerned may be if an international sub-contracting arrangement is entered into. Such arrangements are most common in the textile, clothing and footwear sectors. They allow for some contact with trends in tastes and fashions in the developed countries, and may also lead to improvements in quality through transfer of expertise from the purchaser. Nevertheless, these arrangements do not encourage development of the skills necessary to succeed in export markets. The experience of Haiti, for instance, where sub-contracting initially enjoyed dynamic growth, has been that it reinforces the country's dependency on the outside world and its vulnerability to external fluctuations. In effect, sub-contracting failed to generate the expected multipliers in Haitian industry and economy,²¹ partly because, the necessary human and physical infrastructure was lacking.

Prospects of LDCs expansion of manufactures exports for the coming decades will have to take into account increasing trends towards regional integration, such as the European Single Market. With the exception of nine LDCs (i.e. Afghanistan, Bangladesh, Bhutan, Cambodia, Lao People's Democratic Republic, Maldives, Myanmar, Nepal and Yemen) the rest are EC-associated ACP countries whose manufactured goods are exempted from EC tariffs. For the African LDCs, for example, the EC is the largest market for their manufactured goods, absorbing no less than 50 per cent of manufactured exports. Furthermore, LDCs' manufacturing sectors are heavily dependent upon imported capital goods and on import of maintenance skills as well as spare parts for continued production.

In the EC itself, the role of design and engineering services has been central to the success of international industry. The competitive strength of LDCs on world markets will be strongly determined by price, design and quality, and flexibility to adapt to changes in consumer demands. The quality standard aspect of industrial processing is one in which action is of central importance. Since LDCs and developing countries at large supply mainly manufactured products closer to final demand than to intermediate demand, LDCs have less hope of winning and holding a market share if product quality and health standards are unattended to²². The quality issue in a sense underlies all others in that it is concerned with a basic mastery of the technology and the associated skills.

To increase the market of LDCs' manufactured goods and supplies of inputs for manufacturing in LDCs, a set of national, regional and international policies and measures would have to be initiated by LDCs themselves and by their development partners. Such measures may include:

- upgrading of skills so as to raise product quality to meet acceptable standards, increased access to market information, and increased investment promotion at the national level;

²¹ UNIDO, "Presentation du Secteur Industriel Haitien" Ministère du Commerce et de l'Industrie, Direction de l'Entrepreneur et du Développement Industriel. Atelier sur l'Industrialisation des PMAs, Vienne, Autriche, 16-24 Novembre 1989.

²² UNIDO, Expert Group Meeting on the Implications of the Single European Market for Industrialization in Developing Countries, Overview of Issues, Vienna, 18-20 March 1992, pp. 8-11.

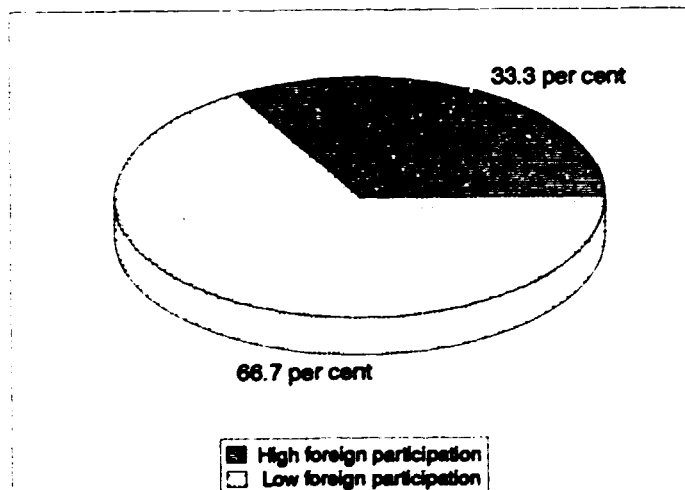
- increased regional integration efforts (infrastructural, institutional, etc.) in the fields of trade industry and technology, and;
- intensification of discussion and information exchange on world market issues, R&D partnerships and international sub-contracting to increase the capability to meet new product and packaging standards, and health and environmental regulation standards.

1.2.5 The industrialist and investment decision

The above analysis of the industrialization system has to be supplemented by consideration of what an entrepreneur would call the "business conditions". By this he or she might mean the business climate (determined by government policy and the size and activity of other businesses) or else the degree to which infrastructure and essential services are available. These "conditions" powerfully influence the degree to which the simple industrial system described actually comes into being or functions effectively.

The conditions come into play at several points. Most notably, the investment decision will be affected by the prevailing climate with respect to government views about the desirability of private investment or foreign private investment. As Figure I.12 shows, foreign participation in manufacturing is not usually high. Participation of foreign private entrepreneurs in manufacturing enterprises is generally low. About 67 per cent of the twenty LDCs reported low

Figure I.12: Level of foreign participation in manufacturing, LDCs*



Note: * Data based on 20 LDCs.

foreign participation in manufacturing, and only 33 per cent high foreign participation. The favourable investment climate in a few countries, such as Haiti, Sierra Leone, Malawi and Togo account for the relatively high foreign participation in manufacturing. It has to be noted that the effect of government policy is not only with respect to its overt aims. It is the quality of public administration, the likelihood of approvals being granted, the speed of decision making and the flexibility of individual administrators that are the major factor in determining the willingness of both foreign and local industrialists and fledging entrepreneurs to invest in business.

Many of these aspects of government administration also have important effects on current as well as capital activity. For instance, the decision whether to hire or fire labour is often one attended by many government regulations, which may include the need to obtain a permit of some kind before a worker may be dismissed or before an expatriate worker may be hired. Price controls, especially if they are selective and targeted towards popular consumer goods, mean that a manufacturer may be unable to pass on price increases earlier in the production chain, or may do so only after exhaustive enquiries and delays.

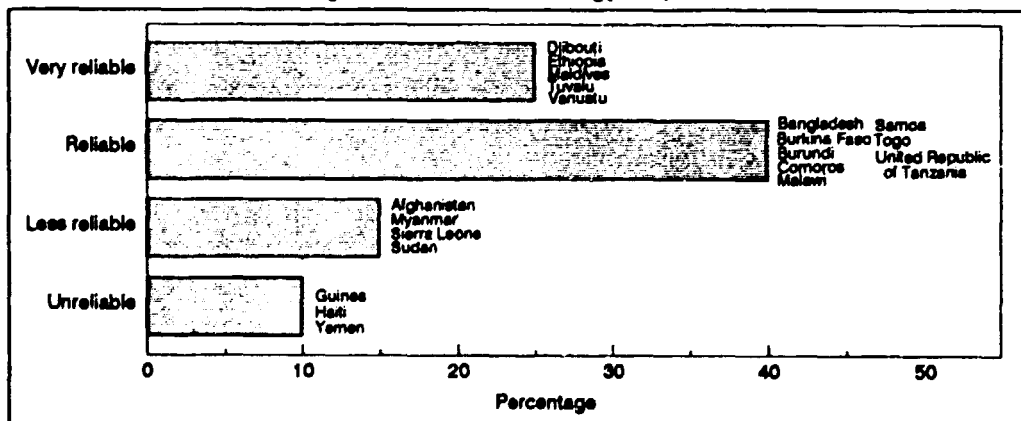
Import licenses and associated foreign exchange allocations are a frequent feature of the governmental regulatory framework which bear particularly hard on the manufacturing sector, which may be dependent on a range of essential imports that constitute intermediate inputs to the production process. Government restrictions imposed on foreign exchange were ranked as the second most important policy problem of manufacturing in the 20 LDCs surveyed (see Figure I.11).

Production itself is still often regulated by a system of licenses. This may be intended to protect existing industries or to achieve some strategic priorities in industrial development. However its effect is often to discourage any investment or to foster inefficiency at the expense of the consumer. It is all the more regrettable that such areas as health, safety and environmental protection, in which government action is most crucial, are the ones in which the administrative framework seems at its weakest.

The second set of "conditions" relate to fundamental questions of the size and functioning of infrastructure and the service industries. Reliable power supply (electricity), transport and communications facilities are needed if the industries are to be efficiently supplied with their needed inputs and if domestic and external markets are to be successfully exploited.

Bottlenecks in industrial energy supply (electricity, fuel oil, etc.) can be a major problem in production, because factories have to lie still or production has to be abruptly interrupted because of frequent power cuts. In the survey, however, only 25 per cent of LDCs surveyed were reported as having less or unreliable source of industrial energy supply (see Figure I.13). In many instances, abrupt plant shut-downs are caused by frequent interruptions in electricity power supply. Enterprises which depend solely on power generators either face the problems of maintenance due mostly to shortage of foreign exchange to import spare parts and sharp rises in the price of fuel products.

Figure I.13: Industrial energy use, LDCs*



Note: * Data based on 20 LDCs.

However, the question of investment decision cannot be considered only as one of a further set of necessary inputs (from the trade and services sectors) to the industry sector. The degree to which such facilities are present will also influence the investment decision. Moreover it will also determine information flows within the economy and thus the degree to which production is efficiently engaged in and the degree to which markets are effectively exploited. Knowledge of where needed inputs are cheaply available, knowledge about the presence of skilled labour within the community, and knowledge about the potential demand and the competition from other suppliers is of enormous importance for correct business decisions, but such knowledge can flow freely only if there are good communications (in the widest sense of the term) both within the country and with respect to the world outside.

Some foreign investment decisions are taken as a result of the special position an LDC finds itself in with regard to trade privileges. Thus considerable investment of Asian origin has taken place in Bangladesh, especially in the textile industry in order to take advantage of its MFA quotas.²³ Again, Lesotho, because of its access to EEC, United States of America and South African Customs Union (SACU) markets, has seen foreign investment in its industry, especially in textiles.²⁴ Botswana has also seen export-oriented investment from transnational corporations, intended to take advantage of its status in MFA terms, its access to the regional market, and its ability to export to the EEC under the terms of the Lomé agreements. It is also attractive to investment because of its emerging domestic market.

Foreign direct investment is not usually directed towards LDCs. In fact the majority of foreign direct investment takes place among developed countries, and even with respect to developing countries, it is concentrated on a small number. As far as LDCs are concerned, their share is very small and shrinking. In 1980, these countries received almost 3 per cent of total FDI to developing countries, and in 1986, this share had fallen to 1.4 per cent. In fact Botswana accounted for more than half the total inflows to LDCs, the only other significant recipients being Chad and Rwanda.²⁵ In spite of this, FDI is still a strategy target of an increasing number of LDCs as overall investment from other sources is decreasing as well.²⁶ Policy instruments for its achievement include incentives such as tax remissions, free repatriation of profits and capital, provision of facilities, etc. Bangladesh, Gambia, Liberia, Sudan and Togo are among those countries which are creating export processing or free trade zones. However, in some quarters there is still a trend away from industrial investment in Africa, at least: it is reported that nearly one-third of British companies²⁷ and about a quarter of French companies²⁸ with industrial investments in Africa disposed of their holdings during the last

²³ Financial Times, "Survey of Bangladesh", 26 March 1990.

²⁴ Financial Times, "Lesotho benefits from distorted trade environment", 4 October 1989.

²⁵ UNIDO, "Foreign Direct Investment Flows to Developing Countries: Recent Trends, Major Determinants and Policy Implications". Background Study for the Special Advisory Group to the Director-General of UNIDO, Regional and Country Studies Branch, March 1990.

²⁶ According to UNCTAD, the share of LDCs' investment (gross fixed capital formation plus increase in stocks) in GDP decreased from a level of 19 per cent in 1980-1983 to a level of 15 per cent in the period 1984-1987. See UNCTAD, *The Least Developed Countries 1989 Report*, New York, 1990, p. A-11.

²⁷ Financial Times, "UK companies sell African investments", 28 June 1990.

²⁸ The Courier, "Meeting Point: Jacques Pelletier, France's Minister for Cooperation", No. 117, September-October 1989, p.2.

decade, and they are unlikely to return for the time being because of the overall unfavourable economical and political environment in those countries, in spite of more open attitudes to foreign investment in African countries and in spite of the new emphasis on the importance of the private sector both at the governmental and inter-governmental level.

One notable development in recent years in foreign investment mechanisms has been the growth of country funds and investment trusts specializing in developing countries. This has been at least partly due to the search on the part of investors for emerging markets in which the prospects for capital gains are thought to be greater than in the developed countries. These funds have largely specialized in the emerging industrial economies of Asia, such as Thailand, Malaysia, Singapore, Taiwan Province of China, etc. A new Himalayan investment fund is destined for Nepal, Bangladesh, India and Sri Lanka.²⁹ Country funds can be seen as one possible mechanism by which the foreign exchange earned by expatriate nationals of LDCs might be mobilized for economic development in the home country (as is the case at present with funds specializing in developing countries such as India). Nevertheless, the investment problem for LDCs is not only one of mobilizing the necessary foreign exchange for the initial investment. The need for management expertise and continuing support to meet recurrent costs means that mechanisms of the kind described would need to be elaborated to take account of these requirements.

1.2.6 Transport

Transport issues for LDCs are not wholly separable into domestic and international aspects. Firstly, there is dependence in all cases on imported fuel. Secondly, many facilities, such as airports, airlines, and ports, play a dual role, providing both internal and external links. Thirdly, investments in any new international facility, such as a port or an airport, requires corresponding investment in improving the national infrastructure if it is to be effective.

With respect to transport facilities, LDCs are seriously disadvantaged. The national airlines of LDCs have on average about 6.5 aircrafts. This average is in fact distorted by a few larger national fleets such as those of Ethiopia (49) Nepal (18) and Sudan (15). In fact, 17 of the national airlines have three planes or fewer. Having a national airline can in principle allow for the linking of industry in more disadvantaged areas of the country with growth centers: externally, it can help in promoting exports and improving marketing communications. But fleets of the size mentioned, especially in geographically remote and dispersed areas, and with due allowances for downtime for maintenance purposes, mean that little can be achieved in this direction. Air transport is, however, the only practical alternative in many cases to overcome the kinds of locational and commercial isolation of industry in LDCs. Just how great this isolation is may be seen in terms of the connexions available in flights to the main economic centres of New York, Brussels, and Tokyo. No direct flights are available from any LDC to New York, for 17 LDCs, two change of planes are necessary. With respect to Brussels, only 7 LDCs had a direct connection, 25 needed one change of planes and 10 needed two changes. For Tokyo, no direct flights are available, one change of plane is needed in 29 cases and two changes in the remaining 13 cases. The practical effect of this is that, taking stopovers and the infrequency of most services into account, that a potential investor from one of the commercial centres mentioned will have an appreciable degree of extra difficulty in assessing a potential investment in an LDC, let alone the difficulty of monitoring the progress of an investment on a regular basis. Equally, the industrialist in an LDC interested in exporting to developed countries will find the extra time needed because of the poor air connections to be a further

²⁹ Financial Times, "Himalayan fund aims to raise Dollars 100 million", 13 June 1990.

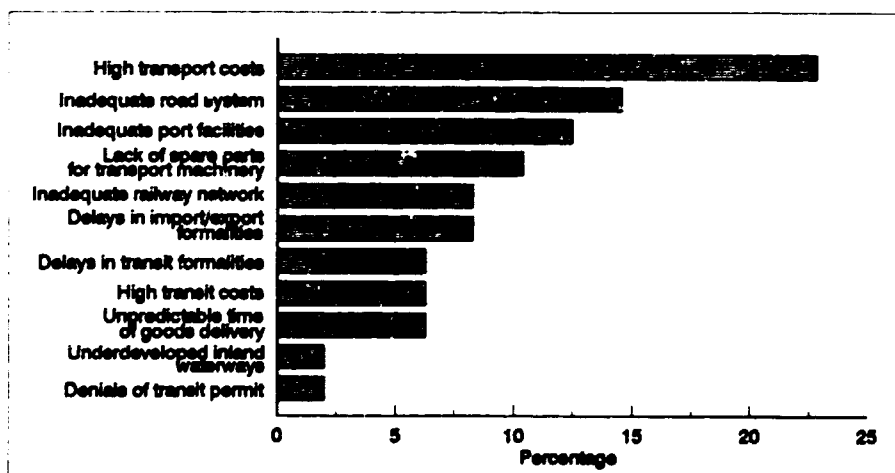
deterrent to an already difficult undertaking, both from the point of view of visits to potential markets and the shipping of products by airfreight.

Apart from these difficulties, the costs of air connexions are also an issue. The average business class return air fare from LDC capitals to commercial centres in developed countries is \$US 3050.³⁰ Not only are such fares high in relation to the incomes in LDCs, but they are often associated with foreign exchange restrictions such as to make air travel even more difficult as a means of promoting increased exports by direct contact with the markets.

Air freight rates are another burden on export possibilities: consideration of available rates suggests that they may be subject to several anomalies and inconsistencies at least as far as the LDCs are concerned. For instance the rates per kilogram for shipments to New York are successively reduced for amounts in excess of 100 kg, 200 kg, 300 kg and 1000 kg. This is true for any LDC as origin. But with Brussels as the destination, such reductions are by no means uniformly available, especially not for the larger quantities. The result is that for many LDCs, especially African countries, marginal rates are not very different between the two destinations. In several cases where the geographical distance is considerably less, the rate charged is nevertheless more. Given the preponderance of LDC trade with the EEC, this result suggests that the degree to which manufactured exports may be disadvantaged should be carefully examined. A study of the effect of international transport costs and industrial development in the African LDCs (which used sea freight rates) has shown that even for coastal countries the transport factor may significantly erode a cheap labour advantage, but that for land-locked countries the effect may be catastrophic. Apart from a concentration on products with a high value to weight ratio, other conclusions drawn include that of the need to engage in processing activities that increase that ratio.³¹

The expected role of the transport system in manufacturing industry is in several respects hindered by problems as shown in Figure I.14. The LDCs surveyed ranked high transport costs

Figure I.14: Major transport problems of manufacturing industry, LDCs*



Note: * Data based on 20 LDCs.

³⁰ This is the arithmetic mean of all business class fares from LDC capitals to New York, Brussels, and Tokyo.

³¹ Livingstone, I., "International transport costs and industrial development in the least developed African countries", in UNIDO Industry and Development, No.19, Sales No. E.86.II.B.6, October 1986.

as the primary problem issue. High transport costs arising from high prices of oil and fuel products, especially in net oil importing LDCs, high costs of delivery of raw materials and other inputs, etc., is a major hindrance to manufacturers particularly small-scale enterprises located in remote areas far away from major growth centres. Inadequate road system was the second most major transport problem.

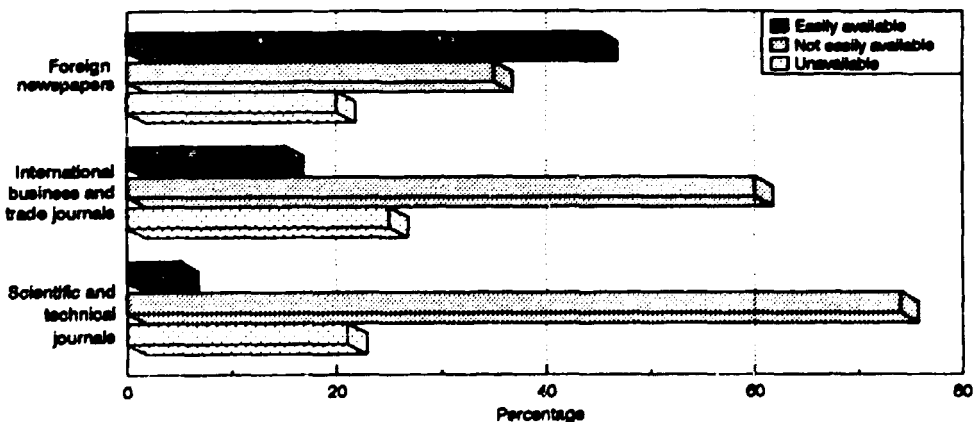
1.2.7 Communications and media

Whether within an individual enterprise or in an entire economy, the free flow of information is essential in order to optimize the allocation of resources and avoid inefficiencies. It also provides basic signals to entrepreneurs as to market requirements, available technologies and investment opportunities, and is therefore essential for the longer-term and self-sustaining process of industrialization. In practice, the information flow will be partly influenced by the transport system and the degree to which people are in contact with one another. Population density and the degree of urbanization are thus some fundamental variables for assessing the possibilities for industrial expansion. In addition, the internal road and rail networks, and the availability of cars and other forms of transport are also relevant. In general the importance of infrastructure has to be recognized not only from the point of view of the immediate needs of industry for the provision of supplies and the serving of markets, but also for the contribution it makes to the flow of information.

Other factors in this regard include the availability of telephones and media, especially such as newspapers. With respect to telephones, there are sharp differences among the LDCs. Presumably because of their small geographic size and relatively high degree of urbanization, small countries such as Djibouti, Kiribati, Sao Tome and Principe, Tuvalu, Vanuatu and Samoa are relatively well supplied with telephones (fewer than 100 per telephone). Other LDCs have a considerably worse figure. Expansion of this essential service in LDCs would offer opportunities for local manufacture of several inputs, especially in such items as poles, cables, fixing materials, etc.

The availability of foreign newspaper(s), international business and trade journals, and scientific and technological journals is depicted in the surveyed LDCs in Figure I.15. Generally, foreign newspapers excluding business, trade, scientific and technical journals are easily available. Journals related to industry are not easily available or unavailable.

Figure I.15: Mass media for manufacturing industry, LDCs*



Note: * Data based on 20 LDCs.

Newspapers represent an important communication possibility, but most LDCs are badly supplied with them. At least nine LDCs have no daily newspaper, and only in Botswana, Myanmar and Lesotho are the circulation figures above 10 per 1000 of population. Expansion of printing and publishing activities would represent an important manufacturing contribution to overall growth, would have potential backward linkages to pulp and paper industries, and would make a significant long-term impact on the flow of information and the development of markets.

A related problem in connection with the media is that of access to foreign media and journals. These are important sources of information on external markets, supply and demand possibilities of raw materials, patterns of industrial organization, availability of technologies, and, in fact, much information that is vital both for the individual industrialist and for the national policy maker. Yet the circulation of foreign media is often restricted, sometimes for foreign exchange reasons. Ordinary international or business newspapers, as well as trade and specialist journals, are hard to come by in many LDCs. UNIDO has for many years been building up its information systems and networks on technologies and investment opportunities, establishing focal points in each country and answering a growing stream of enquiries from all developing countries. But it is clear that such activity has to be complemented at the national level by encouraging the dissemination of industry related journals and media in LDCs. UNIDO would be ready to cooperate with publishers and bilateral agencies in such an activity.

Industrial capacity under-utilization is a characteristic of industry in many developing countries, and LDCs are no exception. Some of the causes include machine breakdown and shortages of raw materials or spare parts. However, a frequent cause of under-utilization of capacity is the absence of a stable and reliable electricity supply. Electricity capacity installed in LDCs is very limited in relation to the population: the average for all LDCs is 23 kW per 1000 inhabitants, while for developing countries as a whole the figure is 156. Since many industrial processes and machines are totally dependent on electric power, no substitution to other forms of energy is possible as in the case of households. Given the inadequate levels of installed generation capacity, the systems frequently become overloaded, and breakdowns are common. In the absence of electricity from the national grid, many manufacturing firms in LDCs use petrol or diesel powered generators, which means that they are ultimately dependent on a resource from outside the country with which foreign exchange costs are associated. The wider energy questions relating to environmental degradation and depletion of resources must form part of any detailed analysis of the energy question in LDCs, but from the point of view of the needs of industry it is clear that there is a strong case for renewed concentration on the expansion of the national grid systems. It can also be said that exploitation of hydropower resources, such as is possible in at least 14 of the LDCs,³² would also provide a stimulus to manufacturing activity, even in such areas as poles and cables, but in some cases also in the form of construction materials and simple turbine components.

1.2.8 International linkages

Linkage of LDCs industry with the international economic system involves a number of forms. The most obvious is foreign trade, whether with respect to the supply of imports for industrial inputs or to the production of manufactures for export. Other forms of international linkage include the use of expatriate labour, especially for skills in short supply nationally, technology transfer, foreign direct investment, and the acquisition of foreign services. These might be in such industrial service areas as testing, design, marketing, advertising, accounting,

³² UNCTAD, *The Least Developed Countries 1969 Report*, op. cit., p. 34.

insurance and finance. These are increasingly important inputs into modern manufacturing and the international industrial system. As far as LDCs are concerned, their access to them is very limited. Even when they are available locally, they are often not used. For instance in Haiti, the neglect of local engineering and management consultancies by industrialists has been specifically noted.³³ In some cases this is understandable: thus in Bangladesh local manufacturers of refractories, tableware and heavy-clay products still rely on overseas testing laboratories: the Bangladesh Institute of Glass and Ceramics has facilities that are not being fully utilized, because of a lack of trained personnel.³⁴ But in general, a neglect of local services and expertise has been observed in technical cooperation activities in LDCs.³⁵

One important example of the significance of international services for industry is given by the banking system. The international banks from developed countries are increasingly putting themselves forward as providers of a wide variety of financial services including strategic management advice, the formation of joint ventures, capital markets activity, export credits, treasury management etc. Many have invested heavily in communication systems and in acquisitions of related firms in investment management, stockbroking, insurance, etc., not to speak of those banks that take direct equity holdings in industry and are to a considerable degree involved in the long-term planning and development of those industries. Yet these banks have a minimal presence in LDCs: banks from OECD countries are to be found in only 17 of the countries. The reasons for this may have more to do with a desire for national control of the banking sector, because analysis of the remaining countries shows that usually if there is no bank from an OECD country there is no foreign bank at all. Only in three cases where there is no bank from an OECD country is there any foreign bank present. Apart from government regulation, there may also be an inadequate perception of market possibilities on the part of the international banks. It is nevertheless to be regretted that dialogue between LDCs and international banks is concerned largely with debt rescheduling: there is scope for discussion of how these institutions could make a sustained and long-term commitment to the development of industry and the economy as a whole through closer involvement in the day to day business life of the countries to whom their money has been lent. Access to international advice and services provided by these banks could make an important contribution to efficiency and export performance of industry in the LDCs.

There is an associated problem under this heading which bears particularly hard on the development of links between LDCs and the international industrial system. This is of the costs with respect to foreign exchange transactions. These are sometimes regarded as excessive even among developed countries, but for the LDCs, the costs of moving between national currencies and those needed for international trade, such as the US dollar, can be very significant. A comparison of the bid and offer rates between LDC and hard currencies suggests that on average the spread applied for all LDC currencies is 81.59 per cent of the bid price. This compares with a spread of 2.17 per cent for the currencies of the seven largest OECD economies (G7 countries). Moreover, the LDC average conceals further discrepancies: if one removes currencies tied to a currency of regional importance (such as the CFA Franc) then the spread for the remaining currencies is on average 142.9 per cent. Such spreads are so high that they can have only a deterrent effect, and it would seem that this question would bear closer

³³ Ministère du Commerce et de l'Industrie, *op.cit.*

³⁴ UNIDO, *Analysis of Raw Materials for Non-Metallic Mineral Based Industries*, DP/ID/SER.8/534, 28 July 1986.

³⁵ UNDP, *Technical Cooperation in the Development of the Least Developed Countries*, A/CONF/147/PC/3/Add.9, TD/B/AC.17/31/Add.9, 21 February 1990.

examination³⁶. The results might suggest that reconsideration of such obstacles to transactions between LDCs and other countries is seriously necessary and would be of benefit to all parties concerned.

1.3 Conclusions

The preceding sections have presented an overview of the manufacturing sector in LDCs. The generally low levels of industrial development are seen to be mirrored by a marginalization of LDCs as far as the world economic system is concerned, particularly from the point of view of trade and investment linkages. The conditions for industrial growth have been reviewed, and it has been seen that few of the necessary accompaniments for manufacturing expansion are at a sufficiently advanced stage. Infrastructure, transport, communications both internally and as they affect international linkages, are inadequate. More information flows are necessary for market growth. Linkage development both within manufacturing and with other sectors is at a rudimentary stage and would benefit from being a focus of national and regional strategies.

The need for diversification and the enhanced role of small and medium industry and entrepreneurship will in turn call for a re-evaluation of the role of government in industry, the methods used for strategy formulation and the points of intervention by the national authorities. The question of human resource development, particularly with respect to entrepreneurship skills, will, however, be of special relevance to national policy. Another question will be that of providing the necessary technical skills for an industrial sector whose detailed composition in sectoral terms cannot easily be predicted, since it will be based on the actions of individual entrepreneurs.

Given the complexity of the issues in LDCs industrial development, and the magnitude of the task, the role of international cooperation will be a decisive one. This cooperation will include not only the gradual economic integration of LDCs in sub-regional or regional groupings, but also the further growth of co-operation between developed and developing countries. A new concentration will be needed on the involvement of local industry in LDCs in this process, both in terms of dialogue and of closer participation in development cooperation. As has been seen, the needs of industry will require a diverse and flexible response both from national governments and the international community. This kind of flexibility and capability to respond to national and international demand will be very crucial.

³⁶ The figures are based on rates obtained in Vienna, Austria, and will certainly be influenced by the regular volume of transactions involving LDC currencies and the Austrian schilling.

2. INDUSTRIAL POLICIES IN THE LEAST DEVELOPED

COUNTRIES: MAJOR CHALLENGES

The previous chapter discussed the major features and trend in manufacturing in the LDCs paying particular attention to the problems and potentials of industry. The present chapter will focus on a crucial aspect of industrialization - the challenges of industrial policy - in LDCs.

This chapter examines the role of industrial development policies in critical areas such as the promotion of the private sector, the fostering of domestic as well as the attraction of foreign investment, human resource development, small-scale industry promotion and industrial rehabilitation. Past policies in these areas are briefly reviewed and recommendations given for future policy requirements.

The formulation of effective industrial policies remain a major issue of industrial development in the LDCs. Industrial growth presupposes an efficient institutional, technological and informational environment conducive to a rational resource allocation within the industrial sector as well as the encouragement of structural change in response to external and internal trends. While macroeconomic reforms are essential to create such a framework, they are not sufficient to remedy structural inadequacies such as lack of indigenous entrepreneurs, obsolete technology, insufficient trained managerial and technical personnel and many others. There is a clear need for a focussed industrial policy and specific measures to alleviate structural weaknesses at the industry and enterprise level.

A central question raised by the wave of industrial policy shifts underway throughout the world is that of the appropriate role of the state. There is a growing consensus on the role of government in providing an "enabling environment" for industry and other sectors to grow. Privatization feature very prominently on the policy agenda of many LDCs. They pose a formidable challenge in the context of limited resources, a lack of sophisticated financial system, a long history of public sector dominance in industry, and a narrow base of domestic private entrepreneurship. In order to launch a successful privatization process, LDC governments need to take a realistic assessment of the major issues involved and the capabilities needed - in terms of policy initiatives, financial and institutional support, investment promotion and human resource requirements.

Apart from efforts to reduce direct state control of industrial development and to assign a greater role to the private sector, the questions remain:

- Which areas and sectors of the economy should be the focus of privatization considering the limited investment resources available?
- Should governments confine themselves to the creation of an infrastructure and an "enabling environment" for industry or should

specific branches of industrial activity be targeted for promotion? If so, how should these targets be identified?

- Is the dominant reliance on available natural resource (agricultural, forestry, minerals) still a valid approach to industrialization for LDCs or could different priority areas for industrial strategies in the 1990s be conceived?

Industrial rehabilitation as well as maintenance, upgrading and diversification efforts are of critical importance. However, the concept of industrial rehabilitation needs to be broadened to take into account both the macroeconomic forces at play and the problems of industry at the sectoral, branch and plant level. An important question with respect to rehabilitation is: How can privatization and rehabilitation programmes be pursued in an integrated manner and in what proper sequence?

It is a well known fact that decentralization of economic decision-making and a regional approach to industrial development can foster rural development and achieve both efficiency and equity objectives. The questions that arise include the following:

- What are the appropriate policy to decentralize infrastructure, human resource development, finance, etc. so as to support the development of key subsectors in various regions?
- What are the requirements in terms of reorganization or restructuring of institutional machinery and which potential conflicts have to be considered in such a process?
- What criteria should guide the selection of regional growth poles and what kind of analytical support is needed for this selection?
- How can international support and cooperation be geared more strongly than in the past to enhance regional development?

2.1 Development of an appropriate macroeconomic framework

Although it is obvious that LDCs, like all developing countries, need to develop an appropriate macroeconomic framework, this point still warrants emphasis. A flexible macroeconomic policy framework may have to be developed in each LDC to take specific account of:

- the changing circumstances and structural rigidities of individual countries;
- the linkages between various economic activities;
- the interface between macroeconomic goals and sectoral and subsectoral restructuring; and
- the sequencing and combination of macroeconomic policy instruments.

In response to persistent balance of payments difficulties as a result of structural imbalances, LDCs and other developing countries have undertaken structural adjustment programmes to provide an appropriate macroeconomic framework for sustained economic development. Two new facilities were established by the IMF in 1986 and 1987 - the structural

adjustment facility (SAF) and the enhanced structural adjustment facility (ESAF), respectively - to help low income countries, particularly LDCs, with protracted balance of payments problems.

In recent years, African LDCs including Guinea, Mali, Somalia, Equatorial Guinea, Gambia, Mauritania, and Togo have fully accepted the policy changes required by the World Bank and IMF in order to qualify for structural adjustment loans. Other African LDCs - Benin, Burundi, Burkina Faso, Mozambique, Madagascar, Niger, Sierra Leone, United Republic of Tanzania and Uganda - have partly accepted the requirements proposed by the Bretton Woods institutions.

At the present time, Benin, Equatorial Guinea, Lesotho, Mali, and Sao Tome and Principe have structural adjustment arrangements (SAF) with the IMF. In addition, Gambia, Madagascar, Malawi, Mauritania, Mozambique, Niger, Togo and Uganda have enhanced structural arrangements with the IMF.³⁷

In the eighties - mid-1981 to mid-1989 - five of the 14 Asian/Pacific LDCs carried out structural adjustment programmes. These were supported by the IMF with stand-by credit and/or extended credit arrangements. The countries undergoing SAPs were Bangladesh, Lao People's Democratic Republic, Maldives, Nepal and Samoa. An assessment of these programmes undertaken by ESCAP suggests that the performance of SAPs has been very uneven across the various countries. The smaller countries were relatively more successful in overcoming their balance-of-payments crises, while the larger ones had to sacrifice growth to adjustment by reducing substantially their social expenditures, especially on poverty alleviation.

Furthermore, it was found that the success of SAPs was critically dependent on a continued access to foreign assistance. In other words: the policy changes adopted during the adjustment process - removal of price distortions and changes in public expenditure patterns - were feasible only if combined with substantial inflows of ODA to prevent further increases in balance-of-payments disequilibria.

Arab LDCs including Sudan have recently undertaken IMF sponsored SAPs. For example, Somalia, has undergone several adjustment programmes under IMF stand-by agreements, the most recent one being in 1987.

In the early 1980s, Haiti implemented an IMF stabilization programme. A structural adjustment programme was begun in 1986 but was derailed by civil disturbances in 1987.

Macroeconomic reforms do not necessarily guarantee economic rejuvenation. Unless a social safety net mechanism is provided for the poorer sections of society, SAPs would invariably weaken the long-term prospects for development, while increasing inequality and poverty with unbearable political consequences - for example, popular resistance in the form of riots, on account of, for instance rising cost of food caused by decontrol of producer prices. Zambia's break with the IMF and the IMF-backed SAP in 1987 shows the difficulties of structural adjustment.³⁸

Nonetheless, macroeconomic policy reforms can help correct many inefficiencies in industry in LDCs. Successful devaluation can help eliminate excess capacity by encouraging

³⁷ IMF, *International Financial Statistics*, Volume XLIV, no. 3, March 1991, p. 23.

³⁸ *Africa Recovery*, vol. 2, No. 4., pp. 6-13, 1988.

enterprises with underutilized plants to export more. At the same time, a devaluation by giving a stimulus to exports may provide the foreign exchange for essential imports of spare and replacement parts, and other machinery. A lowering of the general level of tariffs and a move towards more uniform tariff rates would also lead to more uniform rates of effective protection across sectors and thus induce enterprises to find ways to improve productivity. A more neutral and open trade regime may orientate domestic industry towards more export production and away from domestic markets. A stronger export orientation of domestic enterprises could lead to increased efficiency and productivity.

But since macroeconomic reforms often hurt before they help, their beneficial effects may require a longer time-frame. In addition to the social dislocations mentioned earlier, these reforms generally cause imports of essential machinery, spare parts, components and raw materials to be more expensive. Easier access to credit with a liberalized banking and financial system runs counter to the demand-dampening objectives of stabilization policies, and the liberalization of the import system will cause many inefficient enterprises to shut down.

Although macroeconomic reforms are essential to provide the appropriate framework to ensure economic growth they can, however, do little for industrial inadequacies such a lack of an indigenous entrepreneurial cadre, or a thriving private sector, inadequate technology, and insufficient supplies of appropriately trained and experienced managerial and supervisory personnel. These are the very real impediments to economic development at the industry and enterprise levels in many LDCs, including African LDCs. Also, the often diagnosed weakness of vertical integration in much of domestic industry is not readily amenable to macroeconomic reforms. Thus macroeconomic reforms are a necessary but not a sufficient condition for industrial regeneration and expansion. There is, therefore, a clear need for a focused industrial policy to attack structural weaknesses at the industry and enterprise level.

2.2 Need for comprehensive industrial policy

2.2.1 Nature and scope of industrial policy

Given the diversity of LDCs, it is clear that no single set of industrial policies is 'best' for all of them. Yet despite their diversity, LDCs share a common need to develop a comprehensive industrial policy which seeks to maximize their strengths and minimize their weaknesses. The strengths of LDCs are basically their natural resources - particularly agriculture, forestry and minerals. The weaknesses of LDCs include the small size of domestic markets and populations, low level of per capita incomes, industrialization, human resource, infrastructural and institutional development.

It is clear therefore that for industry to become the motor for overall economic development, it must be closely allied with agriculture and other natural resource bases. Agro-industry, including agro-forestry and mineral and other natural resource-based industries, must therefore be the priority focus of industrial policy. In addition, given the limited resources available for industrial development, LDCs cannot afford to dissipate scarce human and other resources over too wide an area. This fact would call for most LDCs to focus industrial policy on selected areas, sectors, subsectors, industries and even on specific priority enterprises. This **targeted approach** would ensure that scarce resources are used where they would have most benefit.

The difficulty with this approach is that it requires the correct choice of targets whether they be sectors, subsectors, industries or enterprises. In an ideal world, the best approach would

be for LDC governments to be facilitators and support whatever profitable choice made by private entrepreneurs on the basis of their willingness to put their own capital into particular areas. Unfortunately, in most LDCs there is little or no formal private sector. Or, if the private sector exists, it is only in an insignificant small-scale sector or in an extremely heterogeneous informal sector. To state this, is not to deny the great potential of the informal and small-scale industry sectors in LDCs. It is only to say that as yet the potential of these two sectors is not fully realized and it will probably take some time to do so. In lieu of significant private initiatives, LDC governments with the assistance of international agencies such as the World Bank and UN agencies such as UNDP, UNIDO and ILO may have to identify the focal areas of industrial policy. These areas would obviously have to be those in which the private sector and indigenous entrepreneurs could play a role and ultimately a lead role.

The above discussion may have a number of important policy implications for industry in LDCs, these may require that:

- industrialization will have to be based on better use and/or exploitation of natural resources;
- a rural-based industrialization strategy is pursued;
- the latent dynamism of local entrepreneurs in the informal and small-scale industry sectors is utilized;
- economic decision-making is de-centralized on a regional approach to foster rural development; and
- efforts are concentrated on the provision of supporting institutions, infrastructure, human resource development, and financial support, especially for key areas/subsectors or enterprises selected as priority areas.

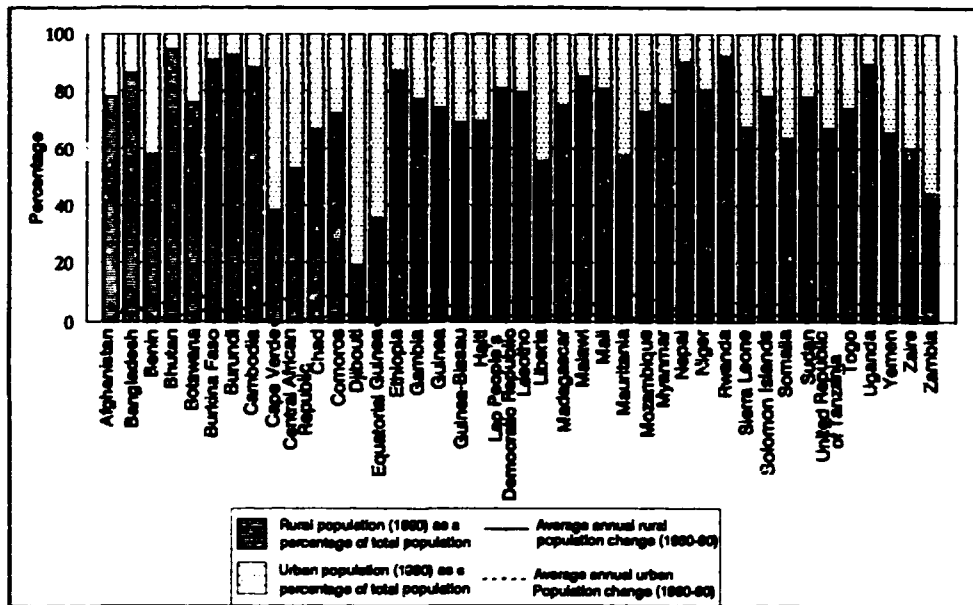
2.2.2 Decentralization of industrial policy: a regional/rural development focus

LDCs are characterized by extreme heterogeneity in terms of geographic location, climate, ecology, economic, ethnic, cultural, social and political conditions. Not surprisingly, the development needs and potential of the various segments of the population in LDCs will differ as well the contribution these segments make to society itself. This variety results in the need for diversity and differentiation in the policy instruments used by LDC governments and particularly, a **decentralized administrative structure**. In this context, decentralization would mean not only the existence of administrative offices and branches of government services in the various regions of the countries, particularly rural areas. But, above all, also the assignment to these regional bodies of decision-making powers, monetary and fiscal resources and the autonomy to use these as they see fit. Clearly such a **regional decentralization approach** would make strong administrative and political demands on LDC governments. In particular, many LDCs do not currently have the decentralized administration and political institutions required. For this approach to be feasible, the requisite decentralized political and administrative machinery would have to be developed, probably with outside assistance.

But it should be stated that although decentralization is increasingly the focus of economic and political reforms efforts in many developing countries, currently few, if any, LDCs have actually enacted such a policy in a significant way. And, some LDCs are so small that it

is questionable whether a decentralization policy would have much meaning in these countries. However, for larger LDCs such as Sudan, the United Republic of Tanzania or Bangladesh, decentralization may be a significant fillip to economic development and moves towards increasing democratization. De-centralization would also assist rural development since most of the population in LDCs live in rural areas. In African LDCs in (1990), 58 per cent of the population in Benin lived in rural areas; 76.5 per cent in Botswana; 91 per cent in Burkina Faso. With regard to Asia in 1990, 78.3 per cent of the population in Afghanistan lived in rural areas, 86.4 per cent in Bangladesh, and 94.7 per cent in Bhutan. In Haiti, the figure was 69.7. In Arab LDCs, for example, in 1990, 78 per cent of the population in Sudan lived in rural areas, 63.6 per cent in Somalia and 57.9 per cent in Mauritania³⁸ (see Figure II.1).

Figure II.1: Rural and urban population, selected LDCs, 1980-1990



Source: World Resources 1990-91, World Resources Institute, Oxford University Press, Oxford, 1990.

An important dimension of the industrial restructuring and regeneration process in LDCs, therefore, will be regional development. Structural crises and potential for growth in individual regions will need to be examined and dealt with at the level of the region itself within a new framework of overall economic policy. The design of policies for promoting local initiatives and identifying regional growth potentials warrants due consideration by LDC Governments. Given the scarcity of resources, support should be applied to selected regions especially those which have the potential for major restructuring. To this end, detailed regional surveys would be needed to be undertaken as a basis for regional development initiatives undertaken by regional development councils or authorities.

Within this programme of regional development, it is important to give equal support to domestic investment as to foreign investment and hence to facilitate the start-up of small-scale enterprises from private initiatives and entrepreneurship development. This would provide

³⁸ World Resources, World Resources Institute, New York 1990.

an essential element in industrial restructuring at the regional and especially rural levels in many LDCs. On the basis of detailed regional surveys, investment project preparation and appraisal, training and technical support would need to be built-up and developed in each region as part of an efficient institutional infrastructure in which regional development councils or authorities will form an integral part. Thus, regional development councils would provide the means for key decision makers and actors in industrial restructuring in LDCs to be in a better and more informed position to conceptualize and launch industrial regeneration at the regional level. Local actors will be much better acquainted than a central government with the key determinants, constraints and prospects which have a bearing on industrial development efforts. They will also be able to more realistically assess the challenges ahead and the available and suitable policy responses that are amenable at a local level.

Finally, decentralization of economic policy and of administration would also be in keeping with a policy of targeting key subsectors, industries and even enterprises. Such a policy requires a lot of detailed information about these targeted entities if policy support is to be appropriately developed and implemented. In this connection, local institutions and, regional bodies such as regional development councils would have a comparative advantage in generating this information. They will certainly be more sensitive to local needs, aspirations and idiosyncracies.

A targeting policy would also imply decentralization of policies and decision making to rural areas or growth poles where key subsectors or enterprises are or could be located in LDCs. Such an approach would imply an unbalanced development strategy by favouring/supporting key regions with economic growth potential. This will imply some hard political choices. However, given the scarcity of resources, it is difficult to suggest an alternative strategy which would not involve dissipating resources over a wide area. LDC governments may have to build on key regions or potential growth poles, with key sectors and/or priority areas and enterprises with good growth prospects. However, it would be more important for LDCs to move away from regions where there is still little or no potential for growth. Though this approach would have important social and political implications, it may be cheaper in the long-run. It should also be remembered that foreign investors do not invest generally but in selected key areas with the appropriate supporting services and infrastructure.

In sum, the establishment of regional enterprise development boards or councils will be a critical ingredient in establishing a regional network of mutually supporting activities, services and enterprises. Such an enterprise board could help realize economies of association and the establishment of such mutually supporting activities would be much more conducive to attracting direct foreign investment.

2.3 Key areas of industrial policy

2.3.1 Small-scale industry development

2.3.1.1 Small-scale industries (SSIs) and development

After a period of emphasizing large public sector projects as an instrument for industrial growth, most LDC governments now recognize that further industrial development appropriate to the country's scale and needs should largely involve privately owned small-scale enterprises.

The predominantly rural character of most LDCs puts small-scale industries (SSIs) - which generally are strongly linked with the agricultural sector - in a very important position. Indeed, it is SSIs which tend to cater for the needs of the rural population and primarily process agricultural products for consumption and supply low-cost clothes, utensils, tools, equipment and fixtures for agriculture, fishing and construction. Hence, food processing, wood and furniture and agricultural implements are the most important sub-sectors of small-scale activities, apart from wearing apparel, leather products, and non-metallic mineral products. Informal industries are tightly interwoven with agricultural activities. They provide employment on a seasonal basis, often in slack periods of crop activities, generate employment for women with few opportunities in other sectors and generate self-employment for the landless. Small and informal industries, therefore, play an important role in poverty alleviation and generally serve to promote a more equitable distribution in development than medium and large industries.

In general, the importance of SSIs is based on the following:

- SSIs mobilize human and other resources for industrial activities in the urban and rural areas which cannot normally be absorbed by the agricultural and large-scale industrial sector;
- most SSIs do not require large capital investments and highly specialized managerial and technical skills;
- SSIs tend to be regionally dispersed thereby reducing product distribution costs as well as lowering regional imbalances and improving the income distribution;
- SSIs provide local processing of agricultural products which increases product value to the grower;
- SSIs are an important source of income and employment of the lowest income population and, particularly, women; and
- SSIs are a major source of technical and entrepreneurial training for the poor and assist in the development of industrial skills at relatively low cost.

The important role which small and informal industries in poverty alleviating and equitable distribution in development is in many respects limited. In order to address the market, managerial, technological and financial development constraints of SSIs on a systematic basis, the governments of LDCs need to design strategies and policies aiming at a strong and sound promotion of small-scale and informal industries. Such policies as pursued in some selected LDCs are briefly reviewed in section 3.1.2.

2.3.1.2 Small-scale industry development policies

Small and informal industries deserve special attention in LDCs since they are the seed-bed for industrial growth. Small firms form a large pool of indigenous entrepreneurship and potential managers. As in developed countries small firms can grow into medium and large enterprises. Those enterprises that mature in a market-based growth process generally have better long-term prospects for profitable operation than large companies which are set up by state-owned corporations. This market-based growth process does, however, not occur

automatically but ought to be supported by small-industry schemes aiming at strengthening the entrepreneur's capability to survive. Often the entrepreneurship potential cannot be translated into business success because of lack of finance, access to raw materials or lack of technical and accounting knowledge.

The promotion of SSIs is a major component of the national industrial policies and programmes of many LDCs.

In Bangladesh, a number of government and private voluntary organizations are involved in the promotion and development of small and cottage industries (SCIs). The most important of the government organizations is the Bangladesh Small and Cottage Industries Corporation (BSCIC) which provides various extension services. Its objectives are to provide finance, infrastructural and marketing facilities, training and technology support. As part of its programme, the BSCIC has developed industrial plots with provision of roads, water, power, drainage and other common facilities such as banks, repair-workshops, etc. Industrial services centres in each district are to help small entrepreneurs in project identification, formulation and appraisal and to provide regular post-investment counselling. In collaboration with other government institutions like the Bangladesh University of Engineering and Technology and the Bangladesh Industrial Technical Assistance Corporation (BITAC), technical training is provided to specific target groups of entrepreneurs. A particular entrepreneurship training is offered by BSCIC for technically qualified people who lack the requisite means for setting up industries. BSCIC runs its own Small and Cottage Industries Training Institute for conducting its training programmes with an attached research facility for undertaking research and consultancy in the field of small industries. As part of BSCIC an Industrial Design Centre was set up with a view to improving through training the design of SMI products and to providing prototypes for new products. Various credit schemes aim at alleviating SSI's lack of financing. A credit guarantee scheme has operated through the central bank, the Bangladesh Bank, to help small entrepreneurs lacking of collateral to get access to commercial bank lending. BSCIC has introduced the Lead Bank Programme with commercial banks acting as lead banks through which BSCIC finances small firms; BSCIC itself, however, does not own any credit fund. The recovery rate of the credit programme with 51 per cent on the average, is poor by international comparison but not abnormal under Bangladesh's conditions. As part of its SMI financing programme, BSCIC has launched a hire purchase programme for supplying machinery on lease. Leasing of machinery does not require collateral since the machine remains the property of the lessor while the lessee can generate returns. Despite BSCIC's broad approach there is a wide scope for improving extension services to Bangladesh's small enterprises since the sector has stagnated during the last two decades.

SSIs and handicrafts in Ethiopia account for about 45 per cent of total employment in the manufacturing sector, 23 per cent of total fixed assets, 13 per cent of gross production value, and 23 per cent of manufacturing value added. Due to the underrecording of informal, unregistered enterprises these figures are likely to underestimate the importance of SSIs and handicrafts to the economy significantly. Entrepreneurs are attracted to the SSI sector by the freedom to determine product prices which allows them to benefit from scarcity rents by charging high margins.

However, high domestic market prices, relative to world market prices at the official exchange rate, and the requirements to surrender foreign exchange earnings to the National Bank of Ethiopia discourage SSIs from exporting their products. Furthermore, the private sector does not have access to the facilities needed to conduct export trade: communication with buyers and attendance at trade fairs are particular problems. Besides, acquisition of an export

license is a time-consuming process. Yet, despite the sector's domestic orientation, several enterprises have been able to develop export sales of such products as shoes, semi-processed leather and garments. There is considerable potential for the expansion and diversification of exports if a suitable incentive environment can be created.

Recent changes in the legislation governing private sector investment have sought to stimulate the expansion of SSIs. Clearly, SSIs offer a cost-effective means of tackling urban unemployment, one of Ethiopia's most pressing social problems. Successful SSIs will also transfer the liquidity within the trading community that fuels the smuggling trade and parallel market, to more productive purposes.

Guinea's new policy orientation emphasizes the role of the private sector as the engine of growth. Until now, private initiative has been largely in the field of trading. The intention is to encourage entrepreneurs to enter the field of small- and medium-scale industry. General support institutions have been set up including Centre de Création et de Développement des Entreprises (CCDE), Centre National de Promotion des Investissements Privés (CNPIP) and the Centre des Opportunités Industrielles (OIC).

Togo has also adopted a policy of privatization and strengthening of private initiative. A joint State-Chamber of Commerce Consultation is in progress to work out a Comprehensive Action Plan for promotion, development and support to small and medium enterprises including training, management consultancy, acquisition of technology, project preparation and financing.

In Congo, the public sector is dominant. An effort is being made to encourage the growth of small and medium industries through the support services of the Agence de Développement des Petites et Moyennes Entreprises (ADPME)), the small- and medium-scale enterprises unit (PME) in the National Development Bank and the Fund for Guarantee and Support to Small and Medium Enterprises (FGS). An Expert Centre for preparation of feasibility studies has also been established with the help of UNIDO.

Lesotho has a special agency for small industry promotion, the Basotho Enterprises Development Corporation (BEDCO). BEDCO needs strengthening to enable it to provide adequate support services. The setting up of a "sub-contracting exchange" unit has also been suggested. The principal assistance given at present is the running of an industrial estate.

The small-scale private sector industry in Yemen is generally referred to as the "unorganized sector" by the Ministry of Industry, Trade and Domestic Supply, a term that reflects the degree of government intervention. Little information is available about the scale or scope of these enterprises since licenses are awarded by municipal authorities. Recently, however, the Government has begun to examine the potential for development of small-scale industries as a means of attracting the resources of migrant workers into productive sectors and producing a range of simple goods for the domestic market and thereby substituting for imports. Council of Ministers' Order No. 12 of 1989 permits selected small-scale industries to bypass the procedures outlined in the Investment Code and receive their licenses directly from the municipality thereby greatly facilitating project implementation. The Ministry of Industry has also established a section to prepare and implement a small-scale industries development programme but the appropriate strategy is, as yet, undecided.

2.3.1.3 Suggested policies for small-scale industries' promotion

In order to realize maximum benefits from the SSIs and to avoid wasteful use of resources, LDC governments need to encourage SSIs on a selective basis. This means that support should be provided for those enterprises which have the ability to compete in free market conditions and are commercially and technically sound. In general, industrial policy aimed at the promotion and development of SSI need to be directed toward the establishment of a favourable economic climate which would stimulate development and remove constraints. This policy may widely use instruments such as taxes, registration requirements, securities for bank credits and their administration, as well as promotional measures and incentives by establishment - for example, of special grants for specific purposes, tax privileges, favourable credit terms, export subsidies and so on. Governments should create and maintain facilities for the development and promotion of entrepreneurship where entrepreneurs can receive advice and guidance on how to set up and successfully operate businesses. These facilities are particularly necessary for small businesses because they are usually set up and run by individuals who may have little or no education or may have no previous experience in running such businesses.

Entrepreneurship development and promotion can be achieved through appropriate human resource development policy covering government, parastatals and private medium and large firm employment. This can be arranged through the establishment and maintenance of industrial centres, particularly in small towns and rural areas where individuals can learn skills in an industrial or commercial environment.

Limited protection of domestic SSIs from import competition may be established through appropriate industrial policy. Protection may be particularly important for the small enterprises in the early stages of development because of their general inability to carry out aggressive marketing strategies which require expensive specialized skills and network facilities. Protection, however, should be considered as a temporary measure. This requires the understanding and support of industrialists and the government.

Another problem which will also have to be addressed by industrial policy makers is the resource allocation for SSIs. Given the general shortages of foreign exchange in LDCs, the SSIs are often unable to obtain only small amounts of foreign exchange. Consequently, governments may have to take measures to allocate foreign exchange for the importation of essential equipment and raw materials required by the SSIs but which cannot as yet be fabricated domestically.

2.3.2 Industrial rehabilitation

2.3.2.1 The need for rehabilitation

Industry in many LDCs consists of a very limited number of formal sector enterprises. If these enterprises are producing inefficiently at low levels of installed capacity and are making significant losses, this would have a major negative effect on industry in general. Rehabilitation of these enterprises is, therefore, important for industry and overall economic growth.

So far, the majority of UNIDO's work on rehabilitation of industry has concentrated on Africa. However, a variety of recent UNIDO and other reports, have found similar requirements for the rehabilitation of industry in Latin America, Asia and Arab LDCs.

Rehabilitation in these other regions is clearly an issue that will warrant due attention in the years to come.

Recent studies, by UNIDO in particular, have found that there is an urgent need for rehabilitation of many enterprises in African LDCs.⁴⁰ The underlying causes of the present situation in African LDCs are both macro and micro-economic in nature. Being highly dependent on imports (both raw materials, components and equipment), industry in LDCs has been seriously affected by the need to reduce imports as a result of balance-of-payment crises in individual countries. Furthermore, in the early stages of industrialization in LDCs, projects were often based on assumptions of domestic market demand growth, export prospects and the development of supportive infrastructure. In addition, macroeconomic policies and specific pricing, trade and industrial policies have in many cases distorted product markets and production conditions.

At the micro-economic level, in many instances, investments have been made on the basis of project concepts that were technologically too complex to be sustained over the long term without significant foreign assistance. In many projects, insufficient support in the form of training and other essential auxiliary inputs, tended to drastically affect productivity. In other cases, especially in the food processing industry, expected raw material supplies to manufacturing proved to be insufficient, irregular or even non-existent.

The result of the above is that capacity utilization rates in African LDCs are very low. Utilization rates well below 40 per cent are not uncommon. In the mid-1980s, for example, the rate was 33 per cent in Sudan (private sector), 36 per cent in Liberia, under 35 per cent in Sierra Leone and 25 per cent and less in the United Republic of Tanzania. UNIDO's current diagnostic rehabilitation surveys of manufacturing industries in Liberia and the United Republic of Tanzania show that the situation has not improved; indeed in some cases, it has become worse.

Thus, significant and increasing underutilization of industrial production capacities as observed in Part I section 1.3.4 is one of the major factors hindering the renewal of economic growth in LDCs. If this trend could be reversed, greater utilization of installed capacity and improved productivity would be the most economical means of restoring dynamism to the industrial sector and overall economic growth in LDCs.

2.3.2.2 The approach to rehabilitation

However, before a serious effort can be made to carry out detailed rehabilitation of industry in LDCs, LDC governments need to diagnose in depth the precise reasons and scope of the problems and constraints presently faced by industry and the increasing challenges being built up in a particular subsector and in specific industries or enterprises. It is also important in this diagnosis to avoid treating industrial rehabilitation as a mere micro/technical issue.

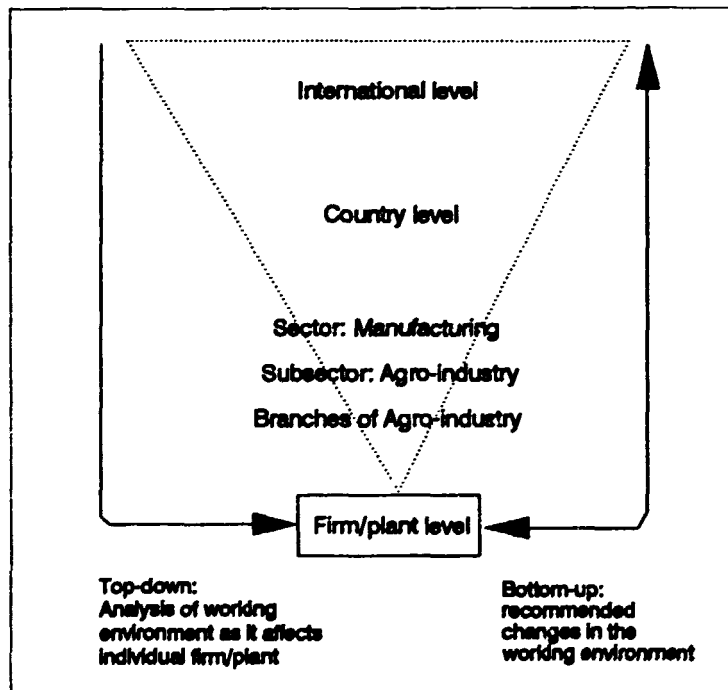
It is essential to fully assess the nature and magnitude of underlying constraints faced by industry for two reasons: First, to be able to assess the general viability of any rehabilitation effort; and second, to identify the precise type of measures, investment studies, market studies, policy and institutional issues, and technical matters which need to be examined in-depth as part

⁴⁰ See among others, reports on The regeneration of Liberian (PPD/R.23), Tanzanian (PPD/R.26) manufacturing industry with emphasis on agro-based industries; UNIDO industry sector programming mission to Uganda (PPD/R.36); and Regenerating African manufacturing industry: Country Briefs (PPD.97).

of the subsequent effort of detailed rehabilitation work at subsector, enterprises and plant levels. In other words, only with the broad classification of current problems and their causes, with an initial estimation of the appropriateness (in economic terms) of rehabilitation, can targeted technical assistance projects be designed and launched for selected activities of the industrial sector in the various African LDCs.

The concept of industrial rehabilitation obviously needs to be broadened and integrated: it should combine an understanding of both macroeconomic forces and real problems at the plant-level. It should encompass a broader diagnosis and recommend a wider range of action. Manufacturing enterprises are not "islands unto themselves". They exist in an economic environment which is ever-changing. Manufacturing enterprises should therefore be studied in relation to their total economic environment. Diagnostic analyses and remedial action programmes should cover the entire range of technical, managerial and technology issues at the plant-level as well as the overall financial, commercial and structural issues at the branch, subsector, sector and macroeconomic levels. An approach covering all these issues would be a **top-down/bottom-up approach**, a proposed **integrated and multidisciplinary approach** summarized in Figure II.2.

Figure II.2: The manufacturing plant and its working environment: Top-down/Bottom-up Approach



In order to assure that rehabilitation is not impeded by environmental factors, a "top-down" analysis should be followed by an assessment of each enterprise in terms of its rehabilitation climate from the "bottom-up". In other words, a major effort should be made to assess what changes in the economic and institutional environment (e.g. government tariff policies, regulations concerning allocation of foreign exchange, etc.) constitute preconditions to successful plant-level rehabilitation.

From a top-down perspective, a country should be first viewed in its international context. This involves macroeconomic or country level analyses which examine the key characteristics of a country's economic policy and institutional framework. At the sectoral level, manufacturing industry should be assessed in terms of overall characteristics, potential and major problems and constraints.

Special attention should be paid to policies and institutions relating to the sector. The relationship of manufacturing to agriculture should also given special consideration, since for most countries agro-based industries are the most important. This is for a number of reasons. Most African LDCs have the goals of self-sufficiency in food production and food security. The development of agro-based industries would initiate an industrial tradition based on locally available raw materials. In addition, the development of agro-based industries plays a key role in attempts to diversify exports and overcome foreign exchange constraints. Thus, at the subsector level special emphasis in terms of agro-based industries should be given to those related to the food processing subsector. Again, at the subsector level there should be an analysis of the characteristics, potential, major problems and constraints, linkages, and policies that are related to the key subsector being analyzed. The subsector should also be examined at the branch level.

Finally, at the plant-level, a detailed analysis should be made of the rehabilitation needs of a few selected key enterprises with specific recommendations for rehabilitation efforts. The enterprises selected for detailed analysis should be important enterprises in key subsectors with good backwards and forwards linkages to other firms, industries and sectors, especially primary sectors such as agriculture and other natural resource sectors.

As mentioned earlier, LDCs in Africa have very limited financial and other resources. Thus, an emphasis on a few strategic enterprises with good linkages in key subsectors would concentrate resources where they can have most impact. It would also maximizes the multiplier effects of any given investment - in that, should these enterprises be successfully rehabilitated, they would exert a significant "pull-effect" on other similarly placed enterprises. They thus become the motors to start the regeneration process going and provide the dynamism for more widespread economic growth.

In order to examine a plant in its total working environment a multidisciplinary approach would be required which includes an analysis of the enterprise in terms of the macro and industrial economic, financial, management and organization, human resource development, marketing, design and engineering, and technological dimensions. This multidisciplinary approach is absolutely essential in order to avoid the piece-meal approach and 'situate' the enterprise in its total working environment. This approach ensures that the real reasons why plants do not work to their optimum potential - which may not be just at the plant-level - are identified. The approach also allows the elaboration of a more appropriate and broader set of actions to rehabilitate the enterprise so that it is able to be profitable and compete successfully in an ever-changing environment.

2.3.2.3 International assistance for industrial rehabilitation

It is clear that most African LDCs will not have the resources to undertake significant rehabilitation of industry without substantial external assistance. Most industrial rehabilitation projects require foreign technical and financial support, particularly in the acquisition of equipment and spare parts. Besides international financial assistance, African countries will

require technical and managerial expertise to assist in selecting and procuring equipment and monitoring plant rehabilitation. An important effort should, therefore, be made by international agencies to mobilize and concentrate national and international resources to rehabilitate the plants. Intensified and focused **international cooperation** could generate a multiplier effect in industry and agriculture, thereby endorsing efforts to be undertaken by national entities.

Regional cooperation will also have an important role to play in regenerating manufacturing industries in LDCs. Given the small domestic markets and the difficulties in penetrating overseas markets, regional markets will be needed for growing industries. This implies measures such as harmonization of trade regulations, co-operation in improving the transport and telecommunications infrastructure, and organization of regional trade fairs. Regional coordination of rehabilitation and investment would also save resources in scarce supply. The shortage of qualified manpower, both at the enterprise level and in industrial development organizations, could in part be solved by pooling available planning resources and creating regional training institutes for higher-level manpower. Cooperation among African countries would also strengthen their position vis-a-vis overseas suppliers and in overseas markets.

It is important to stress that whatever the action taken at the national, regional or international levels, it must be taken swiftly. If remedial action - from the diagnosis stage all the way to actual implementation of a rehabilitation programme - is too slow, no matter how well formulated, rehabilitation programmes will fail. In the design stage, therefore, all the actors in the rehabilitation process must ensure the speedy delivery of their inputs and smooth uninterrupted action towards ultimate rehabilitation.

The biggest stumbling block to rehabilitation in African LDCs has been the problem of **often fatal interruption in the rehabilitation process caused by the need to hunt for funds** to implement the diagnosed rehabilitation requirements. If rehabilitation programmes are to be successful, individual African Governments should, at the outset, in conjunction with the international community - especially the donor community - design mechanisms to guarantee funds for the comprehensive rehabilitation needs identified. African governments and the Donor Community appear to be slowly recognizing this essential point. The World Bank/IFC's African Project Development Facility (APDF) and the EEC and DEG's Rehabilitation Advisory Services (RAS) in particular, are good examples of what can be done in a positive way to ensure that the rehabilitation process is not stopped at the diagnostic level and that funds are available for actual rehabilitation.⁴¹ APDF and RAS are currently based in Kenya and do not incorporate the smaller scale enterprises commonly found in LDCs. In principle, the APDF and RAS concepts could be adapted to the needs of LDCs.

⁴¹ The Rehabilitation Advisory Services, Ltd. (RAS) is a new company based in Nairobi which started operations on 1 May 1989. It is an EEC-financed pilot project with the German Development bank, DEG (Deutsche Finanzierungs-Gesellschaft für Beteiligung in Entwicklungsländern GmbH) owning 51 per cent of total shares and the remainder owned by 3 Kenyan development banks. It is also associated with PREFUND, which is a financial company, wholly owned by DEG, that provides risk capital.

2.3.3 Investment policy and investment promotion

2.3.3.1 Recent trends in foreign direct investment in LDCs

As is well known, foreign direct investment (FDI) can play an important part in the development of LDCs, whether this investment is in terms of new investment or rehabilitation. All LDCs are officially placing significant emphasis on attracting increased FDI flows as a means to obtaining investment capital, technology and, hopefully export market outlets.

While FDI has played a major role in the development of the South-east Asian countries, the LDCs in the Asia-Pacific region are in a clearly marginal position as FDI recipients. Nevertheless, there are some encouraging signs of a growing scope in the future. More conducive policies and appropriate legislation to attract FDI have been introduced in a number of the region's LDCs, including countries which in the past were not appreciative of the positive development contribution of FDI. Examples include Nepal, Bangladesh - where the setting up of an export-processing zone in Chittagong deserves further study to glean possible lessons for other LDCs - and Myanmar. The latter joined the competition for FDI in late 1988 with a new Foreign Investment Law allowing foreign investors to establish either wholly foreign-owned enterprises or joint ventures.

The Asian-Pacific region has in recent years been characterized by a rapidly increasing degree of economic integration which has led to the emergence of a strong intra-regional division of labour. This is also true in the field of foreign investment. Many Asian countries are not only major recipients of FDI from OECD-based companies, but are also preferred targets for relocating relatively labour-intensive industries from the Asian NIEs in which industrial production has come under the dual pressure of rising wages and appreciating currencies. The Asian Development Bank therefore concludes that "the strong investment flows from Japan and the Asian newly industrializing countries to Southeast Asia are likely to reshape the regional structure of production over the next decade and make the region a more cohesive entity in the world economy".⁴²

While being focussed on East and Southeast Asia, this remarkable trend towards increased regional integration has not left the LDCs of the region entirely untouched. Examples of their involvement include:

- Bangladesh, where almost 50 per cent of all joint ventures (since 1977) were affiliates of companies located in other developing countries of Asia;
- Maldives, where in the newly established export-processing zone significant export-oriented investment has been undertaken by companies from Sri Lanka, Hong Kong and India;
- Lao People's Democratic Republic, where - as mentioned above - Thai industrial companies have been strongly involved in take-overs of local companies in the context of the privatization programme; and
- Myanmar, where again Thai investors are quite active and where the first industrial joint venture under the new Law - in the field of woodworking - was carried out with a partner from Singapore.

⁴² Asian Development Bank, *Asian Development Outlook 1990*, p.39.

No doubt, the magnitude of FDI inflows reflected by these examples has remained small so far, yet there is a clear potential for Asian/Pacific LDCs to benefit from the region's economic dynamism and increasing integration and differentiation. To reap the potential benefits, efforts will need to be undertaken in these countries to improve the complementary physical and human infrastructure to productively absorb such investments.

Since 1983, the flow of FDI to Sub-Saharan Africa, particularly in African LDCs has fallen considerably. Total non-concessional financial flows from all sources dropped from US\$570.6 million in 1981 to US\$115.3 million in 1986. This 20 per cent drop in total non-concessional flows reflects the high risks perceived by lenders and investors in African LDCs. Concomitantly, FDI also dropped from US\$77.3 million in 1981 to US\$27.7 million in 1986 by 36 per cent. This was in spite of the attempts by various LDCs to improve their investment climate. The drop in FDI has meant that in recent years LDCs have experienced difficulties in servicing their debts and shortage of foreign exchange. These foreign exchange shortages have led to difficulties in importing essential spare parts and equipment which, in turn, has led to a severe drop in capacity utilization. For example, the average capacity utilization rate in African LDCs has been found in recent UNIDO studies to be less than 40 per cent. In specific cases, capacity utilization rates are much lower. For example, the capacity utilization rate in Uganda has been only 20 per cent.

There are a number of reasons why FDI in Africa has been falling in recent years. First, many investors require a large market with a large local demand. Most African LDCs, however, have small domestic markets which are too small to attract large-scale FDI. In addition, many African LDCs have population levels and a per capita incomes which are also too small to provide the demand for significant investment. About half of African LDCs have a per capita income less than US \$300. Uganda, in 1985, had a population of about 15 million inhabitants and a per capita income of about US \$150. This was less than one-tenth of the per capita income of Malaysia (over US \$2,000) which has a comparable population.

Mention should also be made of the fact that, until recently, there was a distinct hostility to FDI in many African countries. The political, social and economic upheavals in recent years in African LDCs have hindered attempts to attract FDI and deterred significant FDI flows.

2.3.3.2 Past attempts to attract FDI

In the past, many investment codes adopted to stimulate private investments in productive activities have proved to be a hindrance more than a promotional tool. To be eligible for the incentives and favourable conditions of investment codes, potential investors were submitted to cumbersome and long formalities, red tape, and the necessity of prior agreements from a wide range of different institutions.

Moreover, some investment codes impose a minimum size on investment capital, which excludes small- and medium-scale enterprises which may be the most appropriate for LDCs.

To remedy the above obstacles or constraints many LDCs have tried to improve the investment climate in their countries by enacting a number of changes to their investment codes and/or general rules and regulations concerning FDI.

Although the specific measures differ from country to country, in broad terms, African LDCs have undertaken a number of similar measures to enhance their business climate. Many countries have modified their legal system to give equal treatment to foreign and domestic

investors. For example, there is a special emphasis on equal treatment in Niger's new investment code, announced in December 1989. The Investment Promotion Act of the United Republic of Tanzania in 1990 also makes this special emphasis. Many LDCs give guarantees against expropriation of investments where this does not contravene national security or public interests. In cases of expropriation of investments, African LDCs are increasingly giving provisions in their investment codes for adequate compensation. For example, Uganda's Expropriated Property Act of 1983 seeks to attract back expelled entrepreneurs by returning properties to their former owners. Restrictions are also being eased on the expatriation of profits and dividends, and regulations and procedures relating to FDI are being simplified extensively. The United Republic of Tanzania, Uganda and Togo, in particular, have made special efforts in recent years to ease restrictions on the repatriation of profits and dividends, and on procedures for issue of licenses and permits for private foreign investors.

The trends in Asian LDCs follow a similar pattern with Myanmar having joined the competition for FDI in 1988 with a new Foreign Investment Law allowing foreign investors to establish either wholly foreign-owned enterprises or joint ventures. The newly created Foreign Investment Commission has been empowered to grant wide ranging investment incentives and guarantees against nationalization and for the repatriation of profits have been given. Not surprisingly, given the continued political instability in Myanmar these measures have not triggered off FDI on a large scale. However, once political stability can be assured, Myanmar with its vast natural resources and labour supply, could become an attractive location for FDI in the region.

In Somalia, an Arab LDC, a new law on foreign investment was enacted in April 1987. The basic aim of the enactment was to involve the private sector to a much larger degree than in the past in the country's socio-economic development process. This legislation is in harmony with Somalia's new economic policies and objectives. It allows investment in the form of fiscal capital, machinery, equipment, current production inputs and intangibles. There are no outright ownership and sectoral restrictions to foreign investment or phase-out provisions. Nor does the law preclude the possibility of participating, or acquiring stock, in an existing Somali enterprise.

Many countries give incentives which differ according to priority industries, sectors and products. For example, the United Republic of Tanzania gives preference to Tanzanian investors and all collaborative joint-ventures involving the private sector. Priority is also given to agriculture and livestock, tourism, transport and construction. Niger and Nepal give priority to agro- and agro-related industries and investment in industries which use local raw materials.

The administration of policy incentives also differ. Many countries are giving incentives conditional upon various requirements such as training locals, a minimum size of investment, the creation of a minimum number of jobs and the use of domestic raw materials. Niger and Mali for example, specify that incentives are conditional on investments in small-scale industries and also give guarantees of bank credits provided that investment flows to the artisanal sector.

A critical observation of policies and instruments that had been used to make the business climate more attractive to FDI points to some unfortunate side effects. For example, many of the new investment codes seem to favour large capital-intensive projects. This is because concessions are made to foreign investors which are often linked to the level of capital inputs, or the government specifies a minimum amount that needs to be invested before it will assist investors - with the assistance being higher the greater the amount invested. This has led to large-scale capital-intensive projects especially in the public sector.

Another unfortunate side effect of recent attempts to change investment codes is that in many cases there is a danger that the proposed changes may put domestic or local investors at a disadvantage. This has been the case in the United Republic of Tanzania where local investors are in a weak position relative to foreign private investors as they have limited access to credit and new technology. Special care is therefore required to ensure that indigenous investors/entrepreneurs are not discouraged from playing a more significant role in the industrial regeneration of their countries by these changes in investment codes.

2.3.3.3 Proposed policies to attract FDI

The role of investment codes and generous investment incentives for attracting FDI has clearly been overemphasized in the past. Although many LDCs are making enormous efforts to make the business climate more attractive to FDI, a number of macroeconomic policy changes and specific measures to attract more FDI are still required.

(i) Macro-policy framework

The small size of most domestic markets in LDCs is a major deterrent to FDI. A short run solution to this limitation is unforeseeable. In the long run, however, a cure would be appropriate macroeconomic policies and regional cooperation mechanisms for economic growth.

Exchange rate policy is an important determinant of FDI. Overvalued exchange rate in many LDCs constrict investment. According to recent UNIDO studies, exchange rates in Mali, Uganda, Niger, as well as in a number of other African and Asian countries are overvalued.

Tariff protection in certain cases may be an incentive for FDI but this should be used sparingly to avoid distortions and ensure that there are net social benefits. It is often the case that tariff protection leads to long-term net social costs.

One of the most important requirements to improve the macroeconomic framework is to develop an efficient banking sector and especially capital markets. Very few LDCs have developed capital markets and most are suffering from the poor state of the banking sector with adverse effects on the provision of complementary domestic capital to FDI.

(ii) Specific policies to attract FDI

In view of the fact that several constraints as discussed above hinder the flow of FDI to LDCs, it is urgent that individual LDCs governments adopt specific targeted policies to attract FDI. Such policies and measures may include the following:

- identification of specific priority sectors, industries, enterprises, products and processes for which FDI is desirable. This would involve purposely going out to attract FDI in specific countries and enterprises/individuals by use of Embassies and foreign missions, Investment Promotion Tours, Trade Fairs, and so on. It is important that this targeted approach to attract FDI is undertaken with the specific priorities - such as development of minerals and agro-processing industries - of the government in mind;
- policies to attract FDI from other developing countries at a more advanced stage of development, this would be beneficial when cost and other socio-economic factors are considered;

- development of appropriate concepts and capacities and capability for project preparation, project proposals evaluation, project monitoring and evaluation;
- effective and continuous assessment of the net benefit of foreign exchange controls;
- provision of greater guarantees for the investments of foreign investors through bilateral investment agreements and protocols. As of 1990, only 3 African LDCs and 3 Asian LDCs had joined the Multilateral Investment Guarantee Agency (MIGA). These countries were Lesotho, Malawi and Togo as well as Bangladesh, Samoa and Vanuatu. At present, some countries, such as the United Republic of Tanzania, are considering joining the International National Centre for the Settlement of Investment Disputes. Many countries need to redouble their efforts to undertake bilateral agreements concerning investment protocols with various developed countries. At present, some African countries have established bilateral agreements with various developed countries concerning foreign investments and investments disputes. For example, Benin has made an agreement with the Federal Republic of Germany in 1987, and Switzerland in 1986, Guinea with France in 1982 and the Federal Republic of Germany in 1982, Mauritania with the Federal Republic of Germany in 1982, and Lesotho with the Federal Republic of Germany in 1982, and Malawi with Denmark in 1966, and;
- creation and development of export processing zones (EPZs) and by offering tax concessions and other incentives such as a plentiful supply of low-wage labour, together with the provision of various infrastructural services in clearly defined areas. Bangladesh was one of the first LDCs to establish an EPZ. In 1983, an EPZ was set up near the seaport of Chittagong. It has been relatively successful in attracting foreign investors. As of July 1989, 24 companies were operating and producing a range of industrial products, including predominantly garments, but also electronics, plastic moulded components, steel chains, artificial leather, shoes, chemicals and costume jewellery. These products serve export markets in the EEC, the United States, Canada and the Middle East. Investors come from Hong Kong, Japan, Pakistan, Singapore, Republic of Korea, Sweden, United Kingdom and United States. Plans to establish a second EPZs with a focus on electronics products are under consideration. Furthermore, Bangladesh created in 1989 the Board of Investment which serves as a one-stop-shop for foreign investors outside the EPZ. This Board provides required pre- and post-investment services to entrepreneurs.

Many African LDCs are considering setting up these export processing zones, and indeed, Togo, Gambia, Liberia and Sudan have already established export processing zones.

It is very important to note, however, that FDI is not beneficial per se and has, in some LDCs, led to major difficulties - operational, locational, linkage diseconomies etc. These difficulties make it imperative attracting the most appropriate FDI flows, that is those of benefit to the economy in general and not just to specific enterprises. LDCs cannot afford to just have an open-door policy for FDI, but also need to develop concepts and capability for project preparation, evaluating project proposals, and project monitoring and evaluation.

EPZs as well are not the panacea of all ills of LDCs' industry. Recent UNIDO work suggests that they will only work if they are made integral part of an overall policy framework

geared towards export promotion and are well-linked to the domestic economy. If they become an enclave as they have been in many other developing countries they can be more costly than beneficial. Furthermore, the UNIDO studies found that the most important determinant of investment in export processing zones is not necessarily the incentives that are given to foreign investors but the provision of a network of supporting industries and services, especially telecommunications, and information processing. In short, the existence of extensive human, technological and infrastructural supporting network are found to be the predominant factors determining the flow of FDI in EPZs in LDCs. The lack of these means an EPZ will not attract significant foreign investment required to stimulate overall economic growth.

2.3.3.4 International cooperation and foreign investment promotion

International cooperation has a valuable role to play in attracting foreign direct investment to LDCs by providing technical and other assistance to improve the investment climate. Many LDCs have already approached regional banks and multilateral agencies for such assistance. UNIDO and other UN agencies are assisting LDCs to re-design their investment codes. The World Bank has provided structural adjustment loans to support policy changes to improve the policy environment to make it more conducive to outside investors. The International Finance Corporation (IFC) has established the African Project Development Facility (APDF) in a number of African countries, for example, Côte d'Ivoire and Kenya. The aim of the APDF is to assist African entrepreneurs develop projects to their fruition, from the design stage through to the financing and implementation stages.⁴³ The African Management Services Company (AMSCO) has been developed to provide management assistance and the Multilateral Investment Guarantee Agency (MIGA) established by the World Bank is to provide guarantees for foreign investors against political risk. MIGA has also instituted a variety of practical ways to reduce risks to investors, especially transfer risk due to shortages of foreign exchange. For example, MIGA has developed a number of foreign currency retention schemes and foreign currency auctions to allow investors to obtain their exchange requirements at market exchange rates. These are all valuable new developments. What is required for the future is for more LDCs to join MIGA and for MIGA's services to be extended in a wider area.

Technical cooperation needs to develop more schemes - such as the IFC's recently established African Enterprise Fund (AEF) to finance the development of small-scale industries which predominate in African LDCs. Special attention needs to be given to the provision of adequate risk capital and resources for long-term loans. Attention also needs to be paid in international technical cooperation to improve the financial and banking sectors, especially development finance institutions, in African LDCs. The World Bank and the IFC are making important moves to support the restructuring of the financial sectors in many African LDCs, but clearly a lot more work needs to be done.

The fourth Lomé Convention, which was signed in December 1989, has introduced some important new and novel ways to support industrial investment in African countries and especially in LDCs. In addition to financing industrial infrastructure, the Convention is providing for co-financing of public and private investment by the Risk Capital Facility available in the European Investment Bank. In addition, the Centre for Industrial Cooperation (CDI)

⁴³ The African Project Development Facilities (APDF) was established in Nairobi in a joint effort by the African Development Bank, the United Nations Development Programme, the International Finance Corporation and several donor countries to assist African entrepreneurs in promoting viable medium sized businesses. It provides advisory services in the preparation of viable projects. While APDF does not provide project financing, it works with entrepreneurs in securing financing from banks and appropriate sources of capital. It also helps them in obtaining technical and managerial assistance needed to start up projects.

in Brussels, a joint EEC and Africa, Caribbean and Pacific Country (ACP) body provides technical assistance, information, investment promotion for joint ventures and other projects. In particular, Lomé IV provides investment promotion support to ACP countries, which includes many African LDC countries, to improve the legal, financial and institutional environment to encourage private investment.

In a similar fashion to the World Bank and the IFC, the Lomé Convention also provides assistance to improve domestic financial institutions and domestic savings. Under special conditions, the EEC will also assume the exchange risks on investment to help domestic industries which predominantly sell in local markets but which need external funds.

In order to mobilize financial, technical, managerial and other resources required for the implementation of industrial investment projects, UNIDO provides assistance to individual developing countries in identification, formulation and promotion of investment projects which are in need of inputs from a foreign partner.

A culmination of these activities is an investment project promotion forum organized in the developing country concerned to enable local project sponsors and potential foreign partners to discuss specific investment projects that have been identified and promoted by UNIDO through its information system and investment promotion offices (IPS) in a number of developed countries.

However, since industrial activities in most of the LDCs are less diversified than in other developing countries and limited by the small size of the industrial base, it is difficult to render efficient investment promotion services to individual LDCs. This partly explains low coverage of LDCs by UNIDO's industrial investment services. In this connection, a regional or subregional approach may be much more effective. This approach means that investment promotion services can be provided to a group of LDCs thereby multiplying their capabilities and reducing the risk, which will be particularly beneficial for industries where economies of scale are required.

2.3.4 Private sector promotion and privatization

2.3.4.1. Recent evidence of privatization efforts in LDCs

Privatization programmes which have been launched by an increasing number of LDCs pose a tremendous challenge in the context of limited resources, a lack of a sophisticated financial system, a long history of public sector dominance in industry and a narrow base of domestic private entrepreneurship. Despite these difficulties, privatization features prominently on the policy agenda of many LDCs - spurred by examples in both industrialized and developing countries and encouraged by multilateral and bilateral donor agencies. Below are examples of privatization programmes in African and Asian LDCs. The issues discussed in the brief reviews are also relevant to other LDCs in Latin America and the Arab region.

(i) *Privatization in Africa*

In many African LDCs, there are a number of policies which restrict private access and participation in mining, manufacturing and the public utility sectors. In many cases, activities are reserved only for State enterprises or joint ventures with majority government ownership - and/or are specified in investment codes and other legislation concerning industrial investment. In other cases, public sector control has been acquired by nationalizing privately owned

enterprises. This has taken place in a number of African countries during the 1970s, for example, in Sudan, Somalia, Togo and Ethiopia.⁴⁴

In Ethiopia, the government took over the ownership and the operation of 100 private sector enterprises during the 1970s. Public sector enterprises now account for over 90 per cent of total value added in enterprises with 10 or more workers. Not surprisingly, there has been no new foreign equity participation in manufacturing industry in Ethiopia since these nationalizations took place. However, since 1983, the Ethiopian Government has adopted a new policy. This policy was launched in terms of a Joint Venture Proclamation in 1983 and invites foreign investors to participate in joint ventures in which the government holds at least 51 per cent of the shares in order to introduce technology and much needed know-how into the country.

In Guinea, since 1962 up to the period 1975-76, the government has made massive public sector investments and supported the proliferation of parastatal enterprises. Over 100 public sector enterprises have virtually total control over the manufacturing, trade and service sectors in the country. There are only three important private sector enterprises outside the public sector. In addition, there are three major private sector mining companies in whose shares the government holds a 49 per cent portion of the shares. As of 1985, the Guinean Government has embarked on a major programme of reform of the economy. An essential part of this programme is to return public sector activities back to the private sector.

Sudan is another country where extensive nationalization of private sector enterprises occurred during the 1970s. The result has been a large-scale parastatal sector which unfortunately has during recent years seen massive erosion of its equity base, accumulated vast losses, and performed with credit financed through bank overdrafts. In 1983, however, at the Consultative Group Meeting in Paris, the Sudanese Government announced its intention to introduce a major privatization programme within which many parastatals were to be converted into private companies. The outcome of the Sudanese Governments' intention on privatization is awaiting assessment.

Despite the above mentioned moves towards privatization in many African LDCs, few countries have developed a comprehensive policy towards privatization. Many countries in addition to those briefly reviewed above - for example, Mali, Mauritania, Mozambique, Niger, Sierra Leone, Togo, United Republic of Tanzania, Uganda - have made intentions to launch privatization programmes. But few have developed a coherent policy in this connection. Countries typically state - as Togo has done since it adopted a structural adjustment programme in 1983 - that the Government intends to gradually withdraw from the industrial sector and promote private sector initiatives.

Privatization programmes face several problems in African LDCs. Among these are the following:

- high uncertainties about Governments' intentions towards privatization;
- anomalies in actual implementation of privatization programmes, for example, non-transparent transactions in the process of company and enterprise transfer.
- dearth of local entrepreneurs and investment capital, technology and managerial skills.

⁴⁴ Keith Marsden, Thérèse Bélot, World Bank Discussion Paper No. 17, Private Enterprise in Africa, Creating a Better Environment.

(ii) *Privatization in Asia*

In general, a significant shift in the industrial strategy and policy approach has occurred in many of the Asian LDCs in the eighties. While the continued important role of the state in stimulating and promoting industrial development is acknowledged, there have been moves in the direction of reducing direct state involvement in industrial production and easing restrictions on private sector activities. "Privatization" and "deregulation" concepts have been embraced by many policy-makers though sometimes more through policy statements than in practice. This overall trend is exemplified below by recent measures and experience in four countries, namely Bangladesh, Lao People's Democratic Republic, Myanmar and Nepal.

In Bangladesh, a thorough policy correction against the previous dominance of nationalized industries was taken in 1982 with the announcement of the "New Industrial Policy". This new industrial policy contained a significant privatization module. The list of industries reserved for the public sector was reduced to six sectors: arms and ammunition, atomic energy, air transport, telecommunication, generation and distribution of electricity and mechanized forest extraction. A concurrent list covered 13 industrial sub-sectors where public and private investments could take place. The key part of the denationalization was the return of jute and textile mills to their former Bangladeshi owners, while the units abandoned by West-Pakistanis during the war were retained in the public sector. Within one year, 27 textiles mills and 33 jute mills - most of which had incurred losses - were privatized. This represented 38 per cent of the jute processing capacity, 45 per cent of the spinning, and 57 per cent of the weaving capacity of the textile industry. The privatization programme faced, however, tremendous resistance from unions and workers and after the initial enthusiasm no further units were divested after 1984. The plan to convert the public sector corporations into public limited holding companies and to offer up to 49 per cent of the shares to the private sector was not implemented.

With the "Revised Industrial Policy" of 1986 a further policy correction was undertaken to breathe new life into the privatization programme and the private sector-based industrialization. The scope of the "New Industrial Policy" was broadened and the emphasis shifted from "regulating" to "promoting" industries. The concurrent list was dropped, but a list for priority industries and a "discouraged list" were added. Until 1988, further eleven large enterprises were handed over to the private sector. The establishment of the Board of Investment in 1989 to provide one-stop services to private investors was a further important step towards a private sector-oriented policy. The policy shift since 1982 has, however, not brought the expected upswing in private investments which fell, with an implementation ratio of only 37 per cent during 1985 to 1988, far short of the targets set in the Third Five Year Plan.⁴⁵ Although the privatization programme in Bangladesh was - with more than 600 units affected - one of the largest in developing countries, its success has so far been limited. Many companies inherited debts incurred during the period under state ownership and a refractory labour force which resisted any staff reduction. Numerous units were closed down soon after privatization. The Bangladesh case clearly shows that a privatization program has to be supported by an appropriate macroeconomic environment and very specific measures to assist effectively the new private companies.

In Lao People's Democratic Republic, a major economic strategy shift was initiated in 1985 with the so-called New Economic Mechanism which induced a number of further decrees,

⁴⁵ Planning Commission, Mid-Term Review of the Third Five Year Plan 1985-90, Dhaka 1989, p.67.

inter alia, covering privatization or divestiture of public enterprises.⁴⁶ The privatization decree issued in March 1990 states that public sector disengagement is sought from "non-strategic" industries, i.e. excluding public utilities, banks and insurance, mining etc. Since mid 1989, the pace of privatization has significantly increased, largely driven by the Prefecture of Vientiane as supervising agency of 70 mostly medium-scale enterprises. In November 1989, half of the manufacturing companies (accounting for 35 per cent of the total number) had already been privatized and initial action had been taken on another 20 per cent.

The privatization programme in Lao People's Democratic Republic was obviously facilitated by the relatively small size of companies offered so that they could be taken over also by private investors with only limited capital and/or managerial expertise. Moreover, foreign investors have not been excluded from the programme. This applies mostly to Lao expatriates and, above all, to investors from Thailand who have the advantages of geographical proximity, language similarity, and considerable export experience.

The approach adopted by the authorities has so far largely been on a case-by-case basis. The different forms of privatization as well as the specific terms of the privatization contracts have not followed predetermined rules or guidelines. It is remarkable that in most cases privatization was not effected by outright sale of ownership but more frequently through rent agreements of up to 10-15 years duration. This clearly is only a second-best solution with the inherent risk of investors realizing short-to-medium term profits rather than building up companies with a long-term viability. It has to be noted that the privatization programme has not been all that smooth. The fairly large number of institutions with different mandates and approaches create unnecessary overlaps and inconsistencies in the privatization process.⁴⁷

A significant strategy shift was initiated though not carried through in Myanmar at the end of the eighties.⁴⁸ While a policy reform had already taken place in September 1987 with the abandonment of price controls for rice and other basic commodities, it was only in September 1988, following a severe economic crisis and widespread political unrest, that dramatic economic policy changes were announced. The new State Law and Order Restoration Council (SLORC) officially discarded the centrally planned approach in favour of a more market-oriented and open economic policy framework. While the specific policy changes have yet to be implemented, and the degree of the planned "opening up" of the economy and the precise role to be played by market mechanisms are still unknown, the Government has declared its intention:

- to encourage and enlarge the scope for international industrial cooperation, specifically in the form of foreign direct investment;
- to infuse modern technology into the country's industry in order to increase its productivity and competitiveness and to achieve a diversification towards production and the export of non-traditional manufactured products; and

⁴⁶ Cf. World Bank, Lao People's Democratic Republic: Issues in Public Economics, Report No. 8532-LAO, 10 August 1990; Livingstone, I., Industry, Trade and Tourism in the Lao People's Democratic Republic: Issues and Recommendations, February 1991 (mimeo).

⁴⁷ These institutions include: the Prefecture of Vientiane; the High Committee of Supervision of the New Economic Mechanism; the Central Investment Board; the Ministries of Commerce, Economy, Planning and Finance; and the Office of the Prime Minister.

⁴⁸ Cf. UNIDO, Industry Sector Review Mission to Myanmar (12-29 June 1989). Report, PPD/R.30, 12 October 1989.

- to partially deregulate the economy by: (a) granting more autonomy to private, cooperative and state enterprises in areas such as trading activities and entering into joint ventures; (b) privatization and/or commercialization of state economic enterprises; and (c) adjusting and increasing the flexibility of the price structure.

Only tentative information is available at present on the government's approach with regard to the future role of state-owned enterprises (SOEs) in the industrial sector. In general, privatization of SOEs is being discussed, *inter alia*, by returning some nationalized companies to private hands. Furthermore, SOEs would be required to adopt a commercial business orientation and to generate profits. However, the implications of this demand for loss-generating SOEs have not been spelled out so far. An important change has occurred insofar as SOEs are now allowed to enter into technical cooperation agreements and joint venture with any other company, be it a private domestic firm or a foreign firm. This may be seen as an important avenue to commercialize some SOEs. Indeed, following the long period of inefficient operations under monopolistic conditions, the gradual commercialization of the SOE's activities may be more appropriate than their immediate privatization. Management contracts with competent foreign partners may be seen as one possible approach in this respect.

In Nepal, the history of government-endorsed privatization programmes dates back to the late seventies; up till now the various programmes have, however, fallen short of declaration. A mixed attitude prevailed with respect to the potential benefits of privatization within the Government. Privatization was perceived as a programme in conflict with the basic needs planning approach, and one which leads to an excessive concentration of economic power in the hands of only a few private investors. Accordingly, most privatization offers were extended on the basis of only a partial (minority) transfer of ownership to the private sector which in turn showed a lukewarm response.

The disappointing results of privatization programmes in Nepal have also been attributed to lack of "institutional structures and skilled staff to perform major tasks pertaining to the privatization, such as publication of independent up-to-date audits on enterprises, assignment of responsibilities for assets and liabilities, etc."⁴⁹ This clearly demonstrates the close interlinkages between the institutional framework, human resource development and industrial policies and points to action required to alleviate critical skill bottlenecks. Along these lines, the Government is now seeking to revitalize the privatization programme with technical support from IFC.

2.3.4.2 Privatization issues

In order to fully launch the privatization process in their countries, LDC governments need to undertake a realistic assessment of the major issues involved and the requirements and capabilities needed to carry out successful privatization. These issues can be viewed in terms of:

- policy initiatives issues;
- financial and institutional support issues;
- investment promotion issues; and most importantly
- human resource development issues.

⁴⁹ Cf. World Bank, *Nepal: Maintaining Structural Reforms and Managing Public Resources*, Report No. 8352-NEP, 30 March 1990.

(i) *The ownership question*

It is important to recognize that efficiency gains expected from privatization are not simply a product of the transfer of ownership rights from the public to the private sector. Efficiency gains depend crucially on the extent to which the new owners have a direct interest in managerial efficiency. More is required to secure improved efficiency than merely the conversion of a public monopoly into a private monopoly. Unfortunately, the typical LDC has a relatively small economy which is usually oligopolistic in structure and heavily protected. This presents a dilemma. In order to attract private buyers for ailing state enterprises, it may be necessary to offer "sweeteners" in the form of protection from competing imports or tax breaks. However, high effective rates of protection may create a policy environment in which private investors have no more interest in economic efficiency than had their predecessors.

Of course, in many LDCs in the 1990s, the ability of policy-makers to offer concessions to private investors is fairly tightly constrained by the requirements of World Bank/IMF Structural Adjustment Programmes (SAPs). Under such programmes all that is supposed to be on offer to investors is the prospect of a "realistic" and progressively lower exchange rate, tariff neutrality, positive real interest rates and access to foreign exchange for the purchase of essential inputs. This kind of policy environment is unlikely to be attractive to foreign investors interested in manufacturing consumer goods for the domestic market.

(ii) *Political resistance to privatization*

Disposal of publicly-owned assets is complicated not only by technical but also by political factors. In an administered economy, as in many LDCs, there are no 'real' measures of the costs of inputs and outputs resulting from substantial distortions in the pricing of capital, labour and material inputs. Output prices are subject to manipulation. Domestic production is often highly concentrated, if not monopolistic. Consequently, the benefits to be obtained from increasing the influence of market determined prices are difficult to estimate and diffuse. By contrast, the losers from the short-run income distributional effects of privatization are likely to be the narrowly defined section of the community. A strong resistance to privatization can be expected from this section of the community.

It is also important to remember that any move towards privatization is superimposed on existing underlying structural problems such as high import dependence and severe foreign exchange constraints. Yet foreign investors will seek guarantees for a repatriation of interest payments, dividends and royalties. Without prior and substantial structural adjustment, private production will remain dependent on government licensing and therefore be exposed to possible political interference. Will such interferences vitiate dynamic effects of increased managerial autonomy?

LDC Governments will also be dependent on the co-operation of senior management in implementing a privatization policy. There seems to be no good reason, however, for believing they will be enthusiastic about being exposed to competition. Hence, there is a real danger that the newly privatized public sector will seek political protection for a wide variety of monopolistic privileges. To help forestall this possibility, it is essential to encourage the formation of widely-based institutions which can represent the interests of the private sector, such as the Chamber of Commerce or manufacturers' associations, as the political system widely lacks staff with commercial experience or knowledge. The more pressure is applied to try to speed up the process of privatization without due attention to liberalization and competition

policy, the greater the risk that opportunities to improve performance of many industries will be missed.

(iii) Privatization, management efficiency and manpower

Dynamic efficiency gains, particularly through improved human resource management, are difficult to estimate. Nonetheless, they are likely to be the most important source of improved economic efficiency to be obtained from privatization. Improved human resource management depends crucially on the competence and quality of managers and skilled technical personnel. With shortages and low levels of capacity utilization widespread in LDC enterprises, the priority for management has, of necessity, been to keep production going. Product and process development, marketing and financial management skills are likely to have been neglected in the struggle for survival. On the positive side, there is some evidence that state enterprises have spent more on human resource development than comparable firms in the private sector, especially on management and technical training. However, it is often difficult to establish the extent to which this training is economically justified. Sometimes it seems to have been distributed as a reward for loyal service and/or is provided as highly subsidized or "free" technical assistance from aid agencies.

It is generally agreed that in most LDCs there is only a limited pool of industrialists. Therefore, privatization requires a massive manpower development programme in support of enterprises that are left to fend for themselves in a liberal market. For example, the World Bank in its criticism of the weak information and accounting systems prevalent in the parastatal sector in Tanzania, observed that one of the bottlenecks in any effort to improve industrial efficiency was the shortage of trained accountants. There were only 145 authorized auditors and 382 authorized accountants in the United Republic of Tanzania in 1986.

A variety of projects have been undertaken on different aspects of manpower development in LDCs by donor agencies but there appears to have been little inter-agency co-ordination in the past. Many of the benefits of training have been lost as a result of public sector organizations distributing training opportunities as a fringe benefit for poorly paid staff.

(iv) Financing privatization

A critical prerequisite for the successful launching of a privatization process in LDCs is the availability of an adequate supply of funds and of capital markets when public companies are to be transformed into private companies with share-holders.

However, most industries in LDCs suffer from a severe liquidity crisis. The dependence on imported raw materials, spare parts, components and essential machinery, external shocks, particularly in Africa, and, the disruptions caused by SAPs - especially substantial and continued devaluation of national currencies - have imposed enormous strains on most enterprises. At the same time, the almost universal absence of capital markets in LDCs and the common imposition of credit controls as part of structural reforms have adverse impact on investments in new equipment and inventory by industrial enterprises.

It has therefore been suggested that Development Finance Institutions (DFIs) would have to be key actors in any privatization process - especially to on-lend funds for privatization. However, most DFIs in LDCs are plagued with political interference and lack of trained personnel in project appraisal, monitoring and general financial management skills. As a result, most DFIs are technically insolvent with a bad loan portfolio consisting largely of ill-considered

loans to the public sector which are unlikely to be repaid. The Tanzania Investment Bank (TIB) is typical of DFIs in LDCs. At the end of 1986, 54 per cent of TIB's loans to the parastatal sector were in arrears, as were 27 per cent of loans to the private sector (TSh 1,565 million and Tsh 319 million in arrears on the total amount outstanding of Tsh 4,080 million).

A major part of the difficulty DFIs are facing, above all in Africa, is the inability to sell off any of their equity holdings because of the absence of capital markets.

A further obstacle to the privatization process in LDCs is the fact that there are simply not enough indigenous entrepreneurs with financial resources to take over more than a small proportion of parastatal enterprises. Most enterprises intended to be privatized will have to be joint ventures between private investors (local and/or foreign) and quasi-public investors and particularly the DFIs - once restructured.

2.3.4.3 Required policy and initiatives in support of privatization

From the above, it is apparent that there still remain significant obstacles to privatization in LDCs. Without a reorientation in Government policy and support, privatization will flounder in LDCs. Government initiatives are required in a number of areas.

(i) Inventory of private sector's strengths and weaknesses

The scope and nature of private sector industrial activities in many LDCs is largely unknown. There is an urgent need to establish a detailed database on the potentialities of existing private enterprises in order to be able to support and encourage private enterprises. In this connection, LDC governments may wish to approach various international agencies for assistance. UNDP and UNIDO and other international agencies would be in a position to assist LDC governments in carrying out an extensive survey and assessment of the strengths and weaknesses of the private sector.

(ii) Financial restructuring and rehabilitation prior to privatization

Collapsed or collapsing public sector enterprises in LDCs are generally of no interest to investors except as a source of second-hand machinery. This means that any realistic policy of privatization must include provisions for financial restructuring and rehabilitation before disposal. To ensure that there are long-term efficiency gains to the economy following privatization, it is also important to ensure that monopolistic privileges are not automatically transferred to the new owners. While there may very well be persuasive arguments in favour of licensing a limited number of producers on economies of scale grounds, this should not imply protection from competition as well.

(iii) Human resource development

Public sector enterprise managers in LDCs are not experienced enough to operate companies under the pressure of competition. The long-term efficiency gains from liberalization and privatization can only be obtained, however, by managers who have the capacity to re-orient these enterprises to the market. There is, therefore, a need for a case-by-case review of the technical and management development needs of each enterprise in the run-up to privatization, paying particular attention to the requirements for engineering, marketing and financial management training. This review of human resource development might be usefully

coordinated with the review by development finance institutions of the financial requirements of individual enterprises.

(iv) *Investment promotion policy and institutional development*

Investment Promotion Centres (IPCs) need to be established and/or positioned to assume a strategic role in facilitating the reformulation of the Government's relationships with a substantially privatized economy. IPCs need to be located to provide access and accountability to the key decision makers in the political system. It is important to note that effective liberalization and privatization in LDCs will depend on political will.

A promising start has been made towards investment promotion and investment policy in many LDCs but further amplification is required. There is an urgent need for technical assistance to help develop the necessary institutions required to support the new policy. In particular, work needs to be carried out on developing policies and procedures for evaluating licensing and joint venture proposals and for monitoring their operation. The behaviour of government institutions responsible for dealing with private sector investors will be interpreted widely as indicative of the Government general attitude to investment. It is vital that staff are carefully selected and well trained.

(v) *The need for international assistance*

While industrial regeneration requires domestic political initiative, it also needs to be supported by multilateral and bilateral assistance. Privatization as a policy will only work if the environment is conducive and clear demonstrable benefits can issue from the policy. To start the process, LDCs require a number of carefully planned and executed demonstration projects in which donors and local and/or foreign industrial interests collaborate to rehabilitate selected existing enterprises.

While the recent emphasis on deregulation and private sector-led industrial development in many of the Asian/Pacific LDCs is an adequate response to inefficiencies built up in the past, such programmes must not be overburdened with too high expectations. Privatization efforts can play a positive role in increasing the efficiency of resource utilization; they can reduce the structural strain on public budgets and thus free resources for other purposes than subsidizing public companies; they can also contribute to a better supply of the population with essential consumer goods and thus are not at all in conflict with basic-needs-oriented development strategies. However, by putting too much stress on privatizing existing industries as industrial strategy element, there is a danger of neglecting policies aimed at building up new industries. Such policies in turn would have to include a wide array of interrelated measures in areas such as investment promotion, the provision of infrastructural facilities, human resource development, technology enhancement, entrepreneurship development and others.

2.3.5 Human resource development

It has become widely recognized that human resource development (HRD) has been a "neglected dimension of development strategy". In the context of industrial development in LDCs, this neglect has contributed to the shortcomings of industrialization efforts and rising unemployment. Measures to build up industrial human capital need to be a priority and form an integral part of industrial restructuring policies to ensure sustainability of industrial progress. Correction of the apparent mismatch between skill supply and demand cannot be left to market forces alone. A comprehensive set of measures will be required to target important areas on

the supply and demand side within an overall macroeconomic policy framework. Thus it is important that HRD is compatible with and complementary to the emerging economic trends in many LDCs in that:

- the public sector, and with that a major portion of the modern large-scale manufacturing, is shrinking and/or being privatized;
- most of the productivity gains and industrial growth in the near future will come from rehabilitation of existing manufacturing plants utilizing domestic natural resources;
- the most dynamic and numerous entrepreneurial talents exist in the informal sector and these skills have to be upgraded and developed to support the production transformation into modern small- and medium scale sector; and
- attracting FDI and technology transfer to enhance international competitiveness will be increasingly determined by availability of skilled manpower, management capabilities, communication infrastructure and conducive and stable macroeconomic environment.

Training and education, especially higher education, often is too theoretical and more geared to fulfilling the requirements of the public sector rather than meeting the skill demands of the private business and industry. Secondary and tertiary education together with vocational training have to be made much more responsive to the demand of the labour market. There is a need to establish a national coordinating mechanism which would bring together representatives from government, private sector and training institutions not only to discuss training strategies but in cases of critical shortages of trained manpower also allocation of graduates between various sectors of the economy. For example, in 1984, the Botswana Presidential Commission on Employment Opportunities recommended equal allocation quota for graduates to public, parastatal and private sector.

On-the-job training is the most important part of skill training and development. Foreign direct investment and technology transfer, have contributed disappointingly little to learning and capacity building among the domestic labour force as there has not been a consistent and deliberate policy, neither on the exporter or the importer side, to link these processes. This needs to be remedied in future efforts by LDC governments. The lack of incentives and an acute lack of senior staff qualified in training has led to little progress in localization. Therefore, in the next few years relatively large amounts of national and corporate educational budgets must be devoted to the training of trainers and the development of valid educational material in easily accessible form. It still remains true that formal education needs to be supported by appropriate on-the-job training. In this regard, a valuable role can be played by direct foreign investment and joint-ventures. This is particularly important for building up more advanced technological skills.

The demand for skills is reflected in the changing pattern of employment/unemployment which is the result of changing composition of economic activities and changing production structures due to new technologies.

Regarding employment opportunities, the public sector and parastatals have been the largest source of wage employment - providing over half of the total wage employment in many LDCs. Since the early 1980's the public sector has started shedding employees, women being

proportionately more affected than men. Neither could the private sector due to its size and level of development provide alternative wage employment opportunities. Given that the modern sector wage employment accounted for only 10 per cent of the total African workforce in 1980 it can be estimated that its present share has dropped to about 8 per cent. The annual rates of manufacturing employment declined from 2.6 per cent in the period 1975-80 to 0.1 per cent between 1980-85. The share of industrial employment in all new jobs created in the corresponding periods markedly fell from 24 to 2 per cent. Thus the informal sector has become one of the most important labour sponges in Africa, estimated to employ about 60 per cent of the urban labour force, absorbing estimated three quarters of the incremental urban labour force, with trade and services being the predominant activities.

Skill shortages - lack of quality labour in LDCs is reported to cover the whole spectrum from top to middle level managers, engineers and technicians in quality control and maintenance, and skilled and semi-skilled labour in production. However, most references to skill shortages are based on perception, only few support the argument with qualitative and quantitative evidence and causalities. Thus remedial measures often addressed the symptoms but not the causes with a short lasting results. Statistics on occupational skill structures by industrial branch are either missing or incompatible with other data. Official statistics and occasional investigations often omit gender and miss large proportions of the population under survey.

In order to make education a force for development, a radical revision of the formal education system is being undertaken in many LDCs. HRD, therefore, is an important element in national industrial policies as is demonstrated by the following examples from African LDCs:

- **Botswana** has an acute shortage of skills at all levels, which is one of the principal constraints to industrial development. HRD is one of the Government's priority areas. As such, it has developed programmes to expand educational facilities from primary school to university, changing the curriculum content to include technical subjects and apprenticeship schemes.
- **Burundi**, at the time of Independence, had only fifteen university graduates. Most of the skilled industrial workers were expatriates. A major effort is being made to expand technical education at the school and university levels. This effort will be supported by training institutions such as l'Institute de Gestion des Entreprises, le Centre de Perfectionnement et de formation en cours d'emploi; and Lagos Plan of Action and the Centre de Formation et de Perfectionnement Professionels.
- **Cape Verde** is currently undertaking a reform of its educational system to promote technical education and courses in economics and business management at the university level.
- **Ethiopia** has adopted a well-documented approach to human resource development. It has worked out estimates of the demand and supply of professionals and semi-professionals in the public manufacturing sector. It aims to provide training to ensure a steady growth of labour productivity and industrial output, to improve the competitive position of the industrial sector and to

achieve a certain degree of mastery on technological self-sufficiency. A detailed plan (1991-2000) for overseas training has also been worked out.

- **Mauritania** is promoting apprenticeship centres and is examining the possibility of negotiating "conventions" with enterprises for in-house training.
- **Uganda** conducted a National Manpower Survey in 1988 which revealed a total of 5,325 posts vacant because of the lack of skilled candidates. Uganda assesses that this situation is due to low economic activity, low salaries, lack of housing facilities and lack of adequate planning and regular assessment of industrial needs. Skills are proposed to be developed through formal education, on-the-job training, vocational training, apprenticeship and informal education. The programme also contains proposals to strengthen the Polytechnic at Kyambo, the Management Training and Advisory Centre, vocational training institutes and technical institutions and Makerere University.

LDCs in Asia typically suffer from lack of technical training. Higher education is biased towards social sciences and against natural sciences and engineering. In **Bangladesh**, for example, total public expenditure on education amount to only 1.5 per cent of the GDP and is heavily biased towards university education. Students tend to prefer subjects with high social prestige such as law and aim at employment in the public sector. Only a minor fraction of graduates in the field of business administration have ambitions in entrepreneurship.

Despite these efforts, the lack of highly qualified and experienced staff is still a problem in both public and private sectors in LDCs. The main limitations in human resources for industry are closely connected with two major features of the education system:

- the long-standing government predominance in the use of educated human resources. Industry has often been regarded as a residual and, therefore, is progressing slowly; and
- the overemphasis on academic training, and a corresponding shortage of people with technical and vocational skills.

2.3.6 The development of new supporting industries and institutions

2.3.6.1 New supporting industries and institutions

A major weakness of industrial development in LDCs permeating the earlier discussion is the absence of supporting industries - particularly services - and institutions. This lack of supporting industries is a major obstacle to development, especially to the attraction of FDI flows.

Invariably, the competitive advantage of an enterprise based on exploitation of a special assets or skills depend on the enterprise's customers, suppliers and competitors. In order to meet demand, enterprises must depend on the quality, quantity and reliability of suppliers of raw materials, machinery and labour, distributors, banks and other institutions and services. And often, how close these supplies are located to the enterprise. In short, the competitiveness and

efficiency of enterprises often depends on the available infrastructure and supporting services and institutions of the markets in which they operate.

The ability of firms to respond to buyers' demands depends on whether they can produce efficiently and this, in turn, depends on the skill and capability of suppliers and the availability of required infrastructure. Thus the skills and assets which create comparative advantage and competitiveness in one sector depend to some extent on the skills and assets developed by upstream and downstream enterprises and related sectors and subsectors. **Comparative advantage thus develops in clusters of mutually supporting activities and services.** Many recent studies on the emergence of international competitiveness document and substantiate this simple point.

Enterprises in LDCs are no different from those in other countries in that they cannot function efficiently as isolated units. They, therefore, have to establish a variety of strong linkages with the rest of the economy. The economy, in turn, has also to provide a variety of inputs, services, especially information, infrastructure, standards and rules to enable it to produce, invest and grow. Most LDCs have a very weakly developed infrastructure and are not very proficient in providing all these linkages and services. Some of these weaknesses can be remedied by private actors in response to market initiatives or market signals. Other deficiencies would require direct government intervention and the setting up of institutions specifically to provide such services.

Many other developing countries have deliberately and systematically built up institutional support for priority industries and indeed to supplant market forces. For example, they have built up institutions for industrial standards, for testing, supporting exports, quality assurance, design, training, technology acquisition, dissemination and adoption, information, and for research and extension services. Without this array of services and infrastructure, general economic growth and dynamism cannot be developed in any major way in LDCs.

Clearly, certain institutions already exist in several LDCs. However, where these institutions exist, they seem to be poorly staffed and managed. They also tend to have conflicting objectives and often seem to have to exist on inadequate funds. LDC governments, therefore, have to seriously consider - where these supporting institutional industries and services do not exist - ways to develop them. In particular, **current studies, especially by UNIDO, have shown that services, institutions and new industries are required in the following areas in:**

- marketing, design and packaging;
- training of purchasing agents;
- provision of legal advisory services;
- setting up of entrepreneurs clubs' to facilitate deals between enterprises;
- starting up advisory services;
- providing access to credit lines and business advice;
- giving support for ongoing enterprises, especially in sustaining sales and general selling techniques and for the control of finance and cash flows especially accounting support;
- providing low cost market research and market planning advisory services;
- providing appropriate repair and maintenance services, especially on site;
- establishing trading agency; and especially, in
- providing technological and telecommunication services.

Clearly, not all LDC governments can provide all these services in one integrated package. But, the important thing is to attempt to provide a combination of complementary services and institutions to buttress existing priority sectors, subsectors and industries in selected branches and regions so that there is a **synergy of supporting industries** that will be able to launch regional development initiatives and hence attract more private investment.

It is also important to emphasize that this **cluster of supporting services, industries and institutions** needs, as far as possible, to be run on commercial lines. Also, special attention needs to be given to providing these supporting requirements for small-scale industries and informal sector enterprises in rural areas.

2.3.6.2 Institutional support framework for promotion and development of SSIs

Any strategy for promotion and development of SSIs requires an appropriate institutional framework with each organization assigned specific functions to undertake. The clear identification of the functions and the functional relationship between the various institutions involved is of paramount importance. Equally crucial is the extent and limit of the authority to be exercised by each institution in the execution of the assigned responsibilities. The existing institutional arrangements for the promotion of small-scale industries differ in individual countries, and are in most cases, inadequate.

In many countries the focal point of SSIs are either the Ministries of Industry (Uganda, Mauritania), while in others like United Republic of Tanzania, Malawi, Ethiopia and Botswana, the legal responsibility for the promotion of the SSI sector is given to a parastatal body called in many cases the Small Industries Development Organization.

The major functions to be undertaken by such institutions include:

- **Policy formulation** - usually, policy-making is left for the Government, although truly workable policies can only be developed on the basis of proposals from various bodies, especially private sector institutions charged with responsibilities for the SSIs as well as in consultation with institutions which are expected to implement the policies;
- **Financing** - this function is within the ambit of the banking sector and/or other recognized financial intermediaries. However, in some cases the SSI sector may need a special financial institution or a department within existing institutions to meet special requirements of the sector, particularly relating to the availability of credit;
- **Management** - it is evident that the day-to-day management is the responsibility of the owners and/or appointed managers. However, in many LDCs, management skills are inadequate, therefore, promotion and development of the SSI sector requires prompt and systematic consultancy services to identify problems and find solutions. Moreover, project preparation assistance to individual entrepreneurs and owners is an indispensable part of services to be provided by a specialized consultancy institution;
- **Human resource development** - the training of intermediate and high-level technical manpower can adequately be accomplished in existing

technical schools and/or training centres. However, the requirements of the SSIs may have to be met through specially designed training programmes;

- **Procurement** - due to the lack of exposure to existing technologies and materials and their prices, small-scale business entrepreneurs find it difficult if not impossible to find the right machinery, equipment and materials. Open market retail prices are often too high. There is, therefore, a need to provide advice to small-scale industry operators on the choice of the most suitable machinery and technology as well as to the bulk purchase and supply of raw materials from both local and foreign sources at competitive prices and on easy terms;
- **Marketing** - in most LDCs, there is no organization and infrastructure through which products from small units are marketed and/or market analysis is undertaken. Small producers, therefore, need to be encouraged and organized with the assistance of relevant government departments and/or other responsible institutions; and
- **Research and development** - a major constraint to the development of SSIs in LDCs is the virtual lack of a market information system (products, consumer preference, etc.) Most small-scale industrialists have little knowledge of new technologies and services and if they do not have this knowledge, they do not have funds to obtain them. It is necessary, therefore, to establish and maintain appropriate information collection and dissemination systems for local and imported machinery and materials.

The promotion and development of SSIs in LDCs can only be achieved through an integrated supporting service system. This requires the establishment of an autonomous co-ordinating institution which will harmonize the efforts of government, private companies, co-operatives and parastatals.

2.4 Regional cooperation

The Paris Declaration and Programme of Action of the Second UN Conference on the Least Developed Countries convened in Paris in September 1990 emphasized that cooperation between LDCs and other developing countries at the regional and subregional level can play an important role in the development of LDCs in the 1990s.

As mentioned earlier, the small size of the domestic market in LDCs is one of the major constraints to industrial development. The size of domestic markets creates obstacles particularly for industries where economics of scale are necessary preconditions for production such as intermediate and capital goods industries. Therefore, enlarging of the markets through regional integration can potentially be a useful vehicle for promoting development. Regional demand could stimulate industrial rehabilitation and lead to the increased utilization of industrial capacities.

A central feature of market integration is the establishment of a preferential trade regime to promote intraregional trade through harmonization of tariffs and the gradual

elimination of all trade barriers. The flows of intraregional trade can be substantially increased if the market integration is supplemented with integration of production. This integration can be promoted by:

- identifying and locating industrial projects in countries of a particular region that have the greatest comparative advantage;
- developing less restrictive national laws and regulations concerning subsidiaries and mergers;
- coordinating national economic policies; and
- promoting free flow of capital and entrepreneurship across national borders, and open and liberal trading regimes.

It is obvious that since LDCs - for example in Africa - are dispersed geographically, they cannot form a special regional/subregional organization. Therefore, cooperation between LDCs and with other countries be it in Africa, Asia and the Pacific, and Latin America is required. African LDCs cooperate in a number of ways with some regional organizations. The largest and the most significant are the following:

- **Economic Community of West African States (ECOWAS)** - The principal objective is to promote development in all areas of economic activities including industry, agriculture, monetary and financial matters and trade. However, little progress has been achieved in the main sectors such as industry, agriculture and trade. Many of the joint industrial projects failed. Attempts to intensify trade has not been very successful. One of the main hindrances has been the multiplicity and non-convertibility of currencies.
- **Preferential Trade Area (PTA)** - Its primary mandate is to liberalize trade and to develop a payments mechanism. As a result of the progress achieved, a common list of commodities to be granted preferential access to the PTA markets has been agreed on and the trade flows have been facilitated by simplification of trade documents and removal of barriers to free movement of cross-border traffic. The member states have initiated cooperation for industrial development. At the ninth summit of the PTA in 1990, a Charter for Multinational Industrial Enterprises was adopted. Its main purpose is to promote joint ventures in member states. To this end, a programme of rationalization and gradual harmonization of investment codes has been launched.
- **Southern Africa Development Coordination Conference (SADCC)** - It has developed a different approach to integration. With each country assigned responsibility over a specific sector, emphasis was placed on coordination of sectoral regional projects and programmes. For instance, the United Republic of Tanzania coordinated industry and trade development. The SADCC approach emerged out of the bitter lessons drawn from the collapse of the East African Community (EAC), which used to be Africa's most promising economic community. Political differences, disagreements over the sharing of the costs and benefits, and conflicts of interests among members (Kenya, United Republic of Tanzania, and Uganda) were the main factors behind its collapse. Drawing on EAC's experience, SADCC adopted an incremental, project-oriented regional cooperation approach. To encourage industrial development, coordination of policies and identification of selected priority areas were considered important.

Towards the end of the 1980s, a new strategy outlining priorities for industrialization was set in motion. A cross-border investment facility has been established.

An analysis of the results achieved by African countries in fostering regional cooperation shows that they have not been very impressive. Some of the major obstacles to regional cooperation have been:

- the multiplicity of currencies, this has discouraged trade among African countries and induced the search for trading partners in Europe, the United States or elsewhere;
- the lack of effective strategies for the implementation of national industrial policies;
- the lack of complementarities, that is, many countries in the same subregion produce similar types of goods, which, consequently, cannot be easily marketed in other countries; and
- the inadequate level of support to regional organizations through financial contributions from member states mostly due to the economic and financial difficulties faced by most of the countries in Africa, especially LDCs.

Institutionalized regional cooperation among LDCs in the Asia/Pacific region is taking place within two different arrangements.

The first is the **South Asian Association for Regional Cooperation (SAARC)**, initiated in 1980 by Bangladesh and substantively launched in 1985 by the First SAARC Summit Meeting. SAARC membership comprises the four South Asian LDCs: Bangladesh, Bhutan, Maldives and Nepal plus India, Pakistan and Sri Lanka. SAARC's agreed areas of cooperation have so far been confined to postal services, telecommunications, science and technology, health and population planning, sports, arts and culture, meteorology, transport services and agriculture. It excludes the critical areas of trade and industry. Also, no firm institutional structure has been established so far by the member countries.

The second form of regional cooperation takes place in the South Pacific and comprises the LDC and non-LDC Pacific island countries as well as Australia and New Zealand. As early as 1979, the **South Pacific Forum (SPF)** was founded with the **South Pacific Bureau for Economic Cooperation (SPEC)** acting as official Secretariat. A number of more specific institutions were created in this framework, including the University of the South Pacific, the Pacific Forum Line, the Forum Fisheries Agency and Trade Commissions. Regional projects and programmes are being implemented in the areas of energy, telecommunications, tourism, environment and sea-based mineral exploitation.

Both SPF and SAARC have had very limited impact so far on industrial and economic development in their LDC member countries. On the whole, it appears that too many hopes have been nurtured in the past with regard to the impact of institutionalized forms of regional cooperation among LDCs. Even in the case of ASEAN - starting from a higher level of industrial development and under much more favourable conditions - regional cooperation has not led to the expected intensification of economic integration. Considering that most LDCs are characterized by similar structural weaknesses, that none of them has a diversified industrial

production structure and that, accordingly, the potential for trade and specialization is low, it appears questionable whether a focus on cooperation among LDCs is justified and can lead to viable programmes. Above all, in the Asian context - given the increasing intra-regional trade and investment flows as outlined above - it can be argued that economic cooperation between LDCs and other developing countries in the region has a much greater potential. It is here that different resource endowments and different cost structure open up considerable specialization potentials. These potentials can be exploited by companies from the industrially more advanced developing countries which often command a long standing experience in the production and marketing of manufactured goods.

This is not to say that cooperation among LDCs could not be beneficial in specific areas. For example, in the case of the South Pacific islands which are facing very much common challenges, a pooling of expertise and resources in key areas of industry-related research (such as the exploitation and processing of marine resources) could yield significant scale economies.

2.5 Conclusions and outlook

If the 1990s are not to be a lost decade for LDCs - especially for African LDCs - as the 1980s turned out to be, Government policies must take a new approach. Significant issues and areas that need to be considered in any new approach are discussed below.

The need for LDCs to develop an appropriate macroeconomic framework is urgent. It has to be emphasized that each LDC need to develop a flexible macroeconomic policy framework to take full account of their specific characteristics and circumstances, and particularly, their structural rigidities. It is also important that special attention be given to developing linkages between various economic activities (see chapter 3) and especially the interface between macroeconomic goals and sectoral and subsectoral restructuring.

In addition, it is extremely important for LDC governments to provide the right incentive structure for industry. The correct policy response may be to liberalize domestic and foreign competition, permit easier entry to potential private investors and ensure that incentives are more neutral between domestic and foreign markets. But this does not necessarily support a case for wholesale *laissez-faire* or uniform rates of protection for infant industries in LDCs. It may be important to give initial, temporary protection to fledgling key industries - and related supporting industries - where difficult learning or new technologies is called for. However, it is important that protection is granted for a limited time period and progressively phased out.

Macroeconomic reforms do not necessarily by themselves guarantee economic rejuvenation. LDCs, therefore, need, in addition, to develop a complementary and focused industrial policy to combat structural weaknesses at the industry and enterprise level. Yet given the extreme diversity of LDCs - in Africa and Asia, in particular - there is no single set of industrial policies that is "best" for all of them. Individual LDCs must carefully select those policies which are appropriate for their particular circumstances. On the other hand, it is true that despite their diversity, LDCs share a common need to develop a comprehensive and flexible industrial policy. Such a policy would emphasize the basic potential of LDCs in the exploitation and processing of their natural resources. It is clear that if industry is to become the motor for overall economic growth it must be closely allied with agriculture and other natural resource-based industries. There must therefore be the priority focus of industrial policy.

Given the limited resources available for industrial development, LDCs cannot afford to dissipate scarce human and other resources over too wide an area. This fact would call for most LDCs to focus industrial policy in selected areas, sectors, subsectors, industries and even on specific priority enterprises. This **targeted approach** would ensure that scarce resources are used where they would have most benefit.

Two other key elements of an industrial strategy for LDCs should be highlighted. First, the strategy would call for **decentralization of economic decision-making and a regional approach to foster rural development**. Second, in connection with the processing of domestic raw materials there is a need to have a rural based decentralized industrial strategy. However, it should be stated that such a strategy would not be without problems. It would clearly not be applicable to some of the smaller LDCs.

In addition, the problem with a decentralized approach is that for it to be effective any assignment of decision-making powers and resources to regional bodies would require giving these bodies the autonomy to use these powers as they see fit. This would make strong administrative and political demands on LDCs. Indeed, at the present time, many LDCs do not have the required decentralized administrative and political institutions. For this approach to have any chance of success LDCs need to develop the requisite decentralized political and administrative framework, probably with outside assistance. While a decentralized strategy may be questionable in smaller LDCs it could be a priority in the larger LDCs to give a much needed boost to economic development and moves towards **greater democratization**. Decentralization would particularly help rural areas where most of LDC populations live and where many small-scale and informal sector industries are located. Irrespective of size, LDCs must move the development process forward by building up **centres of excellence, growth poles or target industries with clusters of supporting institutions, services and infrastructure**.

One key area of industrialization is **rehabilitation of industry**, particularly in African and Arab LDCs. An **integrated top-down bottom-up approach** for rehabilitation is suggested: a top-down diagnostic of the broad rehabilitation requirements to be followed by a bottom-up assessment of the required changes in economic and institutional environment in LDCs as a pre-condition for successful plant-level rehabilitation. This approach has been tested successfully by UNIDO in its diagnostic survey programme of rehabilitation needs of manufacturing industry in Africa.⁵⁰

The attraction of foreign direct investment (FDI) to assist the regeneration of LDC economies is of major importance. But it must be pointed out that the attraction of FDI might be a double-edged sword in that it has costs and benefits. Thus a balanced perspective need to be taken in attracting FDI.

Although many LDCs in recent years are making great strides to re-design investment codes and simplify legislation concerning FDI, this was not enough. Particularly important in this regard was the need to establish a network of mutually supporting services, institutions and infrastructure to attract FDI.

In connection with **private sector promotion and privatization** in LDCs, extra care needed not to turn public sector monopolies into private sector ones. There is, therefore, the need to restructure domestic finance institutions (DFIs) and the banking sector, establish capital

⁵⁰ Regenerating African manufacturing industry: Approach and programme, PPD.101, 29 December 1988; The UNIDO integrated approach to rehabilitation in Africa, PPD.168, 10 July 1990.

markets, develop supporting industrial promotion and administrative policies, and industrial promotion centres. International assistance to help LDC governments redesign their investment codes, simplify their legislation and administrative procedures and establish supporting industries, services and institutions will be crucial.

It is important to emphasize that because of the enormity of their development problems, most, if not all, African LDCs will be unable to overcome their problems solely from their own resources. The persistence of budget deficits implies that LDCs have no hope of financing their development needs without external financial assistance. Thus Official Development Assistance (ODA) has a crucial role to play in the development of LDCs in years to come.

It is also clear that donors will have to redouble their efforts to improve the use of ODA so that it can bring lasting benefits. This will require better coordination and targeting of ODA than in the past. Also a greater concentration on the promotion of the private sector could bring greater returns.

The key question as to what should be the critical contribution of government policy and public investments for industrial development is an important policy issue. Evidently, the past emphasis in most LDCs on public sector enterprises in a broad range of manufacturing areas has run into operational and financial constraints and led to an inefficient allocation of economic resources. It has diverted attention away from the central role of government - that is, the establishment of an environment and infrastructure conducive to overall industrial development to which also private entrepreneurs could make a stronger and lasting contribution. "Government failure may have consisted as much in failing to provide the infrastructure in which government has a large comparative advantage as it has in providing poorly things in which it does not have a comparative advantage".⁵¹ Recognizing this, does not imply at all that government would have to confine itself to a very limited developmental role, let alone to adopt a laissez-faire attitude. The creation of the basic infrastructure for industrial development is a demanding, costly and long-term effort requiring a lead role and an active involvement of the government. In this context, it is important not to adopt a narrow definition of infrastructure.⁵² The most essential elements of a broader concept of infrastructure for LDCs would comprise:

- physical infrastructure: this refers to transport services such as feeder roads, power and water supply, communications facilities, above all telecommunication services at least for those areas and industries linked with regional and international markets;
- social and human infrastructure: this refers to the basic needs in general and, more specifically, to education and training of human resources for modern industrial development; and
- institutional infrastructure: this refers to the creation of a basic set of promotional institutions geared at fostering industrial development by providing critical services in areas such as financing, entrepreneurship development and training, technology acquisition and adaptation, and others.

⁵¹ Krueger, A.O., Government failures in development, in *The Journal of Economic Perspectives*, Vol.4, No. 3, Summer 1990.

⁵² Cf. ESCAP, *Economic and Social Survey of Asia and the Pacific 1990*, New York, 1991.

Focused human resource development is another key issue in a comprehensive and appropriate industrial strategy in LDCs. There is a need to target HRD on selected subsector, sector and individual priority industries.

Apart from regional cooperation to overcome the small size of national markets and to pool resources, emphasis also need to be placed on international cooperation to assist LDC governments, particularly in the areas of small-scale industry, industrial rehabilitation, the promotion of the private sector and privatization, the attraction of FDI and the promotion of regional institutions and regional cooperation.

As a caveat, it can be stated that whatever the policies LDC governments may wish to adopt, without the capacity to implement them the best designed policy framework will do little to promote industrial development in LDCs. It is therefore essential that LDC governments not only build up the capacity to properly design policies but also a capacity to monitor, implement and evaluate policy. In this regard, LDCs may well require significant assistance from the international community.

The key to industrial regeneration in LDCs is political will. Without strong political will, all the best intentions will have little or no hope of success. This calls for strong leadership by LDC governments and most appropriately the vision and the confidence to give full rein to the latent dynamism of entrepreneurs in the small-scale and informal sectors in LDCs.

3. LINKAGES BETWEEN MANUFACTURING AND OTHER SECTORS OF THE ECONOMIES IN LEAST DEVELOPED COUNTRIES

In sections 1.2 of chapter 1, and 2.1 and 2.5 of chapter 2, special notes on the importance of sectoral linkages were made. In those sections of chapter 2, emphasis was placed on the need for flexible macroeconomic policy framework to help foster linkages between the manufacturing and other sectors in LDCs economies.

The issue of manufacturing linkages to other economic sectors in LDCs is given special treatment in this chapter - the state problems and potential of manufacturing linkages as well as policies for fostering such linkages are discussed.

The widening and deepening of manufacturing linkages with other sectors of LDCs economies, such as local agriculture, mining, services etc., may offer the only realistic sectoral options for many if not all LDCs, at least in the short term. Within manufacturing itself, there will also be possibilities for strengthening the domestic industrial base through subcontracting, increased value-added processing, expansion of packaging activities, links with the informal sector, etc.

It is well-known that many LDCs have failed in the past to fully exploit the potential linkage effects: often large-scale industries were established which generated no linkage effects and also were not explicitly encouraged to do so. The question of how to promote industrial linkages to other economic sectors within and among the LDCs thus constitutes an essential issue of industrial development. It is generally contended that:

- A major weakness for linkage development and for increased industrial competitiveness in most LDCs is the absence of supporting institutions such as those for: industrial standards, testing, supporting exports, quality assurance, design, training; technology acquisition, dissemination and adoption; finance and research and extension services. The open questions are: In what way can regional cooperation help foster industrial linkages with other economic sectors? Should private sector institutions be encouraged to take the lead in providing some of the institutional services?
- Within the industrial sector, few linkages exist between public and private sector industries and between large-scale and small-scale industries. Which mechanisms could enhance such linkages? In which areas can potentials for subcontracting arrangements be found? What is the role of public procurement practices in this respect?

Tentative answers to the above questions together with evidence on manufacturing linkages to other economic sectors in LDCs, the extent of such linkages, and possible policies and strategies for fostering and managing linkages in the future are explored in this chapter.

3.1 The concept and importance of linkages

The concept of linkages is variously discussed.⁵³ Generally, one observes linkages at both the macro and micro-economic levels. These can be further classified as **direct and indirect linkages**. Macro, as well as indirect linkages, may result when agriculture, for example, produces crops for export and provides as a result foreign exchange to finance industrialization. What is important and noteworthy in this relationship is that when agriculture stagnates, industry would possibly stagnate as well. **Micro-linkages** concern the way in which economic sectors interact with reference to the demand and supply of commodities.

When a domestic sector supplies or receives inputs from another sector, it may create not only micro or direct linkages, but also **intermediate (or immediate) linkages**. When, for example, domestic manufacturing supplies agriculture with pesticides, fertilizers and machinery inputs, a possible reverberant impact on the economy is made. This may be in the form of foreign exchange savings, and increases in domestic value added and employment.

A less immediate, but important macro-linkage may result when a sector is stimulated by another sector to create multiple effects in the economy. This type of **indirect or induced linkage** may result, for example, when manufacturing receives an effective stimulus from agriculture. This may, in turn, increase manufacturing demand for input from the other sectors, employment, additional consumption, and operational surplus for further investment.

Besides the **consumption related linkages**, the examples of which are given above, one identifies another class of linkages. These are **production linkages** which comprise the backward and forward linkage types. Backward linkages occur where productive activity in one sector requires inputs from another. Forward linkages on the other hand occur where the production of a commodity provides supplies for productive activities in the other sectors. Agriculture may, for example, have a backward linkage with manufacturing when it uses fertilizer, pesticides, and agricultural machinery in its production processes. Similarly, when agriculture produces goods as inputs in the food processing sector, it establishes a forward linkage to manufacturing.

The decision in agriculture to purchase local machinery and inputs implies not only increased demand for manufactures, but also an important relationship known as **investment linkages**. Likewise, the decision in agriculture to put up new storage and infrastructural facilities involves investment linkages. This will mean a boost to the construction sector which will in turn rely on the building materials coming from the manufacturing sector.

What is more important in a linkage analysis is to specify which sector is the main focus of study, and in part which sector is conceived to be the initiating and causal agent of the linkage.

Linkages may be actual or potential. Productive activity in a sector may require imported inputs. The demand for these inputs may activate domestic production of those inputs to meet demand. In this case, a **potential backward linkage** becomes an actual when domestic production of inputs meet demand. Furthermore, an existing production of a commodity may initiate and encourage new productive activities that uses that commodity. This relationship depicts a **potential forward linkage** that may become actual. Normally, potential backward linkages are more likely to become actual than forward ones, because the existence of a demand for a product seems more likely to generate domestic production. For a potential forward

⁵³ See some earlier approaches to the concept of linkages and its measurements in, Panchamukhi, V.R., *Linkages in industrialization: a study of selected developing countries in Asia*, in *Journal of Development Planning*, UN Publication, Sales No. E.75.11.A.1, June 1976.

linkage to become actual requires that a domestic product induces a new activity that uses that product.

The significance of linkages as a factor explaining and influencing economic performance has been often neglected in development policy strategies. Performance in agriculture, for example, has been conventionally viewed as the consequence of the inflow of physical, technology and organization inputs. Similarly, industrial performance has been assessed mainly in terms of physical inputs, especially, the rate of capital accumulation, technological change, and trade orientation and whether it involves import substitution and export promotion.

The linkages between economic sectors (involving transactions, the flow of goods and services, labour and finance) is functional for successful development. Such linkages will be affected by the existing structure of each sector, as well as by infrastructure and policies. The extent of such linkages influence the degree to which the different activities of the economy form an interdependent, complex and functioning whole.

In most LDC's economic sectors are seldom linked, they are usually isolated from one another, grow in isolation and are hardly supportive of each other. Whilst the economic sectors in the LCD's have failed to generate significant linkages capabilities, those in the most advanced newly industrialized countries have succeeded in creating effective linkage capabilities. The question to ask here is whether economic growth was accompanied by linkages, or vice versa. But, one thing for sure is that economic growth is a process which generates the possibilities of linkages among economic sectors. When utilized, such linkages will promote further expansion in economic growth. Besides linkages in the domestic economy, linkages in regional/sub-regional grouping can promote economic growth and integration. International investment capital inflows into key manufacturing sectors or services sector (such as banking and insurance) in a national or regional/sub-regional economy can generate economic linkages.

In most empirical linkage analysis, especially of forward linkages aggregate input-output approach is adopted. It helps to delineate the impact of changes in demand than that of changes in supply. It is, however, a limited approach which does not directly show investment linkages.

Due to the brevity of time and scope of this chapter input-output analysis is not used, two approaches to the delineation of linkages are, however, adopted. The first is based on regression model, and the second analysis of statistical data and country-review approach. These would help shed light on linkages in general among the LDCs, and where relevant on country-based linkages (the selection of specific countries to elaborate specific linkage types does not imply that linkages or linkage potentials do not exist in the LDCs not cited under the topic of discussion, the country and the linkage examples cited depend largely on literature available).

3.2 Evidence on linkages

A statistical analysis has been carried out to examine the relationship between manufacturing growth and the growth of other sectors. With such an approach, the evidence indicates that the annual growth rate of trade and services is the main determinant of the growth of manufacturing⁵⁴. Further enquiries into this important relationship will be made in the following sections.

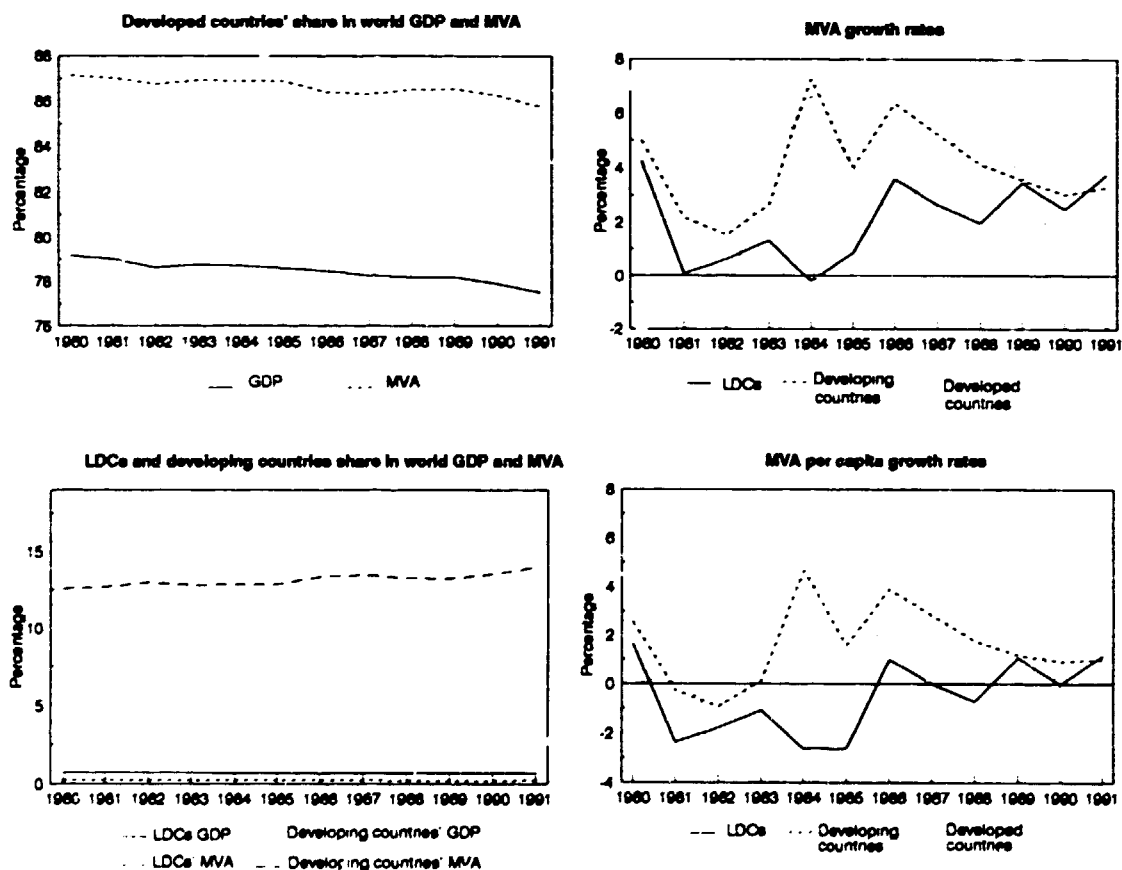
⁵⁴ Evidence based on regression analysis computed using the variables: growth rates of manufacturing and other sectors of the economy of 44 LDCs (including agriculture, mining, utilities, construction, services (including wholesale, retail trade and tourism), transport and 'other' sectors) between the period 1985-1988. See 'Linkages between manufacturing and other sectors of the economy in the LDCs', UNIDO, ID/WG.515/1(SPEC.), Appendix, pp. 44-45.

3.2.1 Overall linkages

A global GDP structure is presented in Figure III.1 and Table III.1. Compared to both developed and developing countries, LDC's share in world GDP between 1980 and 1991 is relatively minimal lying between 0.68 and 0.71 per cent. Their share of MVA is not all that large, on the whole, it contributes about 0.2 per cent of world MVA between 1980 and 1991. Qualitatively, the LDC's made very little progress in manufacturing, annual growth of MVA per capita ranged between -2.62 and 1.65 per cent.

The agricultural sector contributes a greater share of the GDP of the LDC's than in the developed economies. Whereas its share decreased from 46 to 42 per cent between 1975 and 1988, manufacturing's share on the other hand, remained almost constant at about 7 per cent between the same period. Table III.2 shows the relative importance of the sectors. It can be observed that agriculture registered a falling average annual growth rate. Compared to agriculture, MVA growth rate rose and then fell slightly between 1986 and 1988. Mining and quarrying and utilities made significant growth in 1988.

Figure III.1: GDP share, MVA and MVA per capita growth rates, LDCs, developed and developing countries, 1980-1991



Source: UNIDO, Global Economic Database

Table III.1: GDP share, MVA and MVA growth rates, LDCs, developed and developing countries*, 1980-1991**

Year	Share in world GDP (Per cent)			Share in world MVA (Per cent)			Growth rate of MVA (Per cent)				Growth rate of MVA per capita (Per cent)			
	Developed	Developing	LDCs	Developed	Developing	LDCs	World	Developed	Developing	LDCs	World	Developed	Developing	LDCs
	countries	countries		countries	countries			countries	countries			countries	countries	
1980	79.17	17.61	0.71	87.14	12.61	0.25	1.23	0.69	5.01	4.25	-0.49	-0.04	2.55	1.65
1981	79.03	17.67	0.71	87.03	12.72	0.25	1.27	1.14	2.19	0.67	-0.53	0.41	-0.26	-2.3
1982	78.63	17.87	0.73	86.77	12.98	0.25	-0.5	-0.80	1.54	0.63	-2.28	-0.50	-0.92	1.77
1983	78.78	17.54	0.71	86.93	12.82	0.24	3.93	4.13	2.65	1.33	2.15	3.41	0.15	1.08
1984	78.74	17.34	0.89	86.88	12.99	0.23	6.72	6.66	7.28	0.20	4.91	5.94	4.69	-2.6
1985	78.61	17.18	0.88	86.89	12.89	0.22	4.05	4.05	4.05	0.67	2.34	3.39	1.58	-2.8
1986	78.49	17.14	0.88	86.42	13.36	0.22	2.65	2.10	6.36	3.82	0.89	1.47	3.90	1.00
1987	78.29	17.08	0.88	86.32	13.47	0.22	4.39	4.26	5.24	2.85	2.60	3.64	2.83	0.01
1988	78.2	16.94	0.87	86.51	13.28	0.21	5.64	5.68	4.15	1.97	3.83	5.28	1.79	-0.7
1989	78.19	16.91	0.88	86.53	13.26	0.21	3.70	3.71	3.58	3.48	1.89	2.95	1.20	1.09
1990	77.90	17.05	0.88	86.25	13.54	0.21	0.92	0.59	3.05	2.48	-0.72	-0.05	0.91	-0.0
1991	77.52	17.26	0.88	85.75	14.00	0.22	-0.04	-0.57	3.31	3.75	-1.75	-1.25	1.00	1.16

Source: UNIDO, Global Econometric Database.

Notes: * Developing countries excluding China and LDCs. ** In 1980 constant US dollars. Figures for 1991 estimated.

On the whole, agriculture stagnated, a trend which is highly likely to have affected the growth of manufacturing.

The declared aim of industrialization in many LDCs has been to alleviate poverty, especially rural poverty through the establishment and promotion of large-, medium- and small-scale industries based on locally available raw materials. A resource-based strategy of industrialization using locally available raw materials should enable manufacturing to establish backward linkages with agriculture (forestry, livestock, etc.) and mining. The products from the manufacturing sector should have comparative advantage in production costs over those based largely on imported raw materials.

Experiences so far show that there is an element of weakness in inter-industry linkages and intersectoral integration in the LDCs. This is partially due to shortages of basic raw materials including power and water, lack of investment capital, shortage of skilled labour and managerial personnel, lack of entrepreneurial potentials, lack of spare parts and inefficient technology, small size of domestic and foreign market openings and ineffective economic and industrial policies etc. The net effect of all these is a low rate of capacity utilization in manufacturing as, for example, noted in section 1.1.4 of chapter 1. A possible solution to the poor state of industrial performance in the LDCs would be the formulation and effectuation of a long-term policy framework and proper planning for accelerated socio-economic growth.

In sum, the range of manufacturing having close linkages with other sectors in the LDCs can be said to be relatively narrow. This conclusion is made without any strong empirical justification, since sufficient input-output statistics are unavailable. Comparatively, however, the inter-sectoral linkages (manufacturing and agriculture etc.) may seem to be more developed than the inter-industry ones. In African LDCs, for example, inter-industry linkages do not appear

Table III.2: Average annual growth rate of value added of economic sectors, LDCs, 1985-1990
(Per cent)

Country	MVA	Agriculture	Mining	Utilities	Construction	Services*	Transport	Other
Alghanistan	0.0	-6.5	0.0	0.0	-2.9	-6.6	-1.9	-3.9
Bangladesh	4.2	1.9	1.5	16.7	6.4	4.0	5.4	8.0
Benin	5.0	4.2	-10.1	2.5	-3.2	1.6	0.7	-3.7
Bhutan	5.9	5.9	19.8	114.3	1.6	5.6	7.6	9.6
Botswana	10.4	6.4	8.9	11.8	9.2	11.3	9.7	11.8
Burundi	3.7	-0.4	4.2	0.0	6.6	-1.9	2.9	2.1
Burkina Faso	4.8	6.6	8.6	4.7	2.7	0.1	2.9	0.0
Cambodia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cape Verde	1.9	10.2	4.3	-24.7	7.3	2.4	1.8	12.4
Central African Republic	3.5	3.2	3.6	1.7	5.5	0.8	0.7	-3.7
Chad	4.0	1.6	7.4	8.8	7.2	2.7	0.0	5.8
Comoros	2.2	4.5	0.0	5.7	0.4	3.6	2.8	-1.3
Djibouti	1.2	3.5	0.0	0.8	1.5	1.7	2.4	1.7
Equatorial Guinea	-9.7	3.5	0.0	5.3	-1.4	-3.1	-0.1	4.6
Ethiopia	3.5	5.3	0.6	5.6	0.6	3.8	5.0	6.9
Gambia	9.0	2.5	2.7	5.0	6.1	3.6	10.6	0.9
Guinea	-6.9	0.3	7.0	7.2	15.1	2.4	1.7	1.7
Guinea-Bissau	-5.2	6.6	0.0	66.6	-7.7	1.0	-0.3	21.0
Haiti	-0.8	1.4	2.5	5.0	0.1	-0.5	5.7	0.9
Kiribati	-4.0	5.2	0.0	-6.0	-4.1	-1.8	-2.2	0.8
Lao People's Democratic Republic	8.0	3.0	0.4	-2.7	6.6	6.9	12.5	9.8
Lesotho	5.7	15.2	15.8	8.4	9.9	4.6	16.4	5.5
Liberia	2.0	3.7	-3.9	1.8	-3.4	-4.3	-2.2	-0.3
Madagascar	1.9	3.3	2.2	4.1	2.0	1.5	1.4	4.3
Malawi	5.7	1.2	0.0	7.3	2.2	1.3	3.1	5.1
Maldives	12.7	4.9	5.0	0.0	9.6	13.8	-16.4	9.9
Mali	1.9	-2.9	-13.8	6.0	2.4	1.8	3.0	6.5
Mauritania	-1.2	4.2	6.6	0.0	5.0	5.2	1.0	1.6
Mozambique	5.1	-1.5	0.4	4.6	11.5	0.6	10.0	7.0
Myanmar	-2.1	-0.2	0.4	6.3	-0.9	-1.6	0.7	-2.6
Nepal	2.5	4.7	-12.1	16.8	-0.9	5.6	0.1	5.4
Niger	0.5	3.4	-6.6	-4.2	-5.8	2.2	-1.0	-7.9
Rwanda	0.7	-3.9	-4.3	3.7	-2.6	2.5	3.7	-1.6
Samoa	1.2	-0.1	2.9	6.9	0.0	0.3	0.6	-1.3
Sao Tome and Principe	3.0	0.3	0.0	5.9	1.6	3.9	4.7	1.3
Sierra Leone	-3.1	1.2	6.5	15.1	-5.7	2.2	-11.0	1.8
Solomon Islands	7.8	1.0	0.0	5.8	1.4	1.0	3.7	5.7
Somalia	2.7	1.6	0.3	-4.6	-0.6	0.7	1.2	2.0
Sudan	2.9	6.2	1.0	7.1	4.5	7.2	7.2	17.7
Togo	4.6	4.6	3.5	3.3	-6.4	-1.2	-0.4	16.1
Uganda	2.0	4.3	8.2	3.3	11.3	6.1	6.3	3.4
United Republic of Tanzania	-8.5	1.6	26.3	1.4	21.0	1.7	6.4	6.3
Vanuatu	1.2	-2.7	0.0	2.7	19.4	-1.3	2.9	-6.0
Yemen	10.2	7.9	84.2	43.5	14.1	17.0	18.3	14.0
Zaire	4.3	3.2	1.2	6.5	5.0	-0.1	-3.1	2.3
Zambia	4.5	2.7	-0.5	-3.9	-5.7	0.1	0.0	1.2

Source: UNIDO, PPO/PP REG

Note: * Includes wholesale, retail trade and tourism.

to be strongly developed.⁵⁵ The dependency of LDCs manufacturing on imported intermediate goods, including spare parts and machinery is high, although foreign exchange has become very scarce. The consequences of foreign exchange scarcity, raw material shortages, lack of qualified and skilled personnel, poor infrastructural facilities, short-sighted policies, small domestic and foreign markets, etc., is the malfunctioning of most manufacturing industries in the LDCs. The emergence of a viable and developed structure of inter-linked manufacturing enterprises in the LDC is a matter of time, but sound industrial policies which relate to linkage features in both industry and economic sectors would be needed to develop manufacturing.

Studies⁵⁶ show that inter-industry linkages are weak in Yemen, (former Yemen Arab Republic) Bangladesh, Ethiopia, the Central African Republic, Lesotho, Tanzania and Mauritania to mention a few. The main reason that could be given is that there is little production of intermediate goods.

A survey of the manufacturing sector of Yemen (former Yemen Arab Republic) conducted in 1984 showed that as much as 70 per cent of the inputs used by large-scale enterprises were imported. The implication is that virtually no linkages between enterprises in the manufacturing sector exist.

Inter-linkages within Bangladesh's manufacturing industry are not developed. Although lower than most Sub-Saharan countries, the share of imported raw material in total manufacturing purchases made by Bangladesh estimated 29.7 per cent in 1982/83.⁵⁷ Almost all the cotton for the textile and garment industry, for example, is imported from India and Pakistan, since the country produces virtually no cotton. There is the need for strengthening the linkages between the small- and large-scale enterprises in order to increase the proportion of local sourcing of intermediate and capital goods for manufacturing. The metal working branch of manufacturing seems to assume the key element in industrial development. They form the main focus in the manufacturing inter-linkage process. They form the nest of improvised production technology and are capable of establishing sub-contracting links with the large manufacturing enterprises in Bangladesh.

In general, backward and forward linkages are weak in both Lesotho and Mauritania. But in Lesotho, however, one important linkage concerning small-scale producers is the sub-contracting arrangements between large and small enterprises in both knitting and shoe manufacturing. When developed, subcontracting among both local and foreign enterprises would involve the transfer of valuable technology and information.

Manufacturing in Ethiopia is dominated by state industrial enterprises. It is characterized by low level of integration as a result of the concentration on the production of final consumer goods. Also, inter-industry linkages are weak as there is little production of intermediate goods. Policies protect the producers (mostly state-owned enterprises) of final

⁵⁵ UNIDO, *Regenerating African Manufacturing Industry: Country Briefs*, PPD.97, 17 November 1988, p.203.

⁵⁶ UNIDO, *Industrial Development Review Series*, Yemen Arab Republic, PPD.130/Rev.1, 7 December 1989, p.13.; Bangladesh, PPD.114, 25 April 1989, p. 71.; Ethiopia, PPD.185, 21 February 1991, p.49.; Mauritania, PPD.115, 27 April 1989, p.20.; Manyeli, K., and O'Neill, H., *Draft Programme for the Second Industrial Development Decade for Africa (IDDA II)*: Lesotho, December 1990, p. 29.; UNIDO, *The Regeneration of the Tanzanian Manufacturing Industry with emphasis on Agro-based Industries*, PPD/R.26, 14 June 1989, p.28.; World Bank, *Central African Republic: Country Economic Memorandum*, Report No. 5332-CA, 22 August 1985, pp. 34-35.).

⁵⁷ BBS, *Report on Bangladesh Census of Manufacturing Industry, 1982/83*, p. 345; and UNIDO, *Industrial Development Review Series: Nigeria*, PPD. 100, 1988, p. 77.

consumer goods, and provide import duty exemptions for the import of capital and intermediate goods, thus discouraging investments in the sub-sectors that manufacture capital and intermediate goods. There is a need for, and there exist the opportunities for strengthening the inter-industry linkages, particularly by promoting subcontracting arrangements between the public large-scale enterprises and small-scale private industries and cooperatives. The purchases of tailor-made spare parts by the large-scale public corporations from the small-scale manufacturing enterprises should be intensified so as to establish some degree of interdependency within the Ethiopian manufacturing industry.

Regarding intersectoral linkages, evidences show that manufacturing has strong linkages to agriculture in Ethiopia. For example, food processing including meat canning, sugar, spices and textiles and leather products sub-sector maintain backward linkages to agriculture.²⁸

Compared to Ethiopia, the level of economic interdependence in the Central African Republic seems to be lower. The development of small- and medium-size enterprises in the Central African Republic has not only been hampered by structural factors such as the landlocked position of the country, the small size of the local market and inadequate industrial policies and measures, but also by the low level of integration between the economic sectors and the weak or non-existent inter-industry linkages. Apart from cotton, coffee and timber processing, manufacturing in the Central African Republic is geared mainly towards the production of basic needs like food to cater for the needs of the low income rural and urban population.

Forward linkages are limited in Tanzania's manufacturing industry, but some examples can be found: the textiles, paper and chemicals industries supply inputs to the packaging industry, the sawmills provide intermediate goods as inputs for the furniture and packaging, and the tanneries inputs to the leather industries.

In terms of sectoral share in total GDP, LDCs are predominantly agricultural economies (see Table III.3). This suggests the large benefits accruing to better management through effective links between manufacturing and agriculture. Thus the ensuing section deals with manufacturing linkages to agriculture, and in turn to mining, construction and services sectors.

3.3 Manufacturing linkages to agriculture

The inter-relationship between manufacturing and agriculture in the LDCs can be observed from three main perspectives:

- the inter-sectoral flows of resources from agriculture to industry;
- the flow of resources from industry to agriculture; and
- the exchange between agriculture and industrial products.

²⁸ UNIDO, Ethiopia: The new economic policy and the outlook for a long-term development strategy, PPD/Field, June 1990, p. 15.

Table III.3: Sector share in total constant GDP in market prices*, LDCs, 1990
(Per cent)

Country	MVA	Agriculture	Mining	Utilities	Construction	Services**	Transport	Other
Alghanistan	0.00	52.67	0.00	0.00	5.87	7.33	3.33	1.47
Bangladesh	9.28	44.33	9.28	0.99	6.34	7.72	6.12	25.22
Benin	6.39	46.79	6.39	0.63	3.00	19.16	9.19	11.93
Bhutan	4.40	48.46	1.41	11.87	8.05	7.61	5.01	16.49
Botswana	3.11	3.38	45.44	2.22	2.96	18.58	2.43	27.18
Burkina Faso	9.92	49.45	1.08	1.12	4.01	10.31	5.65	15.15
Burundi	9.43	41.40	0.44	0.00	4.04	5.52	2.06	10.32
Cambodia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cape Verde	4.32	17.87	0.78	0.12	12.31	23.35	9.56	27.59
Central African Republic	9.78	42.71	2.87	0.35	2.57	19.03	3.77	12.52
Chad	13.91	38.13	0.24	0.80	1.11	27.41	0.00	18.28
Comoros	3.80	47.39	0.00	0.59	7.65	18.04	4.28	16.59
Djibouti	7.99	4.68	0.00	2.75	6.84	13.70	10.09	33.48
Equatorial Guinea	2.28	34.91	0.00	0.81	3.99	0.88	1.19	32.52
Ethiopia	11.85	41.12	0.15	1.07	3.43	10.63	6.13	24.06
Gambia	9.11	20.97	0.02	0.48	7.70	26.13	15.77	23.26
Guinea	0.78	30.50	12.15	0.28	4.19	12.70	0.84	18.35
Guinea-Bissau	11.29	54.06	0.02	1.25	3.49	18.28	2.44	3.78
Haiti	15.54	35.96	0.14	1.14	6.99	18.00	2.24	14.09
Kiribati	1.65	35.07	0.00	1.75	3.81	11.95	14.34	23.69
Lao People's Democratic Republic	9.00	54.56	0.27	3.01	3.95	0.67	4.76	14.85
Lesotho	14.96	16.50	1.33	0.68	15.03	8.94	3.89	39.51
Liberia	11.42	23.38	11.42	3.01	3.81	7.84	6.88	39.37
Madagascar	8.66	39.07	0.30	1.50	3.21	7.84	6.11	24.04
Malawi	12.40	30.30	0.00	2.12	3.77	11.30	5.49	25.35
Maldives	4.81	17.00	0.96	0.00	5.67	19.07	1.04	32.75
Mali	4.88	28.23	0.82	0.67	3.50	11.93	3.68	13.78
Mauritania	7.09	31.37	14.00	0.00	8.95	14.05	6.82	11.24
Mozambique	32.00	36.58	0.22	4.58	11.28	4.51	13.12	27.00
Myanmar	9.28	48.41	1.30	0.73	1.63	24.00	4.34	10.32
Nepal	3.90	60.07	0.11	0.79	6.34	3.79	4.77	13.74
Niger	4.52	52.86	8.85	0.85	3.26	15.14	4.04	11.42
Rwanda	15.10	35.20	0.71	0.52	5.97	15.57	2.99	18.81
Samoa	14.48	34.02	4.73	2.73	3.37	20.53	6.67	2.16
Sao Tome and Principe	8.73	19.59	0.33	4.46	8.51	9.79	11.69	27.20
Sierra Leone	4.85	33.72	7.58	0.07	2.39	17.88	6.14	20.07
Solomon Islands	3.96	44.36	0.00	1.04	4.17	9.30	5.18	23.75
Somalia	3.36	67.57	0.21	0.11	2.13	6.20	4.25	6.40
Sudan	10.97	35.99	0.09	2.75	5.74	27.73	11.95	4.37
Togo	7.40	37.85	8.72	2.02	2.63	14.77	0.75	12.00
Uganda	3.21	43.89	0.03	0.20	0.38	3.38	1.57	7.64
United Republic of Tanzania	3.85	39.67	1.85	0.99	4.76	9.13	7.14	25.66
Vanuatu	7.84	18.53	0.00	1.90	5.91	30.41	7.67	9.02
Yemen	9.36	13.15	8.55	3.10	4.81	13.60	13.41	23.33
Zaire	3.20	33.51	24.16	0.10	4.26	20.06	1.59	13.13
Zambia	23.11	16.78	13.23	1.84	2.27	10.36	4.48	26.81

Source: UNIDO, PPD/IPP REG

Notes: * In constant 1980 US dollars. ** Includes wholesale, retail trade and tourism

The four major resource flows from agriculture industry are raw materials, food for the industrial labour force and the urban population and export earnings. But in many countries like Angola, Mozambique, Sudan and Bangladesh war, civil strife and natural catastrophes and consequent shortage of agricultural raw materials have impeded the flow of agricultural raw material industry. The supply of food to feed the industrial labour force could be a beneficial linkage. In this case, the scarce foreign exchange used to import food to feed the people, especially the urban population would be saved, thus giving rise to low labour costs and increasing investment resources available to manufacturing. Similarly, agricultural exports would create another linkage, because foreign exchange earned could be used for importing capital and intermediate goods, technology and other inputs for industrialization.

Unlike the advanced countries, the flow of resources from industry to agriculture in the form of agricultural equipments, insecticides and manufactured consumer goods in the LDCs is meager.

The structural link between industry and agriculture involves the exchange of products between the two. Evidences from Mozambique, Ethiopia and others have shown that unfavourable terms of trade or exchange face the agricultural sector. Very low prices are paid for agricultural products by the state agricultural marketing boards which do very little to cushion local farmers against the fluctuations of the international commodity markets. The unfavourable terms of trade facing the agricultural sector in many LDCs, partly due to the soaring prices of industrial products caused mainly by the inflationary mark-up pricing tend to make the agriculture supportive role in industrialization ineffective.⁵⁹ The low purchasing power of peasant farmers hardly enables them to afford the necessary farming inputs like tractors, fertilizers, hoes, machetes, insecticides etc. The net result of this is low agricultural productivity and low raw materials inputs for the agro-based industries.

The relevance of agriculture to manufacturing lies in the fact that it offers employment and income to the majority of the population and is the export sector and foreign exchange earner of almost all LDCs. More importantly, it supplies food crops and grains especially to the food processing industries, and other important inputs to manufacturing in general. A healthy backward linkage between the food product and textile and clothing (the main agro-based industries), metal products, and fertilizer industries and agriculture, especially, in Sub-Saharan LDCs is important to help improve the performance of agriculture. The use of agricultural inputs by manufacturing would not only stimulate and increase agricultural production (e.g. from commercial farming enterprises), but also expand the domestic market for manufactured products. The actual and potential linkages of manufacturing is not limited to agriculture alone. The metal products industry do maintain some strong forward linkages with the construction, mining and services sectors. Simple hand tools, utensils and cans produced are used in the services sector.

It has been suggested that the ideal strategy for strengthening linkages between agro-based industries and agriculture is to bring together agricultural production and industry within a single enterprise. Cotton-textile, palm oil-oil palm, tobacco-cigarette, and fruit and vegetable canning industries are well-known examples in tropical Africa and Asia. But, experiences have, however, shown that policies taken for the creation of such single enterprises tend to overlook the social side-effects of the ventures, especially on the rural economy. Not all crops are suited for a single enterprise. Hurriedly set-up single enterprises usually end up in dismal failures. Seemingly, the three necessary prerequisite for modernization and higher factor productivity are the availability of a new and larger market for manufactured products, especially in the rural areas, and the availability of supply of inputs to agriculture. Also, the viability of an enterprise

⁵⁹ UNIDO, Mozambique National Programme, UNIDO, IDDA/IHSD/OO/IPPIS/399, February 1991, p.2.

counts. The perception of intra- and inter-sectoral linkages is a crucial and initial stage to a realistic industrial development strategy. The formulation and implementation of such a strategy should also relate to other sectors of the economy.

Generally, the capacities of agro-based industries in LDCs are drastically under-utilized. The lack of regular agricultural raw material inputs supply, the shortage and lack of machinery and spare parts and poor storage facilities and infrastructure are partial explanations of capacity under utilization (see Figure I.9). This implies that great losses occur in the economy in general and in the agro-based industries including the food processing, paper and packaging, and the textiles subsectors which are key sectors of manufacturing in the LDCs.

3.3.1 Food processing industry

Table I.8 shows the relative importance of agro-based industries in the manufacturing sector of selected LDCs between 1984 and 1989. Food processing industries contribute the largest share to total MVA in almost all LDCs. Textiles manufacturing was and is second in the rank of importance.

The role of the agro-related food processing industries in the economic development of LDCs has been increasingly emphasized, especially in both the Economic Recovery Programme and the current Five-Year Plan (1988/89 - 1992/93) of the United Republic of Tanzania. In 1983, food manufacturing contributed about 638.2 million Tanzanian shillings to total MVA, an amount only second to textiles.⁶⁰ Meat and dairy products, sugar, vegetable oils and fats, grain mill products, fruit and vegetable canning and bakery products were the main manufactured food products that received their raw materials from the agricultural and the livestock sector. The food and the bottling industry maintains forward linkages to the packaging industry and backward linkages to agriculture.

The share of imported raw materials in total manufacturing in Bangladesh is significantly lower than that of the Sub-Saharan LDCs.⁶¹ In food processing industries, the import content is near zero, meaning that most agricultural inputs come from local sources.

In terms of production value, food processing is the leading manufacturing activity in Ethiopia. It ranked second in terms of its contribution to MVA (18.6 per cent) and employment (20 per cent) in 1985/86.⁶² More importantly, it has the lowest level of import dependence and strongest backward linkages to the economy. The sector is dominated by four activities namely, primary and secondary grain processing, sugar refining, production of vegetable oils and fats, meat processing and the manufacture of dairy products all of which are oriented towards the domestic market.

Unlike Bangladesh or Ethiopia, the linkages of food processing industries to agriculture in Liberia are very weak. The formulation of comprehensive resource-based industrialization policy in the country may, therefore, be warranted. To some extent, palm oil processing seems to be linked to agriculture. Palm oil is important to the Liberian economy, not only because of its domestic use for human consumption, but also its use as input for domestic soap manufacturing, a rare example of forward linkages in the Liberian manufacturing sector. When

⁶⁰ Bureau of Statistics, MFEAP., Survey of Industrial Production, Tanzania, August 1986.

⁶¹ Op. cit., 1982/83, p.354; UNIDO, Industrial Development Review Series, Bangladesh, PPD.114, April 1989, p. 373.

⁶² Op. cit., PPD.185, 21 February 1991, p. 61.

these linkages are strengthened large crude palm oil which is exported could be used on a wider scale as an input for other upstream processing industries.

3.3.2 Paper and packaging industry

Concerning the role and potentials of paper and packaging industry, the Tanzanian industry is a notable example of close linkages to agriculture. Locally grown softwood and waste paper are used as inputs for making pulp and paper. The printing and publishing uses paper as a basic input. Packaging materials such as bags from the paper and packaging industry are very essential for the marketing of food products and other agro-industrial products. Thus far, the paper and packaging industry maintains both backward linkages to agriculture, and various forward linkages to the food processing, pharmaceutical, animal feeds, fertilizer and cement industries. FAO statistics show that the United Republic of Tanzania produced 17,000 and 13,000 metric tonnes of wrapping and packaging paper and board⁴³ (as compared to Bangladesh: 12,000 and 8,000) in 1987 and 1988 for local consumption and export. According to the current Five-Year Plan (1988/89-1992/93) which assigns priority to agro-related industries, the demand for bags is expected to exceed supply. There are plans to boost production of paper packaging materials to 18,000 tonnes per year by the end of the Five-Year Plan. An expansion of capacity in the paper and packaging sub-sector would benefit the Tanzanian economy in diverse ways: (a) conserve the scarce foreign exchange that would be used for the import of packaging bags; (b) intensify the use of local raw materials and create as a result beneficial intra-industry and inter-sectoral linkages in the Tanzanian economy and; (c) enable the industry to tap fully, the existing large export market reservoir in the Preferential Trade Area (PTA), and establish thereby effective external linkages to the PTA sub-region.⁴⁴

3.3.3 Textile industry

Textiles account for one-third of MVA and two-thirds of the total employment in the large-scale manufacturing sector of Bangladesh. The small-scale and cottage enterprises of the textiles industry on the other hand contributes a share of about 37.4 per cent to total MVA, and 50 per cent to total manufacturing employment.⁴⁵ Bangladesh's textile industry which processes mainly cotton and synthetic products depends largely on imported cotton from India and Pakistan. Cotton spinning capacity is about 1.25 million spindles.

Cotton spinning, a relatively labour-intensive activity in Bangladesh's manufacturing sector has strong forward linkages to the weaving sector. It supplies yarn, especially to the handloom units which form the largest single source of employment in the manufacturing sector of Bangladesh.

The spinning industry also has actual and potential backward linkages to cotton production and production of spare and replacement parts of the textile industry, and, probably, to the machinery and equipment industry. Only 3 to 5 per cent of the cotton used is domestically produced, but there is the hope that the large demand would stimulate domestic production. It has to be pointed out here, that increase in domestic cotton production would be reasonable when comparative advantages of domestic production are higher. Recent growths in certain areas of textile production is generating and increasing the use of imported spare

⁴³ FAO Yearbook, Forest Products, 1986-1987.

⁴⁴ UNIDO, Toward an integrated industrial development programme for the PTA, PPD/REG., (draft), 23 July 1990, pp. 31-35.

⁴⁵ Op. cit., UNIDO, PPD.114, 25 April, 1989, pp. 42-43.

parts and new textile machines. Very little domestic fabric is used in the export garment sector. Export prospects can be improved by producing better quality products with the use of modern dyeing and finishing and computerized colour matching equipment.

During the early stages of Ethiopia's industrialization (1950s and early 1960s), the textile industry was the dominant manufacturing activity. The textile mills drew their raw materials from local cotton plantations and sold to the domestic market. Presently, the textile branch has been overtaken by the food processing branch as the leading sector. Due to the industrial diversification policy, its contribution to total output has fallen to 20 per cent (1985/86). Between 1978 and 1986, the ratio of imports to total raw material cost in the textiles industry was 32.8 per cent, a ratio relatively higher than that of food processing (13.3 per cent) and wood and furniture branch (31.2 per cent). Clearly, the import dependence of the textile industry (and other industries such as metals, chemicals and tobacco) in Ethiopia reflects both the limited linkages to the domestic resource base and the weakness of the basic industrial structure.⁶⁶

In 1988, the state-controlled branch of the textile industry contributed 25.1 per cent to total MVA and 42.3 per cent to total permanent work force in the state-controlled manufacturing industry. The textiles and garment manufacturing industry had developed along the lines of import substitution, because domestic demand for textile products exceeded supply (export drives have been, however, intensified since 1985). The Ethiopian textiles industry is handicapped by several factors, the most important include production constraints such as lack of modern machinery, unreliable power supplies and delays in arrival of raw materials, and inadequate coordination between production and marketing.

Unlike Chad, Liberia and Sierra Leone, the textiles industry in the United Republic of Tanzania is mainly based on the utilization of locally grown cotton and sisal. Unfavourable textile pricing policies in Liberia and Sierra Leone, for example, favours the import of and trade in textile products, including the so-called Java prints. This implies that Liberian textile industries are not competitive in the West African sub-region. A feature of the Liberian (Monrovia) retail activity is the sale of Java prints imported partially from Ghana and Côte d'Ivoire.

3.3.4 Fertilizer industry

Another important relationship between manufacturing and agriculture is explained by fertilizer use in agriculture (in the ISIC fertilizer is a component of the chemicals branch). It is one of the most important inputs in agricultural production in the LDCs.

Many LDCs are heavily import dependent as far as the supply of fertilizers is concerned. Fertilizers have often been made available through aid-financed programmes, a case in point being fertilizers in Bangladesh. Ethiopia lacks suitable raw material inputs for the manufacture of fertilizers, there are no local production facilities and as a result all fertilizers have to be imported. Levels of fertilizer application in Ethiopia is believed to be among the lowest in the LDCs, amounting to 66 grams per hectare of arable land (in 1986). Where available, fertilizer plants have been limited to mixing and formulating of imported products. Mozambique, for example, is endowed with adequate facilities and natural resources such as raw salt, natural gas, natural phosphate rocks and electric energy for producing fertilizers and other chemicals needed in agriculture. There is the need to rehabilitate the country's fertilizer mixing and formulating plants and diversify its products using the available local resources.

⁶⁶ Op. cit., UNIDO, PPD.185, 21 February 1991, p. 49.

The availability of fertilizer through foreign aid-financed programmes has reduced the pressure on LDCs to increase production using local raw materials. Besides, the low purchasing power of peasant farmers resulting from poor crop production and low prices of agricultural goods paid by state-owned marketing boards restricts the growth of effective demand for fertilizers and other manufactured goods. One can expect that the increase in farm income would depend on increase in fertilizer application rates.

The United Republic of Tanzania produced 10,000 million tonnes of nitrogen, phosphate and potash fertilizers in 1986 to supply 25 per cent of local consumption.⁶⁷ Production is based on imported ammonia, sulphur and potash, but phosphate and natural gas for the production of ammonia are locally derived. When the ammonia-urea complex at Kilwa Masosko with an expected capacity of 3330,000 million tonnes of nitrogen-derived ammonia, and 250,000 million tonnes of nitrogen-derived urea is activated,⁶⁸ some significant linkage between industry and agriculture and mining would be established in the United Republic of Tanzania and probably in the PTA sub-region.

The fertilizer industry in the United Republic of Tanzania and other LDCs cannot develop rapidly without a parallel development of the agricultural sector with which it maintains strong forward linkages. In Sub-Saharan LDCs, fertilizer is required to increase the production of export cash crops, and in the United Republic of Tanzania and other Asian LDCs to increase cereal production badly needed for local consumption.

Obviously, the development of the fertilizer industry would require a parallel development of the transportation infrastructure, distribution and marketing systems and the packaging industry. For the transportation of bulk of fertilizer to remote agricultural areas, paper bags, natural fiber bags derived from jute or sisal and synthetic material or polyethylene bags are needed. Should the gap between fertilizer production and consumption be closed by increased production within the LDCs, then the packaging industry would have to be expanded to meet future increases in fertilizer demand.

3.3.5 Metal products and engineering industry

Although the metal products and engineering branch's contribution to output in LDCs is relatively small, it plays an important role within their economies. It can be termed as the pivot of industrialization and a "core" industrial sub-sector. Capital and intermediate goods produced could enable the branch to establish strong linkages with the agricultural and construction sectors as well as with industry.

The output of metal products in Ethiopia include structural steel and other products for the construction industry, simple hand tools, bottle tops and cans, and household utensils. There are no iron ore reduction facilities and the bulk of the basic metals input used in the branch are ore and scrap iron imported.

The production of simple hand tools at two Ethiopian factories is the main linkage between the metal working branch and the agricultural sector. The Ethiopian Metal Tools Factory was established in 1969 to produce 500 tonnes of hand tools per annum including spades, shovels, axes, machetes, rakes, and spike harrows for the agriculture sector. With a capacity of 400,000 sickles per year, the second enterprise, the Ethiosider Iron and Steel Factory

⁶⁷ FAO Yearbook, Fertilizer, 1988.

⁶⁸ UNIDO, Industrial development strategies for fertilizers industrial systems in Africa, PPD.170, 14 July 1990, pp.7-10.

built in 1971 in Asmara, was to channel its products into agriculture. Both plants face severe problems. Due to poor quality of their products, these plants suffer from competition with imported tools. They also have poor transport and marketing facilities. A rehabilitation and expansion project to increase output to 12 million hand tools per annum at the Ethiopian Metal Tools Factory is being planned. Also, plans are afoot to establish at Nazareth the Agricultural Implements Factory to produce 79,000 animal-drawn and 2,125 tractor-drawn implements (ploughs and hoes) and 600 tonnes of spare parts per annum. A tractor assembly plant at Nazareth completed in 1984 was initially conceived to produce tractors and later, diversify production to include combine harvesters, trailers and spare parts. Production fell from 833 to 100 tractors respectively in 1986 and 1988, also production has not yet been diversified. High production cost of tractors due to expensive imported parts and marketing difficulties are major problems confronting the tractor plant.⁶⁹

Ethiopia's engineering capacity is still limited to maintenance and repair workshops. These are generally inadequately equipped and staffed. It is estimated that more than half of the country's tractors are out of operation at any one time due to inadequate maintenance and repair services. There is the need to establish a central maintenance and engineering workshop which would service and provide training for staff from the public service corporations. Also, the small-scale private sector engineering workshops when promoted would generate sub-contracting arrangements for the production of spare-parts and machinery required by the public metal and engineering enterprises.

The metal products sub-sector has contributed between 7 to 14 per cent of manufacturing output in Somalia. The Government owned Foundry and Mechanical Workshop (FMW) and an aluminum utensils plant in Mogadishu are the two recognized metal products factories in Somalia. The FMW is the only enterprise of its kind in Somalia which has some capacity to manufacture agricultural tools and implements including animal-drawn implements, maize grinders, hoes, spades and rakes. Although the plant depends heavily on imported metals, small savings are made through the use of local scrap iron. The FMW is facing major problems resulting from utilization of inexperienced and untrained work force, poor quality of finished products, poor maintenance of machines and lack of spare parts. Despite the fact that the plant has to be rehabilitated, the plant from national point of view appears to be beneficial to the Somali economy.⁷⁰

The role of the artisanal metal working sector in the metal products industry in many LDCs including Mauritania is notable. Traditional blacksmiths still produce using mainly scrap agricultural tools used in the rural areas in Mauritania. A survey indicated that local artisanal co-operatives, including 68 blacksmiths in the town of Nema, for example, manufactured a wide range of agricultural and household tools.⁷¹ It was estimated that the total number of blacksmiths in Mauritania is 6,000, and in urban areas this informal sector is incorporated into the modern sector. Most of the informal metal sector carry out repair services on modern household and transport machinery. In almost every urban agglomeration of the LDCs, this informal sector is found located usually on the urban periphery.

⁶⁹ Op. cit., UNIDO, PPD.185, 21 February 1991, pp. 84-89.

⁷⁰ Op. cit., UNIDO, PPD.91, October 1988.

⁷¹ UNDP, Rapport final du projet de développement de l'artisanat utilitaire au Gouvernement de la République Islamique de Mauritanie, October 1987, p. 24.

3.4 Manufacturing linkages to mining

In general, manufacturing linkages to the mining and quarrying sector in the LDCs are weak. The main reasons are that mining today, requires highly specialized equipment and other inputs which generally, are not feasible to produce in any LDC (or in most of the developing countries in general for that matter). In LDCs capital and intermediate goods input used in the mining is thus, small, and mining's input into manufacturing is low. An exception is the mining of a range of non-metallic minerals such as limestone, clay stone, sand and aggregates which are consumed almost exclusively by the local industry (especially in the building materials sector). The mining of such minerals is very closely linked to the user industries and as a group they constitute a valuable raw material base for most LDCs. Almost none of the other minerals extracted are beneficiated, but exported as raw commodities. When beneficiated, extracted mineral resources could forge important linkages to industry.

As shown in Tables III.3 and III.4, the mining and quarrying sector of Guinea, Liberia, Mauritania, Niger, Sierra Leone, Zaire and Zambia contributed sizeable shares to GDP. The share of the Guinean mining sector to GDP was 22 per cent and 95 per cent to total export revenue in 1988. Bauxite and alumina forms the backbone of the Guinean economy, they contribute more than 90 per cent of the export revenue. In Botswana, Niger and Zambia, the mining sector alone contributed over 80 per cent of total value of exports in 1987.

Table III.4: Mining sector contribution to economies of selected African LDCs, 1987

Country	Exports (US \$ million)	Exports as percentage of total exports	Value added as percentage of GDP	Taxes as percentage of total taxes
Botswana	1,420	80	44	85
Burkina Faso	50	20	3	..
Guinea	584	92	21	82
Liberia	217	58	14	..
Mauritania	127	31	12	2
Niger	290	80	8	13
Sierra Leone	113	74	13	67
Togo	87	29	7	11
Zaire	1,288	73	24	37
Zambia	836	83	15	7
Total	4,990	640	181	274

Source: World Bank, *Sub-Saharan Africa, op. cit.*, 1988, p. 123

Due to the recent diversification policy in the mining industry, whereby the exploitation and development of other mineral resources were encouraged, the sales of bauxite and alumina made up only about 74 per cent. Guinea processes locally extracted bauxite into alumina. Under the European Community Mining Aid programme (SYSMIN), the Friguia's alumina plant is to receive about \$51.5 million to upgrade the plant which is expected to restore alumina production from 600,000 to 670,000 tonnes per year by the end of 1993.⁷² When Guinea's aluminum smelting plant project (with Soviet financial and technical assistance) is through, Guinea's metal industry should be expected to strengthen its backward linkages to the mining sector and forward linkages to construction and industry as a whole.

Iron ore continues to be Mauritania's principal mineral and export commodity. In 1988, production and exports were 10 million tonnes valued at \$144 million. Mining of the ore is focussed on the Kedia d'Idjill, Rhein and the Oumm Arwagen deposits. A beneficiating plant at the Rhein mine employs a dry enrichment process involving magnetic separation. Planned output was 1.2 million tonnes, but the beneficiating plant is underutilized. A loan of about \$70

⁷² West Africa Minerals Yearbook 1988, pp. 207-209.

million from the African Development Fund, the Arab Fund for Economic and Social Development, etc., is to help improve rail line and port facilities, modify plant and process technology and plant maintenance.

Industrial development in the atoll countries namely, Maldives, Comoros, Samoa, Kiribati and Vanuatu is hampered not only by the problems of distance, lack of economies of scale, distance to sources of supply and market, access to technology, small market, skills etc., but also by the dearth of essential factors of production such as raw materials including mineral resources.⁷³ Development and utilization of marine resources could be a key to industrialization. But while exploiting the marine resources, protective measures should be taken to safeguard against destruction of the marine habitat and the ecological systems, especially in the heavily populated island countries. In the Maldives coral and shells are used in the handicrafts industry. In Vanuatu manganese is mined spasmodically and pozzolana (volcanic ash used *inter alia* in cement production) are known to exist.⁷⁴ Analysis of a pilot project in Kiribati tends to suggest that favourable climatic conditions on the island is conducive to the development of solar saline of international quality, the use of which is needed in household consumption as well as in food processing and chemicals industry.⁷⁵

On the whole, mineral resources in most LDCs lie unexploited and their extent unexplored. Mining sector linkages to manufacturing and vice-versa are very weak. When developed, the mining sector may provide the foundation for the "core" industries such as metal, engineering, building materials and chemicals which form the basis of modern industrialization. The greatest development potential is seen in the area of non-metallic minerals which represent a wide range of raw materials with a rapidly growing range of industrial applications offering significant opportunities not only for import substitution but also in several cases for export after beneficiation.

3.5 Manufacturing linkages to construction

In most LDCs, the building and construction sector is totally dominated by the private sector (local and foreign enterprises) which, however, depend largely on government contracts. Construction activities are mostly government and infrastructural works and housing projects (public and private). The shortage of housing facilities for the urban and rural population is a problem facing many LDCs. The weak linkages between manufacturing and the construction sector makes many avowed programmes to house the poor, especially those in the rural areas, almost impossible. However, introduction of simple technologies using local raw materials and small-scale, labour-intensive production methods permits a closer integration of materials production with the construction process and has been promoted successfully in some LDCs.

Roofing of houses is still a problem in Nepal (as in many other countries) and corrugated iron sheets has to be imported at enormous costs, although locally produced tiles using domestic raw materials is an alternative of acceptable quality and price. Similarly, much construction in LDCs still depend on wall materials incorporating significant amounts of

⁷³ Pollard, S., *Pacific Atoll Economies*, in *Asian-Pacific Economic Literature*, vol. 3, No. 1, March 1989, pp. 75-76.

⁷⁴ UNIDO, *Industrial Development Review Series, Pacific Island States: Selected Countries*, UNIDO/IS.645, 21 July 1986, p. 161.

⁷⁵ UNIDO, *Assistance to Solar Salt Industry, Kiribati*, DP/ID/SER.B/66, 28 December 1989.

imported cement due to the difficulty of gaining popular acceptance of low-cost blocks or bricks with more modest or new foreign inputs.

Although it accounts only for about 7.6 per cent to GDP in 1988, the building and construction sector in Lesotho can be expected to perform better and establish functional linkages to manufacturing over the next decade. Lesotho has large reserves of sands, dolomite and basalt used in the manufacture of aggregates required in the construction of public buildings and housing.

An important manufactured input for the building and construction sector is cement (it is also used in the manufacture of cement blocks, tiles and pipes etc.). Other products for construction include aggregates, galvanized wire, steel products etc. Cement is by far the most important construction material manufactured in Ethiopia, accounting for 66 per cent of the gross value of production within the construction branch, and 61 per cent of the value added in 1985/86. There are four cement plants in operation, the largest in Addis Ababa has a nominal capacity of 70,000 tonnes per annum. Government privatization policy which allowed private construction, ownership, sale and rentals of houses and offices in March 1990 has stimulated the demand for cement and other construction materials. There is, therefore, the need to rehabilitate the cement factories to expand capacity to meet increasing demand. The state manages seven factories manufacturing cement blocks, tiles and pipes in Addis Ababa. They supply construction material inputs for the public housing construction programme. Besides the public units, 22 small-scale private-sector enterprises produce and market fire clay bricks mainly to the private building contractors.⁷⁶

The demand for cement by the construction sector in Mozambique is also quite large. At the moment, cement is imported, thus draining the available scarce foreign exchange resources. With the development of railways and other supportive infrastructure, the existing three cement plants could utilize the huge local limestone deposits to produce about 500,000 tonnes of cement per year to meet both domestic and foreign demands.⁷⁷

The development of the metal and engineering and non-metallic sub-sectors of manufacturing would generate effective forward linkages to the construction sector in the LDCs. The development of the above depends also on the mining sector.

While effective linkages between manufacturing and the construction sector is essential to development in the LDCs, the former's linkages to the services sector should also be perceived and analyzed. The positive relationship between the services sector and manufacturing in the LDCs has already been empirically established.

3.6 Manufacturing linkages to services

Growth in the services sector in GDP of LDCs as shown in Table III.2 is encouraging. The lowest average annual growth of -6.6 and -4.3 per cent during the period 1985 and 1990 occurred in Afghanistan and Liberia, (due to civil unrests and exodus of both locals and foreigners etc.) and the highest of about 17 and 13.8 per cent in Yemen and Maldives (the Maldivian economy depends mostly on tourism). Interestingly enough, the Maldives again and concurrently, registered the third highest growth in manufacturing during the same time period.

⁷⁶ *Op. cit.*, UNIDO, PPD.185, 21 February 1991, pp. 81-82.

⁷⁷ *Op. cit.*, PPI3/399, February 1991, p. 13.

A thorough analysis of the manufacturing services sector relationship must, however, await the refinement of the existing crude service sector data. Data on sub-sectoral output and consumption figures for services in LDCs is lacking (data in the national income statistics is patchy), making even an empirical assessment of the relative importance of manufacturing inputs into services or sectoral domestic consumption figures difficult. To help make socio-economic analysis and sound development strategies possible, the development of proper statistical data systems is essential.

Due to the paucity of data, one is not able to use an effective and an up-to-date input-output data to measure the manufacturing services linkages. Where available, such input-output tables are quite old dating back to the 1970s. One can, as a result, hardly measure and compare recent inter-sectoral and intra-sectoral dependency ratios between manufacturing and the service activities (the ratio measures a sector's purchase of an input expressed as a percentage of its total intermediate input purchases), the multiplier effects of manufacturing which result from manufacturing propensity to generate indirect linkages for output and employment expansion in the services and other sectors of LDCs' economy.

The above-mentioned problems of analysis should not, however, prevent any fruitful discussion of the industry-service relationship in the LDCs.

The indirect linkages between industry and services, with respect to the possible and potential industry induce demand for services, as well as industry's backward linkages to services in the LDCs need discussion in the coming paragraphs. This theme is relevant to industrialization and development in the LDCs. But before one begins with any discussion of the themes, one has to define and clarify the services terminology.

Services may be termed as a group of marketed (comprising producer, distributive and personal services) and non-marketed activities (social services). The former which receives particular emphasis in this paper may include finance, banking, credit, insurance, repairs and maintenance, skill management and training, accountancy, engineering design and consultancy and R&D services for manufacturing, wholesale, retail trade and tourism. The later services category include health, education, welfare, public administration, legal services etc.

A forgotten and sometimes neglected facet of the services sector in the LDCs are the growing informal sector. Unlike the other sectors, the nature of their economic organization is not strictly commercial. Credit unions, associations, traditional and cultural groupings are some important informal services. Their linkages to manufacturing, and their socio-economic roles in the development process in the LDCs are unfortunately underestimated or neglected. Traditional credit institutions and associations provide significant financial, entrepreneurial and management skills and training to manufacturing industry in almost all LDCs where financial and skilled labour are in short supply. A typical informal service linkages with manufacturing involves small service units which collect, clean and resell used glass bottles to the bottling and beverage industry.

Due to lack of data, the forward linkages of manufacturing to services in the LDCs can only be tentatively described. It could be expected that finance and insurance services would, in general, use manufactured inputs such as office appliances and items including furniture, paper, ink, electrical equipments etc. Also, the main manufactured items going into distribution, hotels and restaurants would be processed food and drink. However, it is likely that the import content of such inputs in many LDCs is quite high.

Industry in the LDCs require considerable inputs from specialized financial, legal, and professional services to facilitate their operations. Innovations from the services sector such as the use of communication systems etc., could facilitate changes in the organization of industry.

The range of financial services on offer to industry is limited and very scarce in almost all LDCs. Forward linkages from banking and financial services are likely to be strong in manufacturing when liberalized and market-oriented financial systems are efficiently promoted.⁷⁸ UNCTAD has noted that insurance services provided by domestic companies to manufacturing in the LDCs are relatively low in quality.⁷⁹ Flexible laws relating to the admission of private and foreign firms, in Rwanda, for example, may help reduce laying off risks in production and transportation bottlenecks, thus facilitating the flow of goods and services into manufacturing.

The importance of engineering design and consultancy services (EDC) has been recognized by all LDCs which have entered the phase of industrialization. The role of EDC seems particularly important as the overall industrial infrastructure presents a number of constraints in critical areas such as project formulation and design expertise, technological base, availability of skills, lack of industrial experience, and paucity of technological and commercial data and information.

The development of local EDC services may present a set of benefits for LDC industry and economy. These include the following⁸⁰:

- more appropriate choice of technology;
- more efficient acquisition of technology;
- adaptation of imported technology to local requirements and needs;
- maximum use of indigenous equipment, materials and skills;
- attainment of technical self-reliance;
- learning experience through doing;
- increased innovation capability;
- linkage to R&D institutions;
- increased exports through maximum use of EDC services; and
- development of local industry through EDC services.

Local consulting firms can act as catalytic agents to provide necessary information on the areas of technology needs to local, regional and other R&D institutions to help create technologies of specific interest to LDCs. Such technologies can be channeled into manufacturing and other productive sectors of the economy. LDCs can achieve improved technical competence and reduce vulnerability in technology, equipment and turnkey project purchases when local consulting capability is increased (See chapter 6 for more discussion and more on ODA projects and stimulation of local industry).

By developing specifications and tender drawings for equipment relating to local industries, local consultants can contribute immensely to the development and growth of indigenous industries.

⁷⁸ OECD, *Trade and services in developing countries*, Paris, 1989.

⁷⁹ UNCTAD, *Insurance in the context of services and the development process*, TD/B/1014, August 1984.

⁸⁰ UNIDO, *Strengthening Engineering Design and Consultancy Services in Developing Countries*, IPTC.103(SPEC.), 27 December 1989 pp. 18-47.

The role of the LDC governments as major users and makers of policies which affect the growth and use of EDC is important. In Ethiopia, for example, the government acts as an entrepreneur and initiates industrial, transport and communication and public utility projects (mostly state-owned) which demand EDC services. In a number of LDCs the government has set up a public sector EDC organizations as corporate bodies. The development of public EDC corporations need not hinder private EDC services enterprises when policies are made to ensure open competitive market system. Such a system will ultimately promote efficiency in EDC services system.

For the development of EDC services, LDC government may adopt the following strategies:

- associate local consultants with foreign consultants so as to encourage the transfer of knowledge and skills;
- support through full or partial funding, training programmes for consultants of local EDC services firms;
- provide a package of incentives to local consultants including tax relief, development rebate etc. with the aim of accelerating their growth;
- make available easier bank credits to local EDC firms for their working capital requirements; and
- develop a long-term plan for the EDC service capabilities, with the assistance from local EDC organizations and UNIDO.

Where the level of manufacturing activity is low, the services sector when promoted would induce a conducive environment for manufacturing and other sectors of the economy. On the basis of their local and natural endowments, insular LDCs may even find it realistic to promote the development of the services sector including that of infrastructural and producer services. Moreover, where the chances of increasing export earnings from agriculture and manufacturing are limited, the possibilities for increasing earnings through the export of services may be lucrative.

With the beginning of direct flights from Europe to the Maldives in 1981, the tourist industry witnessed a spectacular boom (1981/82) to coincide with the decline in the fishing industry. Tourism contributes a 14 per cent share to GDP (1984). Expenditure in the industry increased from \$9.4 to \$25.3 million in that same year. All these tend to indicate strong multiplier effects throughout the Maldivian economy, particularly on the construction and the services sector. Furthermore, tourism related jobs have had a beneficial impact on development skills in the hotel and catering trades, as well as in the construction and engineering sectors. Wages in the sector are higher than those in fishing and agriculture, but it appears the tourist industry had only a small impact on the disguised unemployment and poverty of the Maldives.⁸¹

3.6.1 Employment generation implications of manufacturing services linkages

The preceding paragraphs will attempt to analyze the employment structure of manufacturing industry and services, their relationships and implications for development in the LDCs.

A characteristic of the LDCs has been the ominous failure of industrialization to create enough employment to absorb the growing urban population largely due to rural-urban migration and population growth in countries such as Bangladesh, Burundi and Rwanda. The

⁸¹ Op. cit., Pollard, S., 1989, p. 72.

recent Import Substitution Industrialization (ISI) policy in LDCs experienced mixed success.⁸² A result was that industry could not create jobs to cater for population growth. In order to solve this problem, policy-makers as well as scholars have called for a labour-intensive pattern of industrialization featuring "appropriate" technologies.

Neither a labour-intensive nor a capital-intensive pattern of industrialization can *a priori* be advanced as a policy prescription for the LDCs. A policy prescription should be country-specific and be based on economic criteria.⁸³

The role of industry in employment generation in the LDCs can be identified not only through its direct effects, but also through its indirect effects and extensive linkages with the services sector. It can be argued that the provision of productive employment would increase per capita income and stimulate the demand for services in the LDCs.

Table III.5 shows total labour force and the share of labour force in industry (industry means total industry, manufacturing forms a relatively greater sub-sector), services and agriculture sectors of LDCs between 1960 and 1990. On the average there is a general increase in urbanization and the growth of labour force during the period of 1960-1990. The Lao People's Democratic Republic made a notable 30 per cent gain in its labour force potentials. In contrast to Lao People's Democratic Republic, Somalia recorded a 45 per cent decrease in its labour force, a fall from 3.0, 2.0 to 1.7 per cent during three time periods 1960, 1977 and 1983. While its average annual growth of labour force decreased, Somalia's urban population remained large, about 35 per cent (1988) of total population. On the urban-rural population continuum, Somalia ranked fourth, behind the Central African Republic (45 per cent urban), Democratic Yemen (42 per cent urban) and Benin (40 per cent urban). Bhutan, Burundi, Rwanda, Nepal and Burkina Faso are examples of LDCs with very high rural populations.⁸⁴ Population growth in LDCs is one of the important determinants of the nature and type of development strategy to be adopted.

On the sectoral level, agriculture became not only the net loser of employees during the period 1960 and 1980, but also a net loser in shares to the GDP. With the exception of Benin, Burundi and Nepal, agricultural employment contracted to add momentum to the already fast rate of urbanization in LDCs. In Mauritania and Yemen, for example, agricultural employment decreased by about 24.2 and 28.6 per cent in 1960 and 1980. Agricultural employment in Cape Verde and Equatorial Guinea also decreased significantly.

There appears to be little scope for employing productively substantial numbers of additional people in the agricultural sector in many LDCs, especially in Bangladesh, where labour productivity is extremely low.

As a result of the general relative fall in agricultural employment, industry and services had to bear the brunt of surplus labour absorption. There exist not only a surplus labour problem in many LDCs, but also disguised unemployment especially in the growing urban centers of countries like Benin, Mauritania, Haiti, the Central African Republic, and Bangladesh.

⁸² For reasons of ISI failure see: Hirschman, Albert, O., The political economy of import substituting industrialization in Latin America, in *Quarterly Journal of Economics*, 1968, pp.1-32; Beer, Werner, and Samuelson, Larry, Toward a service-oriented growth strategy, in *World Development*, vol. 9, No. 6, 1981, pp. 499-502.

⁸³ Papanek, G. F., Industrialization strategies in labour-abundant countries, in *Asian Development Review*, vol. 3, No.1, 1985, pp. 43-53.

⁸⁴ See *World Resources 1988-89*.

Table III.5: Population, labour force and employment in economic sectors, LDCs, 1960-1990

Country	Average annual population change 1960-1990 (Per cent)		Total labour force 1985 (Thousands)	Percentage labour force in					
	Urban	Rural		Agriculture		Industry*		Services	
				1960	1980	1960	1980	1960	1980
Afghanistan	4.9	0.9	4,971	85	..	6	..	9	..
Bangladesh	6.2	2.4	28,845	87	75	3	6	10	18
Benin	7.7	1.0	1,984	54	70	8	7	37	23
Bhutan	4.5	1.8	632	95	92	2	3	3	5
Botswana	4.8	2.2	3,785	92	87	5	4	3	8
Burkina Faso	4.6	2.2	3,785	92	87	5	4	3	9
Burundi	6.3	1.9	2,520	90	93	3	2	7	5
Cambodia	1.8	1.4	3,602	..	..	..	..	..	..
Cape Verde	10.0	-0.8	121	70	52	12	23	18	26
Central African Republic	4.5	0.8	1,282	94	72	2	6	4	21
Chad	7.5	1.0	1,790	95	83	2	5	3	12
Comoros	9.7	2.0	204	89	83	4	6	7	11
Djibouti	7.3	2.2	..	..	..	..	..	..	..
Equatorial Guinea	5.1	-0.6	189	82	66	6	11	12	23
Ethiopia	4.6	2.0	19,182	88	80	5	8	7	12
Gambia	5.1	2.6	307	89	84	5	7	7	9
Guinea	5.4	1.5	2,846	88	81	6	9	6	10
Guinea-Bissau	4.8	1.3	427	87	82	2	4	11	14
Haiti	4.2	1.3	2,822	80	70	6	8	14	22
Kiribati	..	..	..	..	..	..	..	..	..
Lao People's Democratic Republic	5.1	1.7	2,014	83	76	4	7	13	17
Lesotho	8.7	1.8	703	93	86	2	4	5	10
Liberia	6.1	1.8	808	80	74	10	9	10	16
Madagascar	5.7	2.2	4,510	93	81	2	6	5	13
Malawi	7.2	2.5	3,074	92	83	3	7	5	9
Maldives	..	..	..	..	..	..	..	..	..
Mali	7.3	2.0	2,598	94	86	3	2	3	13
Mauritania	8.9	0.8	590	91	89	3	9	6	22
Mozambique	9.5	1.6	7,671	81	85	18	7	11	8
Myanmar	3.0	2.0	16,699	..	53	..	19	..	28
Nepal	6.3	2.2	6,870	93	93	2	1	5	7
Niger	6.9	2.1	3,203	95	91	1	2	4	7
Rwanda	7.4	3.1	3,083	95	93	1	3	4	4
Sao Tome and Principe	..	..	..	..	..	..	..	..	..
Samoa	..	..	..	..	..	..	..	..	..
Sierra Leone	5.2	1.2	1,352	78	70	12	14	10	16
Solomon Islands	5.8	1.9	..	..	..	..	..	..	..
Somalia	5.8	2.3	1,999	88	76	4	8	8	16
Sudan	5.4	2.3	6,991	86	71	6	8	8	21
Togo	6.1	2.1	1,244	80	73	8	10	12	17
Uganda	6.0	3.3	7,054	89	86	4	4	7	10
United Republic of Tanzania	10.3	2.2	10,913	89	86	4	5	7	10
Tuvalu	..	..	..	..	..	..	..	..	..
Vanuatu	..	..	..	..	..	..	..	..	..
Yemen	6.6	1.6	1,117	77	55	11	14	13	32
Zaire	4.7	1.9	11,666	83	72	6	13	8	16
Zambia	7.5	1.2	2,242	79	73	7	10	14	17

Source: World Resources 1980-91, p. 270-271.

Sources: * Industry includes manufacturing, energy and utilities; .. Not available; Totals may not add up due to rounding

In order to create a long-term productive employment for the majority of the labour force in the LDCs, an efficient manufacturing industry sector must be promoted, because it is the only sector which is capable of stimulating overall economic growth and thus generating employment opportunities. More people could be employed in the services sector, but only if the productive sector (manufacturing) grows to increase per capita income and stimulate demand for services.

Indeed, growth of employment (and share in GDP) in the services sector seems to be more pronounced than in industry. So far, the growth of the services sector in developed economies is relatively much higher than that in the LDCs. It is indeed assumed that, with the expansion in economic development, the share of service employment in labour force tends to expand while that of manufacturing declines.⁸⁵ In eight LDCs including Benin, Botswana, Burkina Faso, Burundi, Liberia, Mali and Nepal industry (including manufacturing) lost about 25 per cent of its labour force between 1960-1980. Industrial labour force contraction was even much more pronounced in Mozambique where protracted civil war and devastation of industrial plants and infrastructure caused industry to lose about 61.1 per cent of its labour force. This trend casts doubts on the capability of industry to absorb surplus labour and provide a livelihood for the urban and rural poor. Whether all LDCs would go through the same experience is a question. In any case, there seems to be ample scope for building up the services sector, especially in the industrial support services sector (sub-contracting, sub-deliveries, R&D etc.). This will likely stimulate competitiveness and specialization in industrial units.

Several factors cause employment growth in manufacturing to fall behind its own output growth and employment growth in services in the LDCs and in developing countries in general.⁸⁶ These causal factors include the following;

- widespread factor price distortions such as high wage rates in modern manufacturing industries, credit subsidies to investment, over-valued exchange rates and favourable tariff treatment of capital goods imports, all of which contribute to the adoption of capital-intensive techniques of manufacturing production;
- greater scale of scale economies, factor substitution and technological change which lead to gains in productivity and lower labour-input requirements in manufacturing; and
- rigid structure of production processes including narrow scope of factor substitution for labour-intensive techniques.

As shown in Table III.6, the share of consumer goods such as food products and manufactured goods like clothing and footwear in total household consumption for selected 9 LDCs (1980-1985) exceeded by far that of services such as education and medical care. In Sudan, Bangladesh, Nepal and Mali, food alone contributed more than 50 per cent of total household consumption. In high-income developed economies, however, the share of services in private consumption overtakes that of manufactured goods, thus giving substance to the consumption-income relationship theories which postulate that rising per capita incomes create

⁸⁵ Kuznets, S., *Modern economic growth: Rate, structure, and spread*, New Haven, Yale University Press, 1966.

⁸⁶ Korawetz, D., *Employment implications of industrialization in developing countries: a survey*, in *Economic Journal*, 84, 1974, pp.491-542.; Beer and Samuelson, *op.cit.*; and Park, Se-Hark, *Linkages between industry and services and their implications for urban employment generation in developing countries*, in *Journal of Developmental Economics*, 30, 1989, pp. 359-379.

relatively higher demand for services.⁸⁷ If the income elasticities for most services in the LDCs are sufficiently high, a strategy of increased industrial development would increase per capita income, which would in turn increase the demand for services, thus resulting in the rapid expansion of service employment, and decrease thereby the high unemployment in LDCs.

Table III.6: Total household consumption, selected LDCs, 1960-1965
(Per cent)

Country	Food	Clothing and footwear	Gross rents, fuel and power	Medical care	Education	Transport and communication	Other	Total
Bangladesh	50	8	17	2	1	3	10	100
Benin	37	14	11	5	4	14	15	100
Ethiopia	32	8	17	3	2	12	26	100
Malawi	55	5	12	3	4	7	14	100
Mali	57	5	6	1	2	20	9	100
Nepal	57	12	14	3	1	1	12	100
Rwanda	29	6	15	4	4	9	28	100
Sierra Leone	47	4	12	2	1	10	24	100
Sudan	60	5	15	5	3	1	11	100

Source: World Bank World Development Report 1989.

Note: Figures may not add up due to rounding.

3.7 Prospects of industry multiplier effects

Industrial activity in the LDCs is expected to generate both direct and indirect linkage effects. The direct employment effect of manufacturing is generally known to be relatively small, but its indirect and income induce linkages would provide a strong stimulus for the output and employment expansion in the services and other sectors. The spending of workers who are involved in the production of goods in domestic and subregional economies would help in an indefinite income propagation process.

Since input-output tables are not available, it would be difficult to discuss precisely the direct and indirect output multipliers for the economic sectors. It would also not be easy to identify some of the high-linkage industries which may lead to higher rates of growth and hence generate strong demand for services and consequent employment gains in the service sector in the LDCs.

As already noted, one of the major characteristics of manufacturing in the LDCs is the predominance of agro-based industries like food and textile sub-sectors. The high performance of these sub-sectors in terms of value added and, perhaps, in employment may suggest their multiplier effect potentials. Light manufacturing industries, for example, food, beverages and tobacco which is prevalent in almost all LDCs, seem to create generally large output multiplier effects, because of their high labour intensity. The multiplier effects of resource-based industries such as chemical products (fertilizers, etc.) and machinery and transport equipment may be small, because of the relatively small domestic capability of producing the capital goods needed by these industries. Most of the transport equipment industries in LDCs are mainly plant units assembling imported parts of cars, railways carriages, bicycles etc. The assemblage of these

⁸⁷ Kuznets, S., *Modern economic growth of nations*, Cambridge, Massachusetts, Harvard University Press, 1971; Sabolo, Y., *The services industries*, Geneva, International Labour Office, 1975.

creates some important multiplier effects and backward linkages to the agriculture sector, the wood and wood products sub-sector etc. Wood and wood products are used as the main domestic inputs for the construction of the "body" or carriage of most transport vehicles (the so-called "mammy" trucks in the Sub-Saharan LDCs).

The "country boat" industry, an entirely indigenized transport equipment sub-sector in Bangladesh also shows a typical multiplier effect of that sub-sector. Country boats are non-mechanized crafts specializing in the carriage of building materials and salt. Materials inputs used in their construction are mainly domestic, including wood, bamboo, scrap iron, jute rope, paper, cowdung, firewood and cloth. A large number of craftsmen are employed in the boat-making: they include woodcutters, bamboo net makers, producers of hardware, blacksmiths and rope-makers. Another important feature of this industry is the very substantial employment effect of investment in this branch in the Pabna, Dhaka, Mymensingh and Comilla areas. Country boats are believed to generate 12 times as much employment per tonne-mile per hour as trucks and 20 times as much employment as cargo launches (but wages of both craftsmen and boat's crew members remain very low, about half the national per capita income level).⁸⁸ The country boat industry maintains a forward linkage with the transport sub-sector, the boats provide the single most important form of transportation as far as the inter-district movement of commodities is concerned. To support and increase the level of linkages between the country boat-making industry and other sectors of Bangladesh's economy, the technical efficiency of the boat building industry should be increased through specific financial and technical assistance (local and foreign). This could help upgrade the technical skills of the boat-makers and increase the competitive stand of the branch in the boat manufacturing industry.

With proper measures in place, the promotion of domestic sourcing for ODA projects would stimulate manufacturing linkages within manufacturing itself and to the other sectors of the economy of LDCs. With increased industrialization, the overall multiplier effects and the network of inter-industry linkages would increase, granted that the economies of LDCs are capable of responding to supply bottlenecks.

3.8 International dimensions of linkages

Manufacturing activities in the LDCs relate to the international economic system in two main ways. Firstly, intra-industry linkages may occur beyond national boundaries, and may involve the forward linkages which a manufacturing activity maintains with other manufacturing activities in distant areas or within regional economic groupings. A packaging manufacturing firm, for example, the first beneficiary of the Lomé industrial free zone intends to export its metallic packaging products to other manufacturing firms in Benin, Burkina Faso, Mali and Niger.⁸⁹

Secondly, manufacturing-services linkages may either imply intra-LDCs linkages or LDC-international organizations or institution linkages. All these involve the flow of goods, services and innovation. Since the industrialization process in the LDCs is relatively recent and factor scarcities confront it, industrial development may need the necessary inputs and support from the international environment.

⁸⁸ Op. cit., UNIDO, PPD.114, 25 April 1989, pp. 49-53.

⁸⁹ Africa Research Bulletin, vol.27, No.9, November 15 1990, p. 10159.

3.8.1 Role of subregional economic cooperation in industrial development

It is expected that activities involving the horizontal and vertical integration of production units in industry, agricultural and other economic sectors will contribute substantially to the development of inter-state or inter-regional and inter-sectoral linkages as well as foster interdependence in production enterprises and sectors among LDCs.

Reports from Botswana indicate that the lack of broad foreign markets constitutes much of a problem to manufacturing than capacity under-utilization, lack of foreign exchange, lack of raw materials etc.⁹⁰ This complaint points to the fact that the common market which regional economic groupings in the LDCs should provide, has usually tended to be nothing more than separate markets of individual countries. For example, intra-regional trade has been very low among the Southern African Development Coordination Conference (SADCC) member states of which Botswana is one. It accounted only for 5 per cent of the total trade of the member countries in 1986.⁹¹

Both LDCs and non-LDCs are enmeshed in a number of multilateral and bilateral industrial cooperation mechanisms. The most important of these regional and subregional economic groupings comprising the LDC and non-LDC member states are shown in Table III.7. These are the African, Caribbean and Pacific group of States (ACP), the Preferential Trade Area for Eastern and Southern African States (PTA), the Southern African Development Coordination Conference (SADCC), the Indian Ocean Commission (IOC), the Southern African Custom Union Agreement (SACUA), the South Asian Regional Cooperation Council (SARCC) and Economic Community of West African States (ECOWAS).

It can be noticed that Afghanistan, Lao People's Democratic Republic and Myanmar are not members of any of the groupings listed. They seem to exist in some sort of economic isolation. Their case does not mean that all the listed LDCs with membership status in one or more subregional economic groupings have been active as far as membership obligations are concerned. More often than not the harmonization of national and regional economic and political interests have been a problem. Moreover, membership within several subregional groupings may be a hindrance, since commitment and concentration would be blurred.

The creation of these organizations reflects not only the political commitment on the part of the member states, but also their intention to integrate development in their respective subregions. Some of the subregional organizations are involved in the identification, promotion and finance of projects, skill and management training and exchange of industrial information. Efforts are primarily geared toward the stimulation of joint projects which are essentially resource-based, exchange of raw materials, intermediate products and final goods. To be able to achieve their aims, however, these organizations have to overcome a number of constraints. These include inadequate human and financial means and mechanisms of effecting their programmes. So far, little emphasis has been placed on industrial development on the subregional level. With international assistance in policy and institutional capacity building, for example, member states would be able to harmonize the national and regional industrial objectives, policies and strategies so as to foster inter-dependence in industrial development.

Using relevant information available, short details about the objectives, industrial policies, strategies and programmes of the PTA, SADCC, ECOWAS, and to some extent ACP, and their impact on regional and national economic interdependence will be given.

⁹⁰ African Business, December 1990, p.31.

⁹¹ Op. cit., African Business, December, 1990.

Table III.7: LDCs' membership in selected regional and subregional organizations

Region, country	ACP	PTA	SADCC	IOC	SACUA	SARCC	ECOWAS
Africa							
Benin	**						*
Botswana	*	*	*		*		
Burkina Faso	*						*
Burundi	**	*					
Cape Verde	*						*
Central African Republic	*						
Chad	**						
Comoros	*	*		*			
Djibouti	*	*					
Equatorial Guinea	*						
Ethiopia	*	*					
Gambia	*						*
Guinea	*						*
Guinea-Bissau	*						*
Lesotho	*	*	*		*		
Liberia	*						*
Malawi	*	*	*				
Mali	**						*
Mauritania	**						*
Mozambique	*	*	*				
Niger	**						*
Rwanda	**	*					
Sao Tome and Principe	*						
Sierra Leone	*						*
Somalia	**	*					
Sudan	*						
Togo	**						*
Uganda	*	*					
United Republic of Tanzania	*	*	*				
Zaire	**						
Zambia	*	*					
Asia/Pacific							
Afghanistan							
Bangladesh						*	
Bhutan						*	
Kiribati							
Laos, P.D. Rep.							
Maldives						*	
Myanmar							
Nepal						*	
Samoa							
Solomon Islands	*						
Tuvalu	*						
Vanuatu	*						
Caribbean							
Haiti	*						

Notes: ACP - African, Caribbean and Pacific Group of States; PTA - Preferential Trade Area for Eastern and Southern African States;

SADCC - Southern African Development Coordination Conference; IOC - Indian Ocean Commission;

SACUA - Southern African Custom Union Agreement; SARCC - Southern Asian Regional Co-operation Council;

ECOWAS - Economic Commission of West African States;

* Country membership; ** ACP member association with European Economic Community in accordance with the Yaoundé Convention.

3.8.1.1 The Preferential Trade Area for Eastern and Southern African States (PTA)

Created in 1982, the 18 member PTA group has as its objective: the promotion of economic cooperation among members in the fields of trade, customs, industry, transport and communications, agriculture, natural resources and monetary affairs. The aim of PTA is the establishment of a subregional common market, and eventually, an economic community.

Some of the services facilities for manufacturing have been established by the PTA. These include the creation and promotion of: a clearing house in Harare (Zimbabwe) to enable member states to trade with each other using their own, otherwise non-convertible currencies; a trade and development bank in Bujumbura (Burundi); a Federation of Chamber of Commerce and Industry in Lusaka (Zambia); an Association of Commercial Banks; a Centre for Commercial Arbitration and; a system of travellers' cheque to facilitate business travels within the region. Some recent PTA activities in the field of information services have been very encouraging. The first leather trade fair organized in Addis Ababa, Ethiopia in January, 1990 brought home to the industrial and business community the great potential resources available to the leather industry in the subregion (being an agro-based industry, the development of the leather sub-sector would have positive multiplier effects in both the agricultural and industrial sectors of the economies of the PTA member countries).

Concerning industry, the PTA policy organs have adopted a strategy aimed at establishing a competitive industrial structure to produce consumer as well as capital and intermediate products. This aim is to be achieved by: promoting cooperation in the rationalization/expansion of existing capacities and the creation of new capacities; fostering cross-border, vertically and horizontally integrated production - marketing - distribution systems; and promoting small-, medium- and large-scale production enterprises, as well as multi-national enterprises, especially, in large-scale basic or core industries.

The priority sectors for industry adopted by the PTA are metals, engineering, chemicals, agro-based industries, building materials, human resources and energy. These priority sectors are important, in that they would help generate actual and potential linkages to promote the development of a resilient industrial sector which is capable of meeting domestic and export needs.

The emphasis placed on the food processing industry is a response to supply problems. Regarding building materials, cement is of primary interest for the subregion. Industrial rehabilitation in the subregion would increase capacity large enough to meet the demands of the subregion. Expansion of glass production would make use of the available local raw materials to provide building and packaging materials.

Actually, the industrial activities of the PTA can be classified as new investment, rehabilitation, expansion and diversification, or institutional development. Examples of projects that meet subregional needs include a triple superphosphate plant in Uganda, the production of single superphosphate fertilizer in Burundi, and the multinational sponge iron plants in Ethiopia, United Republic of Tanzania, Uganda and Mozambique.

The areas of emphasis in the PTA industrial policies include: (a) the development of small- and medium-scale industry to diversify industrial structure or to promote rural employment and contain urbanization; (b) promotion of foreign investment, but this would require suitable "climate" to attract foreign investors; (c) export promotion; (d) rehabilitation,

including changes in technologies and product lines, skills upgrading and closer and more links with the rest of the industrial system and; (e) selective import substitution.⁹²

3.8.1.2 The South African Development Coordination Conference (SADCC)

The formation of SADCC in July 1981 was primarily motivated by the need to promote socio-economic development and economic interdependence (and economic independence from South Africa) within the sub-region. Five of the nine SADCC member states are LDCs (Botswana, Lesotho, Mozambique, United Republic of Tanzania and Malawi; the others include Angola, Namibia and Swaziland). An industrial coordination unit located in Dar-es-Salaam (United Republic of Tanzania) is to speed up the process of industrial cooperation and integration among member states. Industrial development is to cater for the basic needs of the population in the areas of food, clothing, housing, health, water supply, power, transport and education. The special programme of action for SADCC focuses not only on industry, but also on other sectors such as energy, agriculture and natural resources, manpower development, mining, trade, tourism and transport and communication. As much as 16 projects in the industry and trade sectors with an estimated total cost of US\$23.07 million have been earmarked for implementation.

The lack of physical infrastructure (transport, communications, civil aviation and energy) is considered as far greater constraints to intra-regional trade than regulatory and legislative regimes imposing various kinds of controls, foreign exchange shortages, the small size of national markets in terms of either population or purchasing power etc. There is the need to co-ordinate policies to facilitate movement including business travel, increased private business activities, the availability of foreign exchange for the importation of production inputs, cross-border investments etc.

SADCC's industrial development policy and strategy aims include the following: (a) intensification of intra-regional trade (Botswana, Lesotho and Malawi, which have limited domestic markets, could expand exports of agricultural and mineral products); (b) development of indigenous capital and producer goods; (c) increased capacity utilization levels and rehabilitation of viable industrial establishments; (d) adoption of appropriate technology; (e) fostering of labour-intensive small-scale enterprises and; (f) maximization of domestic resources utilization (including managerial, technical and entrepreneurial skills).

A recent economic structure analysis of the SADCC sub-region indicates that the following branches of manufacturing offer the best opportunities for economic interdependence and hence, self-sustained development:⁹³

- **Agro-industries:** these industries underscore the resource-based strategy to industrialization. They form important linkages with the agricultural sector. The food processing sub-sector is capable of meeting the food requirements (cardinal basic need) of the people in the sub-region.
- **Textiles, clothing, leather and footwear industries:** coordinated projects to produce inputs such as processing chemicals, dyes, spare parts etc., would find ready markets in the region.

⁹² UNIDO, Revised Integrated Industrial Promotion Programme, PPD.183(SPEC), January 1991, pp.15.

⁹³ Op. cit., UNIDO, PPD.183(SPEC.), 16 January 1991, pp. 21-30.

- **Forestry-based industries:** they would create linkages with the mining, transport (railways) and building and construction sectors, and other manufacturing sub-sectors, including furniture and fixtures. There is scope for regional import substitution in the pulp, paper, printing and publishing branches.
- **Chemical industries:** chemical products are used as intermediate products by many industries. The region is endowed with raw materials for these products. Utilization of the raw materials would expand the capacities of existing or new plants in the fertilizers, paints, pesticides, petrochemicals and the pharmaceuticals branches.
- **Non-metallic minerals industries:** their strong backward linkages with the mining and quarrying sector and forward linkages with the building and construction sector is well-known. The regional market for cement, lime, clay bricks, sheet glass, porcelain and electricity is large.
- **Metallurgical industries:** these would have close linkages with the mining sector and other branches of manufacturing industry. They are the source of capital and intermediate goods industry, but their development requires substantial investment and modern technology and regional coordination.
- **Engineering industries:** their development (that is mechanical, electrical and electronic industries) would produce the main equipment and machine tools used as capital and intermediate goods inputs by the key sectors such as agriculture, construction, mining, and transport and communication. Since their development entails high capital investments and technological and technical costs, intensive coordination is needed.

Effective regional coordination of the above key industrial branches and their sub-sectors is likely to make a significant contribution to self-sustained industrial development in the SADCC region. The sub-sectors are capable of offering great potential for upstream and downstream linkages with other sectors at both national and regional levels.

3.8.1.3 The Economic Community of West African States (ECOWAS)

The growth of regional markets could also play an important role in the future development of the West African, Asian and Pacific and Caribbean (Haiti) LDCs, since the domestic markets of most of these countries are too small for strong expansion of the manufacturing sector.

Established in 1975, ECOWAS has as its main objective the creation of a customs union and, later a common market among the member states (12 of the 16 member states are LDCs: the others are Côte d'Ivoire, Ghana, Nigeria and Senegal). The intention is to increase intra-regional trade and reduce the members' relative volumes of trade with the industrialized countries.

The ECOWAS treaty provides for harmonization of policies among member countries in a number of sectors including agriculture, industry, transport and communications.

A timetable for liberalizing trade in industrial products has been in operation since May 1981 (it requires that more developed ECOWAS member states eliminate trade barriers imposed on goods originating from other ECOWAS member states more quickly than the less developed members). A number of 25 industrial products are to be freely traded among member states. These include biscuits and beer (food products), billets and laminated steel, burnt lime, brake pads, tiles, intermediate plastic products, electric lamps, rope fibre, iron wire cable, wire netting, barbed wire and paper sacks. In principle, these products would have a 60 per cent local raw material content so as to create intra-industry and inter-sectoral linkages, 51 per cent ownership by citizens of member states and 40 per cent of value added.⁹⁴

Like other regional integration organizations, especially in developing countries, ECOWAS' operations are hampered by the fact that member states tend to produce competing goods in the primary sector which reduces intra-regional trade possibilities. Other constraints include simultaneous membership by member countries in a number of regional schemes, currency problems due to the fact that some states are members of the franc zone and some not, and a division into English and French speaking states.

3.8.2 Role of international organizations and technical cooperation

Where governmental resources for the promotion of industry is limited, international organizations and other institutions such as the United Nations Industrial Development Organization (UNIDO), the United Nations Development Programme (UNDP), the European Economic Commission (EEC) etc., give significant services assistance, thereby establishing important linkages between manufacturing (and other economic sectors) and the international system. These linkages involve the flow of the following into industry: industrial credit and finance, consultancy, research and development, and industrial extension services including management and skill training, quality control and standardization in manufacturing (to ensure competitive stand on the world market), accounting and engineering services.

3.8.2.1 UNIDO's assistance

UNIDO's assistance to the promotion and development of industry in the LDCs has been on the country- and regional-level basis.⁹⁵

UNIDO contributed in several ways to the Second United Nations Conference on the Least Developed Countries convened in Paris⁹⁶ in 1990 to review progress made in implementing the Substantial New Programme of Action for the 1980s for the Least Developed Countries (SNPA) adopted at the first United Nations conference on the subject in 1981.⁹⁷ Besides an updated review of the manufacturing sector of the LDCs prepared as a contribution to the second Paris conference, UNIDO also presented a document on industrial development in the African LDCs, containing proposals for priority action in relation to the Industrial Development Decade for Africa presented at the ninth Conference of African Ministers of Industry.

⁹⁴ African Economic Digest, 19 February 1990, p. 9.

⁹⁵ See UNIDO, Annual Report of 1989, Industrial Development Board, Sixth Session, 1990, pp. 69-71; and UNIDO, Annual Report of 1990, Eighth Session, 1991, p. 65.

⁹⁶ United Nations, Second United Nations Conference on the Least Developed Countries, A/CONF.147/Misc.9, GE.90-52264/2411B.

⁹⁷ United Nations, Report by the United Nations Conference on the Least Developed Countries, Paris, 1-4 September 1981, United Nations Publication, Sales No. E.82.I.8.

As a follow-up to the Paris Conference of 1990 which adopted a Programme of Action to accelerate the development process in the LDCs during the 1990s, UNIDO prepared a project financed by the Italian government and formulated an industrial development action plan for the LDCs. The finalized industrial plan of action and programme were submitted to the fourth session of UNIDO's General Conference in November 1991.

Regarding operational activities, UNIDO fielded missions to 30 LDCs, and increased also the quality and quantity of technical assistance to industry in the LDCs. New approvals of technical assistance for industry in the LDCs in 1990 amounted to \$16.68 million (1989: \$15.05 million) of total technical assistance given by UNIDO representing 126 projects mainly in such priority areas as development of industrial services, human resource development, rural development, and industrial promotion and investment (see also table XI.1 and figure XI.1 for the number and type of technical cooperation projects completed by UNIDO in LDCs since 1975 to May 1992). A total of 34 LDC countries benefitted from the UNIDO's technical cooperation in 1990. Net approvals of technical assistance amounted to \$26.35 million (1989: \$21.12 million), that is 16.52 per cent of UNIDO's technical assistance while delivery reached a level of \$22.05 million (1989: \$22.34 million).

Numerous country, regional and subregional projects were carried out in 1989. For example, promotional activities relating to industrial investment were carried out in Nepal and Bangladesh, Haiti and LDCs in the South Pacific. In the United Republic of Tanzania, a diagnostic survey for the rehabilitation needs of selected agro-based industries was also carried out with the intention of promoting and strengthening intra-industrial as well as inter-sectoral linkages.

A seed programme supported by the government of Japan was initiated in 1990 to promote the traditional textile industry, a sector that has great linkage and economic potentials in the African LDCs. A regional workshop on the development of the agro-related metalworking sector was carried out for the LDCs within the framework of the Special Programme for the Industrial Development of Asia and the Pacific.

UNIDO observes that the lack of technology alone does not hinder industrialization in the LDCs. The availability of skilled work force to use efficiently available technology is conceived to be a prerequisite for industrialization. Since 1979, UNIDO has rendered technical assistance to developing countries including LDCs. It considers metal-processing and metal-fabricating skills and technologies as crucial for industrialization. It therefore measures, keeps inventory and disseminates information on technology capability and industrial skill relating to 140 selected engineering products. Table III.8 ranks selected LDCs in terms of industrial technology capability and industrial skills potential.

The problems of the LDCs lie in the fact that some have small or no engineering industry to provide the training ground for the basic metal-fabricating skills needed. Where these training opportunities exist, they belong to the informal manufacturing sector, for example, in the scrap dealers foundries in Dhaka (Bangladesh), Monrovia (Liberia), and Kabul (Afghanistan), etc. In 1987, some 18 LDCs managed in their own way, to convert and transform metals with traditional methods, that is without the use of specialized machine tools.⁹⁸ Myanmar, United Republic of Tanzania, Mozambique and Bangladesh are some LDCs which made significant progress in technological change in the effort to attain economic development.

⁹⁸ UNIDO, *Industry and Development Global Report 1990/91*, UNIDO Publication, Sales No.:E.90.III.E.12, 1990, pp.30-36.

**Table III.8: Technology capability and industrial skills
in selected LDCs, 1970-1987**

Rank (1987)	Country	1970	1987
1	Myanmar	1,028	1,470
2	Tanzania	478	812
3	Mozambique	461	639
4	Bangladesh	58	406
5	Zambia	305	418
6	Zaire	417	417
7	Central African Republic	192	315
8	Sudan	198	238
9	Democratic Yemen	-	229
10	Mali	-	177
11	Burkina Faso	137	137
12	Togo	-	137
13	Rwanda	54	98
14	Malawi	54	54
15	Chad	-	54
16	Ethiopia	42	42
17	Sierra Leone	42	42
18	Haiti	-	42
19	Yemen	-	42
20	Nepal	-	40
	Other		
	Yugoslavia	7,861	9,120
	Brazil	2,020	6,925
	Republic of Korea	2,570	6,346
	India	2,814	4,596
	China	611	3,114
	Egypt	1,454	2,116
	Zimbabwe	-	142
	Kenya	-	136

Source: UNIDO, *Industry and Development Global Report 1980/91*, op. cit., p. 35.

Note: "-" indicates that the amount is nil or negligible.

3.9 Summary, proposals and policy implications

3.9.1 Summary

The knowledge about the strength and extent of economic linkages is very essential for any socio-economic policy and strategy. Linkages could evolve in the process of enhancing industrial efficiency and need not be created for their own sake.

The linkages between manufacturing and other sectors of the economies of LDCs have not been adequately considered. Instead, analysis of the growth and potentials of economic sectors have been separately made and single-sector growth strategies have been formulated.

Generally, the range of manufacturing having close linkages with other economic sectors of LDCs is relatively low (food processing, textiles, leather all agro-based industries do have exceptional strong linkages, especially to manufacturing). This is mainly due to the fact that LDCs are recent participants in the industrialization process and also that many problems confront progress.

On the whole, inter-sectoral linkages may seem to be more developed than inter-industry ones. Empirical evidence tends to suggest that manufacturing industry has a relatively strong and potential linkage with the services sector in the LDCs.

Manufacturing in LDCs cannot be isolated from the external and international environment. Intra-LDCs regional cooperation and cooperation between LDCs and international bodies and institutions are relevant for the creation of effective linkages for industrial and socio-economic development.

In the past, many LDCs and developing countries in general have failed to utilize potential linkage effects. For example, investment projects have failed to generate the expected income effects, because such projects have become "white" elephants. Projects executed by multinational and bilateral agencies in LDCs are not effectively integrated in the long-term development plans of LDCs. Generally, they have failed to stimulate manufacturing. Most of the manufactured products used were imported. Thus domestic sourcing and linkage potentials were not utilized. Deriving from the above, it can be concluded that there is ample potentials for economic linkages in the LDCs.

How to promote economic linkages and interdependency within and among LDCs constitute, therefore, some major policy issues some of which have been discussed in the previous two chapters. To stimulate and manage linkages within manufacturing and between manufacturing and other economic sectors in LDCs, the following policy proposals may be worth considering:

3.9.2 Proposals and policy implications

(i) **Development of a viable industrial and national accounts data base.** This proposal relates to the rather poor state of data and information on manufacturing industry and economic sectors in LDCs. There is an urgent need to develop at country- and international organizational-levels a viable data base.⁹⁹ UNIDO and other UN and international bodies could help by giving financial and technical assistance to government statistical bureaus and agencies of LDCs to develop and manage national accounts and industry-based statistics. Mechanisms need to be instituted not only to channel in due time data amassed to UNIDO and other United Nations agencies, but also to enable effective data bank and information liaison. To help governments of LDCs develop good quality data and information, the perception of industry as an important factor of development should be promoted. Enterprises will then come to know the use of information in planning. The availability of viable data will, for example, help in the compilation of an input-output data for intra-industry and inter-sectoral linkage analysis. Similarly, the formulation of an effective industrial policy would require viable data. Certainly, one has to identify the structure of basic needs, the resource contents or implications of the needs (such as food, clothing, housing, health care and other primary services) and the scope of adjusting the mass needs and existing consumption profiles to the resource endowments of the country in question.

(ii) **A rapid industrialization policy based on utilization of local raw materials and products.** This is capable of generating effective linkages between manufacturing and other economic sectors. Manufacturing enterprises which use local raw material and services and have potential linkages to other sectors of the economy need additional incentives such as custom duty benefits in the import of relevant inputs used in production, income tax benefits etc., Timely assessment of the incentives may be needed to ensure that profitable enterprises benefit.

⁹⁹ Fukuchi Takeo, A model approach to programmes for Vanuatu, UNIDO, mimeograph, 28 February 1991, p.6.

(iii) **Development of cottage and small industries and strengthening of the links between small- and large-scale enterprises** are essential in order to increase the domestic production of intermediate and capital goods. Cottage and small industries are capable of creating gainful employment, thus raising incomes to create the demand for manufactured goods. They require low capital good inputs, produce goods and services to meet basic needs and use local raw materials and consequently provide opportunities for linkages between manufacturing and agriculture, services etc.

(iv) **Stimulation of manufacturing and economy by the creation of a more favourable climate to private investment.**

This needs to include encouragement of private foreign investment as a means of acquiring the necessary capital, entrepreneurship and technical skills not available.

(v) **Liberalization** to include favourable exchange control policies, limited price controls and trade policies to encourage inter-country and inter-regional flow of goods and services. Enterprises need to be provided assistance instead of being provided protection from outside competition.

(vi) **Technical assistance** need to be intensified to improve the efficiency of enterprises, develop the capacity to acquire appropriate technology and improvise it to serve local needs. International technical assistance and services from UNIDO and other agencies will be needed for the development of local capital goods industries capable of providing the simple machinery required for industrial production.

(vii) **Development of the services sector, including industrial support services** such as financial, marketing, maintenance, skills training and management and engineering and sub-contracting services and R&D. An area of cooperation where LDCs could benefit is the free flow of professional services. Compared to the professional services offered by developed countries, the costs of services offered by an LDC expert is relatively low. Also, practitioners who deliver the services are familiar with the particular concerns of LDC consumers, and have close relations with other LDCs arising either from the specific intra-LDC regional cooperation or from cultural or other affinities.

Since the LDCs differ markedly in terms of levels of industry and vary in the extent to which macroeconomic constraints inhibit their manufacturing sectors, it is suggested that the above listed proposals for strengthening manufacturing linkages to economic sectors with the aim of improving economic development should be selectively and flexibly assessed.

4. STIMULATING RURAL SMALL-SCALE INDUSTRIES IN DEVELOPING COUNTRIES

With the majority of the population living in rural areas (see Figure II.2) in most LDCs, rural development forms an important dimension of industrial policy for increasing agricultural and manufactures production. It can also contribute to creating employment, improving the income distribution and reducing rural-urban migration and its unpalatable consequences for both rural and urban economies of LDCs. Closely related to rural industrial development and industrialization in general is indigenous entrepreneurship, the development of which needs to receive priority attention. The low level of industrialization highlights the importance of small and medium industry (SMI) and the need to encourage domestic entrepreneurial activities.

However, rural development programmes do very little to stimulate small-scale industry in LDCs. Either programmes are not well planned or are less integrated to include industry. Among the many issues for attention of LDC governments are the following:

- the effects/weaknesses of prevailing macroeconomic and regulatory frameworks on rural industry and local entrepreneurship;
- the costs and benefits of establishing rural industrial estates or "clusters" of rural enterprises and the extent to which such approach can be promoted;
- the scope and prospects for linkages in rural economies and for sub-contacting between urban small-scale industrial enterprises and rural small-scale enterprises (RSIEs);
- the appropriate policies and measures required to integrate women in rural industry;
- the role of public or private sector information institutions for developing entrepreneurial and management skills, especially in rural areas; and
- the role of Regional Development Corporations in assisting the establishment of new rural industries and the expansion of existing ones.

4.1. Rural small-scale industry in developing countries: concepts and characteristics

4.1.1 Definitions

The categorization of small-scale industrial enterprises (SSIEs) may be based ON employment or capital, but employment is the most common basis for categorizations for

reasons of data availability. The size categories employed vary considerably, but a fairly typical classification would probably consider units employing between 10 and 49 persons as SSIEs. Micro-enterprises (defined as employing less than 10 persons, but usually employing far less than that, as they are often family enterprises) are in most cases considered as a separate category, but SSIE will sometimes encompass this category as well, which in LDCs is by far the most important.

SSIE is generally not the most important category of small-scale (or micro) enterprise, small enterprises in the tertiary sector usually accounting for the majority. This has to be kept in mind when evaluating or establishing support programmes for small-scale enterprise development. Ideally speaking, promotional programmes need be sector-specific, but in some of the smaller LDCs the activities to be supported may not be sufficiently differentiated to warrant such specific programmes.

The focus of discussion here is on rural small-scale enterprises (RSIEs) including micro-enterprises. While the term refers to non-urban location, it has to be recalled that there are interdependencies between town and countryside. SSIEs in urban centres may be of great importance for the development of SSIEs in rural areas and the economy of the surrounding rural areas in general. Attempts to disperse them or to limit promotion to dispersed rural industries may be counterproductive. The important issue here is the geographical scope of rural development programmes - to what extent should they include urban centres?

A UN definition specifies as "rural towns" those with populations up to 20,000 inhabitants, and this has been adopted by others. But a recent UNDP/GON/ILO/UNIDO report¹⁰⁰ also includes bigger towns "if these retain the characteristics of smaller towns". Recent work by UNIDO and other multilateral organizations on such widely divergent countries like Viet Nam, Niger, Nepal and Uganda shows that small enterprises in even relatively large urban centres retain close relationships with the surrounding rural areas, which serve as suppliers of raw materials and markets for part of their output.

The term **agro-allied industry** as used here refers to industries which may be located in rural areas or in towns. RSIE is a sub-category, and refers to industries actually located in rural areas.

Agro-allied industry may be divided into **agro-based industry** and **agro-oriented industry**. The former includes the agricultural processing industries and other forward linkages from agriculture, livestock and fisheries. Forest-based industries are sometimes also included under this heading but should probably be included separately as resource-based industry along with those derived from mining or from quarrying, including the production of bricks and tiles. Agro-oriented industry refers to backward linkages from agriculture, involved in the manufacture of agricultural inputs, such as animal feed or fertilizer, and agricultural implements, including their repair.

With regard to location, even in the case of informal sector micro-enterprises, there is a strong tendency to form clusters or "agglomerations", presumably due to perceived externalities in coming together. Within each agglomeration, subsidiary clusters incorporating several hundred small establishments may be specialized in particular activities, such as metal-working or furniture-making. Thus even in respect of very small enterprises there may be an efficiency

¹⁰⁰ UNDP/GON/ILO/UNIDO, *Development of Rural Small Industrial Enterprises*, Vienna, 1988.

argument favouring location within an urban area, albeit economically interdependent with the surrounding area.

It may be comparatively easy for rural consumers to find their way into towns using fast and cheap local transport. Producing goods at low cost in the most favourable location may help such consumers by turning the rural-urban terms of trade in their favour. In this context the development of appropriate technologies and products for the rural economy may be critical to its growth and agglomerations of micro-enterprises may be, with product development and extension, a useful vehicle for achieving this.

Finally, in many LDCs, African and Asian, households are divided between rural and urban employment, husbands or other members of the family obtaining employment in small and informal sector enterprise in urban areas. This makes the definition of a "rural household" more difficult. In Kenya the proportion of "female-headed rural households" created in this way has recently been estimated as one-third¹⁰¹, and other African countries probably exhibit the same phenomenon to substantial degrees. Thus the promotion of SSI in rural towns may be important in maintaining rural household viability.

In trying to estimate the importance of rural non-farm enterprises, statisticians have collected data relating to rural household income, separating this into farm and non-farm income, the latter derived from non-farm activities. Frequently, confusion arises between "off-farm income" and "non-farm income". While the farmer could include income from wage employment on other people's farms, non-farm income could include only income from self-employment outside farming or wage employment outside agriculture or other primary activity. Non-farm activities are mostly, as already indicated, in trade, services or catering. Manufacturing activities will be smaller components of the total. Non-farm manufacturing employment may consist either of part-time or full-time household or cottage industry, carried on in or near to the household, or of employment in independent small enterprises, located in rural market centres or towns.

There is an element of ambiguity in what is subsumed under the heading of non-farm activities. For example, frequent reference is made to the positive experience of the Grameen Bank in Bangladesh in extending credit for non-farm activities. The activities supported in fact include cow-fattening, fish farming and gardening, which would not fall under this heading. Rural credit institutions targeting female-headed or other poor rural households may well find that these activities do represent the most suitable ones to assist: it is entirely appropriate that such institutions define their goals as aiming to support viable activities, whether farm or non-farm.

General features of rural household industries are limited markets for most products, low costs due to the use of cheap labour and relatively free entry into any activity. Competition is therefore very heavy and returns are low, close to the opportunity cost of labour. These factors make it difficult to formulate proper assistance projects. There is a special need to identify niches in overseas or domestic markets which could offer better returns. The goods for such niches must be suitable for household rather than large-scale production - otherwise, as the example of many LDCs shows, low-cost factory production will become a serious competitor for household production.

¹⁰¹ International Fund for Agricultural Development, Kenya: Report of the Special Programme Identification Mission on Small-Scale Enterprises, Rome, 1990.

Most efforts to formulate proposals for the development of rural, small-scale or cottage/household industry or enterprise as a whole encounter a general lack of the required statistical information. What has been collected often suffers from failure to make or follow clear definitions or distinctions as above, sometimes rendering the data unusable or misleading. Cost limitations lead to limited area coverage. Often, surveys are based on enterprises found at market centres and leave out dispersed rural manufacturing activities, particularly those based on non-agricultural resources. Household enterprises will usually be omitted or seriously underestimated. For these reasons estimates of non-farm employment and income based on household survey data generally diverge from those based on enterprise surveys.

4.1.2 The structural role of rural industry

4.1.2.1 Importance and scale

Comparative data on the role of rural industry from developing countries and LDCs can provide important indications as to the range of options open to the industrial policy-maker. However, given the many categories of non-farm activities, manufacturing and non-manufacturing, rural and urban, small and large scale, household and non-household, just described, it becomes quite difficult to find systematic and unambiguous data detailing the precise quantitative importance of each.

Rural households depend to a very large extent on non-farm as well as farm income. Non-farm income consists of trade, services, including catering, apart from manufacturing activity. Also included is non-farm income obtained outside farming but as a secondary activity. Figures showing the proportion of the labour force engaged outside agriculture as a primary occupation are still significant, between 18 and 33 per cent (see Table IV.1), suggesting proportions of the rural labour force engaged in manufacturing, however, of perhaps 6 to 10 per cent (see Table IV.2). More recent data support this (see Table IV.3). They suggest: 20 to 28 per cent of rural labour force in Africa is engaged in non-farm activities, and 20 to 50 per cent in Asia; and only about 3 to 8 per cent rural labour participation in manufacturing in Africa and 5 to 15 per cent in Asia.

Table IV.1: Percentage of rural labour force with primary employment in rural non-farm activities

Country	Year	Coverage	Percentage of rural labour force primarily employed in non-farm sector
Afghanistan	1971	Male Paktia region	22
Sierra Leone	1976	Male rural	19
Uganda	1967	Four rural villages	20
Colombia	1970	All rural	23
Nigeria	1966	Male 3 district W. State	19
India	1966	All rural	20
Indonesia	1971	All rural	24
Kenya	1970	All rural	28
Iran (Islamic Republic of)	1972	All rural	33
Malaysia	1970	All rural	32
Mexico	1970	All Sinaloa State	23
Pakistan	1970	Punjab only	19
Philippines	1971	All rural	28
Thailand	1970	All rural	18
Venezuela	1969	All rural	27

Source: Chuz and Liedholm, *op cit.*, 1979

Table IV.2: Sectoral composition of rural non-farm employment in selected countries, 1970-75
(Per cent)

Sector	Afghanistan	Sierra Leone	Colombia	India	Republic of Korea	Indonesia	Philippines
	1970	1975	1970	1980	1970	1971	1970
Manufacturing	49	40	33	30	30	29	34
Construction	8	2	8	14	10	5	11
Trade	11	35	10	14	24	34	15
Services	10	23	33	24	20	27	30
Other*	24	-	7	8	7	5	10
Total	100	100	100	100	100	100	100

Source: Chuta and Liedholm, *op. cit.*, 1979.

Note: * Includes utilities, transport and miscellaneous; omits 'other and unknown'.

Table IV.3: Share of rural labour force in manufacturing and non-farm activities, selected countries, 1970-1983/4
(Per cent)

Region, country	Proportion of rural labour force engaged in	
	Manufacturing	Non-farm activities
Africa		
Sierra Leone (1979)	7.9	19.0
Zambia (1980)	2.7	22.3
Kenya (1970)	-	28.0
Asia		
Bangladesh (1983/84)	7.7	33.5
Nepal (1977/78)	14.8	-
India (1981)	6.5	19.0
Indonesia (Java) (1980)	9.5	37.9
Malaysia (1980)	18.5	49.3
Philippines (1983)	7.9	31.9
Sri Lanka (1981)	8.4	45.8
Thailand (1983)	8.4	-
Latin America		
Colombia	7.9	23.0

Sources: Islam, R., *op. cit.*, 1987; Liedholm, C. and Mead, D. C., *op. cit.*, 1986;

Haen, C., *op. cit.*, 1989; and Draft Third Five Year Plan, N.C.D.P., Lusaka, Zambia, 1988.

A striking feature of both urban and rural SSEs, manufacturing and non-manufacturing, is the predominance of micro-enterprises. The recent UNDP/GON/ILO/UNIDO review, commenting on the composition of RSIEs specifically, notes that the "overwhelming bulk of enterprises employ less than 5 persons, with less than 10 per cent in the small industry category, defined here as with 5 to 25 employees"¹⁰². Other evidence¹⁰³ (see Table IV.4) equally show that the bulk of employment is provided either by medium/large firms with 50 or more employees or by micro-enterprises. Evidence from the Middle East is similar.¹⁰⁴

¹⁰² UNDP/GON/ILO/UNIDO, Development of Rural Small Industrial Enterprise, Vienna, 1988.

¹⁰³ Liedholm, C. and Mead, D. C., questionnaire UNIDO/REG., 1987.

¹⁰⁴ UNIDO, Small and medium scale industry in the GCC Region, Vienna, 1990.

4.1.2.2 Efficiency and growth

A feature which has been observed is that employment in the manufacturing micro-enterprises sector expands very largely through an increase in the number of micro-enterprises. They employ no more than 2 or 3 persons and are units of self-employment establishments.¹⁰⁵ An 1980 update of a survey of manufacturing micro-enterprises enumerated in 1974 found that none of the establishments in the villages of Northern Nigeria had expanded at all, 13 per cent of those in rural towns had, and 31 per cent of those in urban centres had taken on more workers. This indicates some growth of firms, but in urban areas only. In Nepal, during the

Table IV.4: Employment in industry by size of firm

Country	Year	GNP per capita (US dollars)*	Employment (Percentages) by size of firm		
			Micro (0 to 10)	Small (10 to 49)	Large (50 and above)
United Republic of Tanzania	1987	280	56	7	37
Zambia	1985	640	83	1	16
Vanuatu	1980	840**	65	36***	..
Colombia	1973	1,480	52	13	35
India	1971	290	42	20	38
Indonesia	1977	580	77	7	16
Kenya	1980	380	48	10	41
Philippines	1974	820	68	8	24

Sources: Liedholm, C. and Mead, D. C., *op. cit.*, 1987; and UNIDO/PPD/IPP/REG, questionnaire.

Notes: * Based on 1982 prices; ** Based on 1988 US dollars; *** All enterprises with more than 10 employees.

1970s, it was actually estimated that the average employment per micro-enterprise had declined, from approximately 3 to 2 persons. But the number of micro-enterprises almost doubled, and their MVA increased by some 78 per cent. The great majority of these enterprises was located in villages or small rural towns.

While the majority of micro-enterprises do not grow in size, small-scale industrial enterprises do exist which have emerged from them. This development is more common in Asia than in Africa (see Table IV.5) - for instance, in India, 66 per cent of a sample of firms employing 11 or more employees evolved from micro-enterprises.¹⁰⁶ In general, LDCs' micro-enterprises show low rates of "graduation" to larger-scale enterprises mainly because of the small size of domestic markets and the acute lack of the technical and managerial qualifications required for larger operations.

In LDCs, where there are often serious obstacles to the development of larger, formal sector manufacturing, informal sector manufacturing is sometimes the major source of MVA growth. It is estimated that the contribution of informal sector manufacturing to GDP in Niger

¹⁰⁵ Liedholm, C. and Parker, J., "Small scale manufacturing growth in Africa: initial evidence", Conference on Policy Approaches towards Technology and Small Enterprise Development, The Hague, Netherlands, 1989.

¹⁰⁶ The average of workers per establishment in "town industries" in rural Thailand averaged 5-7. See Akrasanee, N. et al, Rural Off-Farm Employment in Thailand, Industrial Management Co., Bangkok, September 1983, p. 107; World Bank, Kenya: Industrial Sector policies for Investment and Growth, Report No. 67-11-KE, Washington DC, 1987.

rose from 3 per cent in 1983 to 7 per cent in 1988; growth took the form of an increase of the number of enterprises rather than an increase in the size of individual enterprises. Over the same period, the contribution of formal sector manufacturing to GDP decreased by an annual average of 2 per cent.

Efficiency in RSIE is very difficult to measure, most of these enterprises being unregistered and keeping at best incomplete records. Such information as exists does not allow detailed conclusions on the subject. It is moreover clear that in many countries the survival rate or life-span of these industries is low, many of them disappearing within a few years of having been established.

Table IV.5: Origin of modern small and medium private manufacturing firms*

Region, country	Year	Number of firms in sample	Proportion of firms originating as	
			Micro-firms with less than 10 employees (Per cent)	Firms with 11 or more employees (Per cent)
Africa				
Botswana	1982	20	20.0	80.0
Sierra Leone	1975	42	30.1	69.9
Rwanda	1967	28	10.7	89.3
Nigeria	1985	64	43.7	56.3
Asia				
India	1979	244	65.6	34.4
Philippines	1978	47	48.9	51.1

Source: Ham, C., *op. cit.*, 1989; and Liechwin, C. and Parker, J., *op. cit.*, 1989, p. 28.

Note: * Firms with 11 employees or more.

But there are some indications that RSIEs are efficient in various respects. They - for example metal products and agro-allied industry sub-sectors - often use dispersed or recycled materials that would otherwise be wasted. Such figures as exist on productivity in countries like Nepal, Viet Nam or Niger suggest that in small-scale and informal manufacturing, which strongly overlap with RSIEs, output or MVA per worker are higher than in the larger-scale enterprises. According to ILO figures, the average capital cost of creating an informal sector job in Latin America is usually less than one-tenth of the cost of a job in the formal sector. In contrast, a study on Côte d'Ivoire showed that in 1970 productivity in the informal sector was only one-fourth of productivity in the formal sector.

There is an important issue which needs to be considered in the context of individual countries. Should the main promotional effort be directed towards micro-enterprises or to "modern" small industry, or both, taking into account that the nature of any assistance required in the two cases is likely to be quite different? It is, for instance, recommended for the development of micro-enterprises an "incrementalist" promotional approach, for small enterprises a "business development approach", and for activities at the bottom end of the informal sector a "community development approach".¹⁰⁷

¹⁰⁷ Farbman, M. and Lessik, A., 'The impact of classification on policy' in Gosses, A. et al, *Small-Scale Enterprises in Search of New Dutch Approaches*, The Hague, 1989.

Governments are more likely to associate development with at least minimum-sized firms and thus to concentrate their efforts here, as has certainly been the case: the rate of return to such efforts may be lower, in fact, and some countries, which have experienced this are beginning to re-orient their policies. In LDCs such as Nepal and Bangladesh considerable interest has been directed in recent years towards providing credit for the rural informal sector, as discussed in section 4.4.2.

4.1.2.3 Linkages

An important part of the case for emphasizing rural industries is their potential linkages with each other and with other economic sectors - particularly in comparison with, for example, import-substitution industries. Many rural industries, and other non-farm activities, cater for the local rural population so that, even without direct input-output linkages, they are demand-linked, their level depending directly on the level of agricultural incomes.

As noted previously those with direct input-output linkages with agriculture may be either agro-oriented or agro-based. These can be quite important: in Pakistan, for example, agro-oriented industries, including fertilizers, tractors, agricultural implements, threshers, tubewells and surface pumps, account for 10 per cent of the total value of manufacturing output in 1986-87. Agro-based industries include grain-milling, sugar manufacture, leather tanning, cotton textiles, carpets and rugs, oil, especially cottonseed extraction, fruit processing, beverage-making, fish processing, guar gum and tobacco products,¹⁰⁸ accounting for some 40 per cent of manufacturing output.

In LDCs, agro-based industries usually account for more than 50 per cent of MVA; in some instances, for example, in Nepal more than three-fourths of MVA is provided by agro-based industries. It has to be added, however, that the inputs for these industries often have to be imported. The forward linkages in LDCs are often limited by the low productivity of domestic agriculture. Agro-oriented industries providing inputs and equipment for agriculture are usually of minor importance in these countries, among others because of the weak demand link (low purchasing power) and lack of domestic know-how. Production is usually restricted to the informal sector (blacksmiths producing hoes, sickles, etc.).

Inter-industry linkages are usually almost non-existent in these countries, at least in the formal sector. A 1990 World Bank study on Sub-Saharan Africa¹⁰⁹ concluded that there are few linkages among informal sector enterprises as well, but that linkages between the formal and informal sector do exist, the waste materials of formal sector enterprises being used by the informal sector, and savings from formal sector employment being used to finance informal sector units. While linkages between informal sector firms belonging to different branches may be minimal, those belonging to the same industry often form clusters. With regard to labour, many informal - and especially household - industries provide a linkage between seasonal farm activities.

With regard to backward linkages, differences in rural development are, among others, reflected in the role played by equipment production: a 1977 survey on Kenya showed that only

¹⁰⁸ Choudhury, F. A., *Integrated Agro-Industrial Development in Rural Areas: An Overview*, Centre for Integrated Rural Development for Asia and the Pacific, January 1988.

¹⁰⁹ World Bank, *Sub-Saharan Africa - From Crisis to Sustainable Growth, A Long-Term Perspective Study*, Washington DC, 1989.

1.5 per cent of the rural households was involved in producing tools and in equipment repair. To explain the limited backward linkages, we can refer to the 1981-82 Rural Household Budget Survey, which showed that, for example, only 12 per cent of the households owned a plough. In Asia there is widespread use of, for example, irrigation pumps, while the transport sector, in the form of trucks and buses, is more developed, generating an elaborate network of metal and welding workshops throughout the rural areas, even in LDCs. Thus "in Bangladesh, even in small villages, they employ a remarkable number of lathe machines, drilling bores and electrical welding equipment, representing an enormous potential for further development of small enterprises".¹¹⁰

Summing up, it can be said that forward linkages from agriculture are much more significant in employment and income terms; that non-production linkages from agricultural development (storage, trade and transport) are important; and that backward linkages are important in the development and level of technology in agriculture. Intensive agriculture, with high valued cash crops, is also likely to generate more backward linkages than extensive agriculture with low-valued crops.

Development of rural workshops serving the agriculture, transport or other sectors will in turn be constrained or facilitated by the extent of rural electrification, which must therefore be another significant factor. This can also be decisive in determining the possibility of rural small-scale as opposed to urban large-scale production.

4.2 The effects of macroeconomic policy on rural and small-scale industry

The development of RSIE and industry in general is influenced by the overall policy framework for industrial development, by specific policies for SSIEs/RSIEs and by agricultural policies. Prior to the identification of the key issues which need to be considered for future development of RSIE and the types of RSIE to support, the following paragraphs will highlight specific policies - past and recent - and their implications on RSIEs and rural industry.

In many LDCs, particularly African, the basic industrial development strategy being pursued is one of import-substituting industrialization (ISI). This usually centres upon large-scale capital-intensive industry, often foreign-owned, with imported technologies of a 'turn-key' type. Very often this large-scale manufacturing sector exhibits substantial excess capacity. It can exert influence and pressure to secure protection and other support measures, including duty-free importation of capital goods, privileged access to whatever foreign exchange is available, and artificially low rates of interest on capital. Such industries do not use local materials to the same extent as rural or small scale enterprise. Thus they generate fewer linkages. The adoption of "turn-key" technologies also reduces the possibilities for subcontracting to SSEs.

One effect of the pursuit of ISI has been to produce, in Africa particularly, a bimodal structure in manufacturing with some large modern factories, (albeit with excess capacity) and vast numbers of micro enterprises, and very little in between. This phenomenon has been described as the problem of the "missing middle".

¹¹⁰ Neen, C., *Small scale/micro enterprises and rural non-farm employment in Africa: Options for IFAD's involvement*, Africa Division, IFAD, memo., November 1989, p. 11.

Apart from a general strategy of ISI in many LDCs, most of the major policy instruments favour large- rather than small-scale production. Thus, as a means of stimulating industrial investment, capital goods are frequently importable duty-free, encouraging capital-intensive industry rather than small industry, which is labour-intensive. This also inhibits the development of domestic capital goods production which might well have been small scale and rural-oriented: the production of agricultural equipment and tools, for instance. This makes it difficult to develop progressive linkages between sectors or between large and small enterprises.

Since the second half of the 1980s, there has been a growing awareness of the need to re-orient the basic industrial strategy in many LDCs. The large-scale sector has stagnated as a consequence of limited markets, lack of qualified personnel and a shortage of foreign exchange to purchase inputs, spare parts and equipment, the large-scale sector being extremely import-dependent. In Botswana, for example, the current development plan therefore shifts priorities for the manufacturing sector to processing of local raw materials, together with improved extension services in rural areas and simplified procedures for handling credit applications which among others are intended to stimulate the growth of RSIE. In Nepal, administrative procedures for the establishment of small industries processing local raw materials were abolished.

Tariff policy can have another type of negative impact on RSIE because of the way in which goods are sometimes classified, following conventions that are more appropriate to industrialized countries. Thus, Sierra Leone imposes a 35 per cent tariff on outboard motors and on sewing machines, as though these were consumer goods rather than capital equipment for fishing and tailoring, while Burkina Faso applies a 72 per cent duty on hand tools, under similar assumptions.¹¹¹

Tax policy frequently carries a similar bias through special depreciation provisions which have the effect of subsidizing the cost of capital. Such provisions are common in Africa but are also important in Asian countries such as Thailand and the Philippines. The effects of these measures were reduction in employment of both non-exporting and exporting firms.

This is reinforced again by interest rate policy. Formal sector interest rates in most developing countries are generally fixed at standardized levels within a range of, perhaps, 8-16 per cent, irrespective of the level of inflation or the real scarcity of capital in the economy, as reflected by existing rates in the informal sector. Thus real formal sector interest rates may even be negative and average only 3 per cent compared with real informal sector interest rates of nearly 60 per cent, and over 100 per cent in Africa. Where the rate of interest is maintained at an artificially high level like this the effect will be to produce a dualistic capital market in which bank credit is rationed out amongst large-scale private or public enterprises, leaving rural and other small-scale enterprise to depend entirely on personal savings or expensive informal sources.

Overvalued exchange rates also subsidize capital by cheapening imported capital goods relative to labour. In 1983, out of 28 developing countries, exchange rates were overvalued by

¹¹¹ Haggblade, S., Liedholm, C. and Mead, D. C., "The effect of policy and policy reforms on non-agricultural enterprises and employment in developing countries: a review of past experiences", in *Policy Approaches toward Technology and Small Enterprise Development*, ISS, The Hague, Netherlands, 1989.

10 per cent or more in 22, (18 out of 19 in Africa, the Caribbean and Latin America) and by more than 40 per cent in 8 out of 28.¹¹²

Such rates also discriminate against exports which are generally agricultural or are products of labour-intensive RSIE, including processing. Reduced agricultural growth and incomes will affect demand-linked RSIE and, again, retard the development of other rural linkages. Several country studies of the negative effects of such policies have been carried out, for instance in the United Republic of Tanzania.¹¹³

Where exchange rates are permitted to diverge so sharply from an equilibrium rate the foreign exchange which is available tends to be allocated through administrative channels, inevitably favouring large-scale enterprises, which are more easily able to make application to the Central Bank, as well as parastatals. Micro-enterprises will depend on whatever imported materials percolate downwards through the wholesale and retail trade, and often on recycled materials.

Provision of market information, technical advice and other support and assistance in the establishment and maintenance of an enterprise are also biased in favour of medium or large enterprises. Such assistance, whether from government officials, development agencies or commercial institutions, is generally more readily available to large enterprises in metropolitan areas than to RSIE in the districts.

Large enterprises can more readily afford to invest in research and development, as well as being able to import ready-made technologies. Appropriate technologies for small-scale enterprises can less easily be developed at the level of the enterprise and, while an international "shelf" of possible technological innovations can be drawn upon to some extent, mechanisms do not exist in most developing countries for systematic identification, development and dissemination of appropriate technologies for application in the rural sector.

At the national policy level, statements of intent are often made in support of rural industrialization and small industry development, for instance in development plans, institutions for promotion and various incentive schemes are set up. However, in many cases, these are not effective whether because the institutions lack authority or the incentive schemes are not specific to RSIE and are more readily taken advantage of by larger enterprises. What is important, therefore, is the degree of commitment by government towards creating what has been referred to as an "RSIE-friendly economic environment".¹¹⁴

Much has been done in several Asian countries to provide support to RSIE in the context of overall SSIE schemes. The Indian support system is one of the most comprehensive. It includes concessional finance, technical assistance, training, tax concessions, the provision of industrial estates, government purchasing and sub-contracting schemes. An unusual feature are the reservation schemes, reserving a large number of goods for manufacture by SSIE and micro-entrepreneurs.

¹¹² Haggblade, S. et al, *op. cit.*, 1989.

¹¹³ Stewart, F., 'Macro policy mechanisms: new trends', in Gosses, A., et al, 1989.

¹¹⁴ UNDP/GON/ILO/UNIDO, *Development of Rural Small Industrial Enterprises*, Vienna, 1988.

These programmes have resulted in the creation of a large number of small enterprises, but they have been criticized for being heavily oriented towards urban SSIE, for having caused a proliferation of support agencies and for delaying modernization and increasing costs to consumers by overprotecting traditional industries through the reservation schemes.

The main focus of promotion programmes is usually on supply-side measures, offered singly or as a package. In recent years, partly as a result of unfavourable experiences with many of these components, it has been realized that supply-side measures by themselves may be ineffective unless there are also favourable demand-side conditions and macro-policies that provide an "enabling environment".

If the "enabling environment" is taken in its widest sense, the policies which contribute to agricultural growth acquire great importance.

Agricultural growth can contribute to - among others - RSIE growth in two ways:

- help to improve the flow of inputs to processing units; and
- enlarge the market for producer and consumer goods.

Long-term policies stimulating agricultural growth have been a major factor in the growth of RSIE in China. A recurring theme in these policies is that agriculture must not be seen in isolation of other rural economic activities. The aspect of local processing is thus taken into account when agricultural development policies are formulated.

Independent of the politico-economic system of a country, agricultural development is unlikely to be successful if measures to increase output are not accompanied by a number of other measures, including a redefinition of land rights to encourage small producers, the improvement of education and extension services, physical infrastructure, the provision of credit to small farmers and adequate producer prices.

Structural adjustment programmes (SAPs) generally include exchange rate adjustments, the reduction of protection, deregulation and price liberalization. These measures have several potentially positive consequences for SSIE/RSIE development:

- Exchange rate adjustments will make imports (of inputs, spare parts and equipment) more expensive. Although lower trade barriers will facilitate the flow of imports, large-scale import substituting industries are likely to be affected, which would relatively strengthen the position of industries based on local resources and simple technologies;
- Exchange rate adjustments make exports cheaper. This has among others stimulated rural processing in a number of countries;
- Protective measures have usually been formulated with the large firms in mind. When protection is rationalized, it should become easier for SSIE to compete with large-scale industries;
- Price liberalization has stimulated agriculture, improving the raw material base for RSIE and creating a larger market for producer and consumer goods provided by agro-oriented industries; and

- Deregulation will make it easier to establish new enterprises. SSIE is likely to benefit in particular: complicated administrative procedures have proved a formidable obstacle in many LDCs, as small entrepreneurs often lack the know-how, resources and political connections to tackle these procedures.

It is possible, of course, that protection in a particular LDC has been extended to small-scale enterprise and to cooperative or cottage industry, benefiting also from product reservation policies. These could be adversely affected by requirements to abandon reservation policies and by freer importation of cheap goods from abroad. The increasing prices of crops can also have a negative effect: they do not only stimulate agricultural production, but they also increase the costs of inputs for agro-processing industries. SSIE in this sector, which would mainly operate for the domestic market, will not always be able to pass on the increase in prices to its customers, especially in LDCs with their low income levels. Until overall prosperity levels rise (as they are expected to do as a result of adjustment programmes), such industries may see their sales drastically diminished.

Structural adjustment will often involve a reduction of public spending, with a generally deflationary effect on the economy, curtailment of government activities and reduction of subsidies to parastatals. While the loosening of the hold of large enterprises, including parastatals, on the market may have a positive effect on small enterprise development,¹¹⁵ the reduction of government spending may also mean that credit schemes for SSIE will have to be abolished or reduced. Alternative ways of providing credit to small enterprises may therefore have to be identified.

In general the impact of an SAP in LDCs will depend on the mix of existing policies. Overall, the impact is likely to be favourable for RSIE. In the second half of the 1980s, structural adjustment in the United Republic of Tanzania was reported to have had positive effects as far as small industry is concerned.

4.3 Demand-side measures to promote rural small-scale industrial enterprises (RSIEs)

4.3.1 Product reservation schemes

Product reservation schemes represent a demand-side intervention, in that the available market is specifically set aside for the benefit of the small-scale or household sector. Their use in India for the protection and promotion of such industry has been extensive, and indeed the number of items reserved for small scale industry production in India was considerably increased during the second half of the 1970s. Reservation schemes are uncommon elsewhere and not as extensive if they exist. Pakistan, for example, reserves certain categories of export goods for RSIE.

Such a policy can be supported on income distribution grounds, even at some cost in terms of efficiency, particularly where substantial numbers of people are already dependent for employment or supplementary income on the activities involved. However, in contrast with direct subsidies and even tariff protection, which is not usually absolute and totally exclusive of

¹¹⁵ Teszler, R., 'In search of new approaches, major areas of attention', in Gosses et al., 1989. p. 31.

competition, the absolute exclusion of other enterprise here is artificial. It is likely to prevent organic growth of enterprises which would otherwise have graduated out of the protected category and create a lopsided industrial structure, with very little between the large enterprises at one end and household/cottage workshop enterprises at the other, accentuating the problem of the "missing middle" referred to earlier. Even the social benefit has been questioned in the Indian case, with reference to the textiles, sugar and light engineering industries.¹¹⁶ In general more positive policies towards household industries are needed, based on efficiency and competitiveness.

4.3.2 The encouragement of subcontracting

Another demand-side initiative, more capable of playing a significant role in a dynamic industrial development strategy, is the encouragement of subcontracting, both to household and small-scale industries. It is not, however, a generally applicable promotion measure, its appropriateness depending on local circumstances, the identification of particular products and on the available skills in SSIEs and households.

In the 1980s, a number of Export Processing Villages (EPVs) was set up in Sri Lanka, with the objective of increasing exports through village-based production, directing some of the expected benefits of an export-oriented economy to the village level. This would also increase employment, living standards and productivity and would promote entrepreneurship. The village producers are linked with a larger firm operating in export markets. These firms negotiate orders or contracts with overseas firms and supervises the production. Most of the EPVs are involved in the production of traditional craft products (handloom weaving, etc.) or in processing of local agricultural products. Remuneration is based on piece rates, but villagers also hold shares in the local EPV scheme. Most of the workers are women.

The EPV scheme has a number of shortcomings. Bargaining power of the village workers vis-a-vis the larger firm is usually low. Earnings are also less stable than in traditional cottage industries, as international market fluctuations are directly passed on to the producers. The positive impact is seen in the access of low-income families to an additional source of income. New skills are introduced on a modest scale, as well as the concept of quality

control. The EPVs have also clearly increased the country's foreign exchange earnings and industrial production.

Subcontracting may be helpful to household producers in securing market outlets in urban areas, and even more in securing export markets for their products. Parent firms may have a role, moreover, in product identification or development, identifying products which might sell in overseas markets or new designs which would develop sales.

In some cases it may be useful for households to form themselves into cooperative groups or associations to facilitate dealings with parent firms or communication with extension officers in relation to upgrading production techniques or product design and quality. This has been of great importance in the expansion of Nepal's carpet industry. Often there is large potential but development even for the national market, quite apart from the international one, has been handicapped by poor quality and the absence of approved quality standards.

¹¹⁶ Little, I. M. D., Mazumdar, D. and Page, J. M., *Small Manufacturing Enterprises: A Comparative Study of India and Other Countries*, New York, Oxford University Press, 1989.

Subcontracting by parent firms to independent small-scale enterprises is of a somewhat different nature and is much more extensive, particularly in urban areas. It plays a significant role in several developing countries, for example the garment industry in the Philippines, carpet production in Pakistan, and rattan furniture in Indonesia, all these in rural areas,¹¹⁷ may be cited. This appears to be a potentially quite important mechanism for facilitating the dispersal of suitable industries into the rural areas. It is likely to be dependent upon the existence of good rural infrastructure, particularly roads, without which the costs of decentralized production would be excessive, and electric power (depending on the nature of the production process). Again associations of producers are likely to be helpful, and specifically clusters of producers in one location.

China has gone furthest in organized decentralization of production into the rural areas through the so-called "one dragon" relationship between urban and rural industrial enterprises, where the "head" is located in the city and "body" in rural township enterprises. Here the urban enterprises provide raw materials and product designs to township enterprises within the same sectors, while the latter carry out the required processing against a processing fee.¹¹⁸

4.3.3 Increasing market shares

The stimulation of RSIE product sales can take several forms. Sales promotion is the most common of these, but Government (and sometimes donor) purchasing schemes also play a certain role.

Sales promotion for household/cottage industries has been organized in some Asian LDCs. In the Dhankuta area in Nepal, for example, the Government set up a Cottage Industry and Handicraft Sales Emporium (CIHSE) in the mid-1970s. It mainly focusses on the domestic market for traditional textiles but to a lesser extent it is also involved in the tourist market and in supplying inputs and equipment to RSIE. By the mid-1980s, CIHSE was experiencing stiff competition from textiles imported from India, the People's Republic of China and the Republic of Korea. This points to a need for including quality and design improvements in the marketing efforts, if RSIE are to face competition from mass producers, especially if export markets are targeted. Technical assistance could make an important contribution in this case.

In some countries, cooperative marketing organizations are found as well (Sri Lanka, Indonesia). These have the advantage of involving entrepreneurs more intensively in marketing. Chambers of Commerce may also play a useful role, but on the whole their activities focus on large-scale enterprises rather than on RSIE.

In African LDCs, sales promotion is on the whole less developed. A recent example of efforts to stimulate traditional industries through a different type of sales promotion is the Salon International de l'Artisanat held in Ouagadougou in late 1990. Twenty-six African countries were represented at the Salon; the majority of exhibitors came from LDCs. Its main events were a fashion show (also presented in Paris), an exhibition and a colloquium on crafts and creativity. UNIDO participated in the Salon in the context of its project "Promotion of Traditional Textiles Industry in West African LDCs".

¹¹⁷ Nanjundan, S., 'Should SSE policy be an integral part of overall development policy?', in Gosses et al, *op.cit.*, 1989, p. 54.

¹¹⁸ Choudhury, F. A., *op. cit.*, 1988, p. 51.

In a number of countries, the Government is an important buyer of SSIE products. India provides the most prominent examples. Much of the output of the hand-made paper industry is purchased and used for a variety of special purposes. In the United Republic of Tanzania, schools in rural areas purchase locally-made furniture. Efforts are, moreover, being made in several LDCs to use products of RSIE in the context of multilateral or bilateral assistance projects. One problem is that even when it has been decided that goods could be procured locally, it is common practice to stipulate that these be obtained through the system of competitive bidding, frequently with a minimum of three bids. Such a condition simply excludes large slices of industry in the majority of LDCs. Local sourcing is also discouraged by the practice of combining together sets of equipment requirements into different "packages". Such a practice severely reduces the ability of an LDC supplier to be able to provide all elements in the package, while it is not uncommon for these packages themselves to be procured under international competitive bidding.

Another problem is that aid donors often require relatively large quantities of products with a standardized quality and a fixed delivery date. RSIE, and in particular cottage industry, often cannot meet such demands. In other words, RSIE may not be competitive with large-scale industry. Bilateral donors, especially, will be inclined to rely on products made in their own countries. As in other markets, RSIE will therefore have to identify market niches for its products, and to improve the quality of its products and customer services. This again points to the need for cooperation among RSIE entrepreneurs. On the other hand, donor agencies could make more efforts to identify and use suitable local products. This could be of particular importance in LDCs, where the buying power of donors may be considerable in comparison with the local market.

4.4 Supply-side measures to promote rural small-scale industrial enterprises

4.4.1 Small industry development organizations (SIDOs)

As LDC governments have come to realize the need for some kind of development effort in respect of small scale or rural industry, a number of them have established "general purpose" small industry development organizations (SIDOs) or SMIDAs (small and micro-industry development agencies). They are general purpose in the sense of combining, for example, infrastructural provision through industrial estates, extension and a credit component. Initially, the activities of a number of these agencies sometimes focussed on a single issue, such as the provision of credit or technology consultancy. The complexity of issues related to SSIE development then successively led to an increasing variety of tasks.

While some SIDOs have certainly made some progress, their general performance has been disappointing. The most important reason for this, undoubtedly, is that the macroeconomic framework within which the organizations operate has not been consistent with a strategy in which small industry promotion can play a major role, major incentives and other policy instruments being heavily weighted towards large-scale enterprise. In addition the organizations tend to be centralized and bureaucratic, and to exhibit a strong urban bias, focused as they are at a limited number of points where industrial estates have been established.

A substantial element of subsidy is often involved and the programmes are usually highly dependent on donor funding, with consequent problems of sustainability. They are usually government or parastatal-organized, without direct involvement by commercial banks or

non-governmental organizations, leading on to common difficulties from non-repayment of loans, arising out of the assumption by borrowers that government funds can be treated as grants.¹¹⁹

The conclusion is that a different approach to the establishment and role of SIDOs may be needed. Macroeconomic policies which support the development of small and micro-enterprises are an essential precondition. SIDOs should also reduce the range of their activities, unless they deal with a very limited number of clients (as in some small island states), establishing links with other agencies carrying out specialized tasks such as provision of credit and technology support.

SIDO's would then limit themselves to coordinating the efforts of the relevant specialized agencies, assessing the needs of SSIE to provide a basis for designing support activities, and serving as an information centre for small entrepreneurs which would also provide some basic assistance in administrative matters (which agencies to approach for support, how to complete forms, etc.). Charging a basic fee for these services (as USAID-supported service centres in Haiti do) would reduce the cost to sponsors and would increase cost-consciousness among clients. Finally, there would be the need to involve small entrepreneurs' associations in the establishment and running of SIDOs. This would help to ensure that they remain client-centred and remove entrepreneurs' inhibitions to use their services.

4.4.2 Credit and finance

With regard to credit two questions need to be asked: is credit really a limiting constraint on the growth of small enterprise and, if so, to what extent and in what respects? Secondly, if some credit would be helpful, what is the most effective way of delivering such credit, using existing or new mechanisms?

Factors which suggest that credit is a constraint include, first of all, the fact of almost total dependence of small enterprises, urban and rural, on personal savings (derived usually from agriculture, trade or past wage employment), friends and relatives. In most cases small rural agro-industry establishments are highly dependent on personal savings, credit from friends and relatives and on the informal credit market. Such credit dependence has been reported by UNIDO missions to a number of LDCs in SSA (Niger, United Republic of Tanzania). Working capital constraints limit the level of operation of these small establishments.

Obstacles to the use of commercial bank credit by small establishments are an insistence on collateral or equivalent guarantees; time-consuming and urban-based procedures which are particularly daunting for small enterprises; and perhaps an inherent conservatism on the part of banks, given also the comparative ease of earning bank revenue on large loans. Formal banks have a very limited rural network, especially in African LDCs, as well as highly centralized loan approval procedures.

Industrial Development Banks may be just as biased, or more, towards medium and large enterprises, as recently discovered in an analysis of loan portfolios in the Gulf States.¹²⁰ Experience moreover shows that they may not be appropriate instruments for industrial development in the smaller LDCs where the potential for large or even medium-scale industries is limited.

¹¹⁹ UNDP/GON/ILO/UNIDO, *op. cit.*, 1988, p. xxi.

¹²⁰ UNIDO, *Small and Medium Scale Industry in GCC Region*, Vienna, 1990.

Despite these a priori reasons for supposing that access to credit must be a major problem for small firms, there is need for caution in making this deduction. Government agency efforts to remedy a supposed capital shortage among small enterprises have generally met with poor results, with low loan repayment rates, often due in part to an assumption by loan recipients that there is no real need to repay. In other cases, the agencies have found it difficult to actually fully place their loan funds. This has led a number of observers to conclude that lack of capital is not the main problem. The Nepalese Priority Sector Credit Programme, for example, launched by the national bank, and aiming among others at small rural enterprises, has been confronted with repayment rates which were well below 20 per cent.

An IFAD mission concerned with the development of rural small industry in Kenya observed a substantial net flow of savings from rural to urban areas, based in part on savings societies, which might have been expected to provide loans for rural investment if rural enterprises looking for finance were able to offer a favourable return. This points to the need to assess closely rates of return in the rural industrial activities being promoted in the LDCs. Profits can often be made more rapidly and with greater certainty in urban trading enterprises.

It should not be ignored, either, that part of the reluctance of commercial banks to extend credit to small enterprises reflects a quite appropriate assessment of the real costs of making large numbers of small loans, both basic administration costs per loan and special supervision costs associated with the extra risks of lending to entrepreneurs not well known to the banks and who lack collateral.

Notwithstanding these provisos, there does appear to be scope for a balanced but enterprising approach to the provision of credit and/or finance to small-scale industrialists. Programmes for extending small short-term loans of \$50-150 at market rates of interest to groups and individuals to cover working capital have been successfully implemented by Badan Kredit Kecamatan (BKK), Sub-district Credit Institution in Indonesia and ACCION/AITEC in Latin America.¹²¹ The best known scheme for extending rural credit without insistence upon collateral, to landless householders, particularly women, is the Grameen Bank in Bangladesh.

Some LDCs are examining closely the experience of the Grameen Bank and experimenting with adaptations of the approach. It has to be noted that the circumstances and manner in which this bank was initiated and has been developed are rather particular and also that it has not altogether dealt with the problem of high administrative and supervision costs for small loans. Nevertheless, it is an example which merits study with a view to replication of at least some elements of the approach.

An important ingredient in the Grameen Bank success has been its use of groups (groups of five people, either male or female groups) to serve as mutual guarantors. The group is responsible in case of individual default, thereby reducing supervision costs. This principle could be applied to groups of artisan-entrepreneurs and workshop-enterprises within informal sector manufacturing.

It should be possible also to encourage savings and loan associations (SLAs) or group savings associations, which are widespread, in Africa especially, to become more involved in short loans for business purposes, including manufacturing, rather than consumption loans of various kinds. One form of these is the Rotating Savings and Credit Associations (RoSCAs)

¹²¹ Hean, C., *Small Scale/Micro Enterprises and Rural Non-Farm Employment in Africa: Options for IFAD Involvement*, Africa Division, IFAD, November, mimeo., 1989, p. 24.

in West Africa, in which loans are paid out to each member in turn and which essentially constitute a system of pooled savings. SLAs also reduce lender's risk by selecting only members in which the group has confidence, and could reduce borrowers' transactions costs involved in travel time and loan request preparation. Their potential, particularly in relation to productive investment, has been very largely neglected by researchers and policy-makers.

The relative insignificance of commercial credit and the existence of alternatives to government loan schemes do not mean that commercial banks should not be involved at all. How can they be induced to become involved in lending in a decentralized form? Three approaches may be adopted, singly or in combination. This may result in the following: (a) reducing costs by using NGO's working at the local level as intermediaries identifying and screening clients, (b) increase on bank margins on small/unsecured loans, or provision of special subsidized loan funds for small enterprises, (c) provision of credit guarantees to banks.

Using NGOs as intermediaries has certain advantages. They often have good grass roots contacts, and are not seen as part of the government by prospective clients. On the other hand, their objectives are usually not just economic, and staff may have little experience in economic matters. The fact that they have independent sources of funding may disguise rather than reduce lending costs. Reliance on NGOs thus does not solve all problems, but their involvement can potentially improve the availability of rural credit.

Credit guarantee schemes, in which government or donor funds are used to offer a degree of insurance to commercial banks or other credit agencies, are being introduced in a number of LDCs. An advantage of these is that they involve only "lubricating" commercial lending institutions rather than replacing them in making loans to SSEs, and need only involve actual use of funds to the extent that there is incomplete repayment by clients.

Simply providing guarantees, however, does not deal with the problem of screening clients and of the risks of lending to large numbers of small entrepreneurs; nor does it guarantee, for this reason, that commercial banks will respond to the incentive provided.

4.4.3 Infrastructure

Many small industry promotion programmes, following the pattern of setting aside "industrial areas" for the benefit of larger enterprises, have centred upon the establishment of industrial estates. Because of their locations - unrelated to the distribution of specific resources - they are not obviously suited to agro-industries or resource-based industries generally, except to the extent they provide access to scarce land, power or water supplies.

Nor have they generally been well-designed to meet the needs of micro-enterprises: workshop design has been inappropriately fancy for the needs of the informal sector, leading to unrealistic rent levels; common facilities are often provided with an inappropriate advanced level of equipment, leading to a low degree of utilization; and the estates have often been inappropriately located, ignoring the need for proximity to markets. This was very much the experience in several African LDCs including the United Republic of Tanzania.

What emerges from this is that it is essential to design provision of this type separately to suit each category of industry, for large, medium and micro-enterprises. For micro-enterprises allocation of land for construction of own structures may be appropriate, where land is scarce. Very often there is spontaneous development of 'informal sector' agglomerations of workshops and enterprises of different kinds, and it may be better to improve

services rather than attempt to create estates artificially. The starting point is an existing group of cottage industries engaged in similar production lines which are provided with equipment, inputs, training and marketing services. These schemes usually attempt to involve entrepreneurs on a cooperative basis.

Where small estate facilities are appropriately designed and located to accommodate clusters of "informal sector" manufacturing establishments, a particular advantage which has emerged, in the United Republic of Tanzania for example, is that dealers and other customers come to the cluster to make purchases, attracted by a concentration of workshops providing competition and choice of products. A particular advantage of providing simple accessible premises for rent or progressive purchase is that they directly assist the large proportion of 'open air' establishments and that they are cheap.

Industrial estates are often seen as a means of providing electricity and other infrastructural needs of large or small industry. These are clearly less suitable for rural industry, which is usually dispersed: here rural electrification is clearly important, and particularly important if it is desired to eliminate the special disadvantages which rural industry has compared with urban. The development of metal workshops in rural Asia in particular has been assisted by rural electrification. Even here there are major differences between countries: especially in African LDCs, rural electrification is still uncommon, and probably covers no more than 1 per cent of the households. This reflects low overall population densities and low development levels.

In Asia, there is a high concentration of agro-industries in urban areas¹²². This is partly caused by migration of rural and agro-industry, especially of large enterprises, due to the lack of adequate infrastructure in rural locations. China is taken as a major example of the adoption of a strong, positive strategy in this regard, achieving effective dispersal of industries to rural areas through the development of township enterprises.

4.4.4 Technology

Concerning R&D, it is likely to be very much biased towards, if not limited to, large-scale enterprise. It is clearly important that measures be taken to redress this balance. But the urgency is wider than this, because of the interdependence between agriculture and rural industry development. While the latter is directly dependent upon the level of agricultural development and incomes, the need, particularly as rural population density increases, is in turn to raise agricultural productivity by upgrading rural technologies, with the help of rural industries.

Rural technologies here relate to a number of rural sectors - agriculture and livestock production and processing, energy (e.g. biogas), transport, construction and the production of domestic hardware and other utensils - all of which offer possibilities for rural-based SSI production. The first need is to assess the possibilities existing for the development of appropriate technologies.

While local circumstances and possibilities will vary, there also exists an international "shelf" of appropriate technologies on which it is sensible to draw first. For this purpose a search capability, that is a domestic institutional mechanism, with international back-up, capable of identifying possibilities and testing their relevance and adaptability to local requirements is

¹²² Choudhury, *op. cit.*, 1988, pp. 39-40.

needed. In LDCs there are only a few institutes dealing with appropriate technology and these are often peripheral, for reasons of staffing and finance. This has limited their activity and also resulted in the development of technologies that are unsuitable or outdated by the time they are marketed. In this context, technical cooperation among developing countries (TCDC) could play more prominent role, some of the larger countries having developed a whole range of suitable technologies. Multilateral organizations like UNIDO are already intensively involved in stimulating TCDC, but the technology flows are still predominantly "North-South".

Once the products to be manufactured have been identified, the next task is to secure their effective production. In most countries little or no institutional infrastructure exists for the dissemination of technological knowledge to support small-scale industry production, in contrast with what is attempted towards peasant producers through agricultural extension. There are very few examples of rural industrial extension services.¹²³ What is needed, therefore, is some analogue of the agricultural extension service. As in the case of the latter, of course, it is important that the service has a directly useful, practical "message" to offer. Donor agencies have often filled this role, albeit on a project-by-project basis rather than on a permanent basis. UNIDO, for example has helped to introduce new technologies for clay products in rural areas in several African LDCs. A recent UNDP project has introduced, among others, new types of flour mills and hand tools in the Lao People's Democratic Republic. In Malaysia, the Government's Technology Display and Resource Centre, based in Kuala Lumpur, has had some success in reaching RSIE entrepreneurs by subsidizing technology study tours and by organizing travelling technology exhibitions. These are, however, only temporary and partial solutions.

Subcontracting schemes often have a technology transfer component. The experience in various South Asian countries, however, shows that contracts are frequently not honoured in this respect, the larger companies being insufficiently interested in improving the technological capacity of the smaller partners. Such arrangements can be made to work where there is strong mutual interest, as in the case of a cement factory in Western Sumatra, Indonesia, which became dependent on small metal working enterprises in the area for the production of simple spare parts. It helped these to improve the quality of these products, and there was a spin-off in the form of quality improvements in the agricultural equipment produced by the small enterprises as well.

It has been suggested that a "market approach" to appropriate technology (AT) dissemination be adopted, under which the introduction of new technologies takes place via the producers of the equipment or product.¹²⁴ Small-scale entrepreneurs here are provided with designs and technical assistance during initial production runs, as well as credit, assistance in marketing, etc. This ought to avoid any persistence in "pushing" AT products that, however interesting, are not practical and therefore are non-marketable.

Another issue is the upgrading of technology, in particular in the cottage industry, to allow RSIE to "graduate" to larger scale formal manufacturing where the environment is favourable for RSIE growth. Not all rural industries will have much potential in this respect, and the potential will vary between countries and branches. Occasionally, entrepreneurs are found who are already turning out relatively advanced products. There is a need to carefully study their experience, as it may provide starting point for further development of RSIE.

¹²³ Carr, M., 'Creative donor interventions', in Gosses et al, 1989.

¹²⁴ Haan, C., *op. cit.*, 1989, p. 56.

The manufacture of metal products, especially if linked to agricultural development, appears to be capable of the greatest extension and diversification. Development of furniture making and other forms of carpentry appears closely linked to quality: while rural market demand for rough, low quality furniture may become saturated, improvement in product quality and design can allow enterprises to tap higher income markets otherwise served by urban factory production. This raises the question, again, of training and extension related to improvement of products.

4.4.5 Small producers' associations

Technical extension services using the market approach could be based on clusters of informal sector producers in LDCs. A recent IFAD mission to Kenya has identified these as a potential major vehicle for promotion of the sector. These clusters have spontaneously grown in cities and rural towns in most developing countries, and are very often divided according to particular activities. This is indicative of externalities perceived by small producers, just as externalities lead to concentrations of large industries. Within these clusters, new technologies, production methods, etc., are likely to spread rapidly, which could make them good starting points for attempts to upgrade small industries. From these urban clusters, innovative methods and new products often be expected to "trickle down" to the more dispersed rural producers.

Encouraging associations of entrepreneurs in these clusters can bring significant advantages, some of which are normally available only to large enterprises. These include trade discounts on purchases of materials, bulk orders from wholesalers or from institutional buyers such as schools (a major disadvantage of many small, independent producers is their inability to fulfil such orders on their own, especially of standard design and quality), receipt of subcontracts from large firms, collective savings schemes, and so on.

The existence of such associations is likely to facilitate also the development of apprenticeship schemes; as they can provide training a market environment. With respect to subcontracting information exchanges are likely to be more effectively operated by industry associations than extension agencies.¹²⁵ More generally, they could provide for articulation of the felt needs of small producers, negotiating on infrastructural requirements, licensing arrangements, problems of harassment, and even national policy instruments where large enterprises at present have substantial influence.

Some LDCs such as Mali, Togo and Rwanda have already moved in this direction. In some francophone LDCs in West Africa, for example, *Chambres des Métiers* have been established and projects for the organization of sectoral small producers' groups in Mali, Togo and Rwanda have been initiated, starting with urban areas, in 1982.¹²⁶ In Rwanda 71 grassroots associations had been organized, 8 intermediate trade federations and a confederation (KORA) in the capital, Kigali. These had negotiated for formal recognition, initiated collective savings schemes to provide credit (in Kigali the movement established its own bank), set up raw material schemes and organized training along the lines of established apprenticeship schemes. A 46 per cent increase in incomes among the involved entrepreneurs in Kigali is reported, and among others:

¹²⁵ UNDP/GON/ILO/UNDP, *op. cit.*, 1988, p. xxii.

¹²⁶ Maldonado, C., 'The underdogs of the urban economy join forces - results of an ILO programme in Mali, Rwanda and Togo', *International Labour Review*, 128, 1., 1989.

- the participatory approach has proved more effective than the traditional spoonfeeding methods, not only because its effects are more durable and the activities it launches can be continued by those directly concerned, but also because the cost per beneficiary is lower and hence the returns on investments are higher.¹²⁷

While some intervention may be necessary to stimulate the emergence of SSI associations where no previous organizational basis exists, experience in several Southeast Asian countries shows that organizations must never be imposed on the entrepreneurs, and that they are most likely to be successful if they focus on a narrow range of common, pressing problems, and if the solution of these problems results in clear, tangible advantages to individual members.

4.4.6 Entrepreneurship and training

"Entrepreneurship" may be said to encompass two distinct elements, (a) the ability to perceive profitable business opportunities and (b) the capacity to coordinate and control the work which is being done.¹²⁸ With respect to the first ability, it is doubtful whether this can be 'taught' or in any way developed through training. What is important is to secure the right macro-economic framework or "enabling environment" under which small enterprises can thrive, as already discussed. Identification of product possibilities and their dissemination, particularly through SSE "clusters", represents more direct intervention. This involves entrepreneurs perceiving opportunities through a 'demonstration effect'.

The second element, management skills, can be taught, but many of the successful small entrepreneurs in LDCs have already learned such skills as formal sector employees before setting up their business. Formal management skills, such as bookkeeping, may often not be of much use for the smaller entrepreneurs.¹²⁹ But some kind of formal administration is essential if an RSIE is to grow beyond a point where informal management methods are sufficient - e.g. when an application for bank credit must be made to acquire investment capital. Likewise, to keep abreast of business developments, small entrepreneurs, who may lack other information channels, may need special institutional arrangements to be introduced to new marketing or organizational methods. For this purpose, the Centre National pour le Perfectionnement de la Gestion in Niger employs businessmen to serve as trainers at seminars, to ensure the transfer of up-to-date knowledge and practical skills.

It is often assumed that unemployment in developing countries is the result of education which de-emphasizes practical skills and, conversely, that training in blue-collar skills will lead straightforwardly into opportunities for practicing crafts through self-employment. The UNDP/GON/ILO/UNIDO study observes that training centres have mostly been ineffective as promoters of RSIE and, apart from being urban-oriented, "usually attract, with doubtful results, new entrants rather than those engaged in RSIE".¹³⁰ In Kenya young graduates of

¹²⁷ Maldonado, C., *op. cit.*, p. 82.

¹²⁸ Haan, C., *op. cit.*, 1989, p. 36.

¹²⁹ Harper, M., 'Training and technical assistance for micro-enterprise', paper prepared for the World Conference for Micro-enterprises, 1988; McKenzie, J., "For God's sake, let's stop worrying about bookkeeping", *Appropriate Technology*, 15, 4., 1989.

¹³⁰ UNDP/GON/ILO/UNIDO, *op. cit.*, p. xix.

village polytechnics have actually been found less acceptable to informal sector entrepreneurs as recruits than those without prior training. Rural skills training centres often show over-concentration on one or two blue-collar skills, such as carpentry, leading to local market saturation. Tracer studies of leavers, which would indicate the rates of return attached to such training, are generally scarce. It seems evident that only a minority succeed in achieving effective self-employment in micro-enterprise.

A more effective approach, again, may be to build on what is there, by developing existing informal apprenticeship systems which exist - but are not evenly developed - in all countries and play a key role in skill formation. Evidence shows that the proportions of SSE proprietors who had themselves been apprentices were in Jamaica 78 per cent, Honduras 52 per cent, Egypt 28 per cent, Bangladesh 25 per cent and Sierra Leone 90 per cent.¹³¹ The above does not imply the adequacy of informal apprenticeship systems. Their effectiveness is subject to the limits of what the master craftsman himself knows. Moreover, with apprentices often leaving at the end of the training period, frequently to set up in direct competition with the owner, there are disincentives to the provision of such training which may not be compensated by fees charged.

Both entrepreneurial and apprenticeship training may need to be linked with credit provision for the purchase of relevant equipment or tools. UNIDO, for example, is preparing two pilot projects for SMI entrepreneurship development (in Fiji and Vanuatu) which combine management consultancy with technical advice, training and the provision of serviced workspace. While the centres are to be initially subsidized, they are to become self-supporting as productive capacities develop.

4.4.7 Raw materials

A significant proportion of rural industry in LDCs comprises agro-based or, more broadly, resource-based industry, including those based on forest products. Availability of basic materials may affect RSIE at particular times of the year: for instance, due to seasonalities in agricultural production, "serious constraints are sometimes faced in raw material procurement" by industries which have grown beyond the level of part-time household processing of such crops as may be available for the purpose. While the household industries mainly serve subsistence purpose, and will therefore in general not be growth-oriented, the larger ones are seriously restricted in their expansion if there is no stable growth of agricultural production - and a smoothly functioning trading and storage system for agricultural crops. Both production and commercialization problems in the groundnut sector have, for example, led to severe problems in the vegetable oil industries of several African LDCs. RSIE vulnerability with regard to the supply of agricultural inputs could be reduced in many cases if an umbrella organization - an SSI association or a SIDO - would make assessments of supply needs and constraints and would organize bulk-buying for enterprises processing the same type of inputs.

Depletion of resources can threaten the continued existence of RSIE. This problem is on the whole most obvious in LDCs where the natural environment sets limits to the expansion of production even for subsistence purposes (small island economies, Nepal, Bhutan, the Sahel countries, Yemen), but it is also emerging elsewhere. Indiscriminate felling for wood exports has removed much of the forest in a number of LDCs. While the loss of RSIE income from forest products such as resins would be outweighed by the earnings of the wood industry, the

¹³¹ Fisseha, Y., *The Contribution of the Small-Scale Forest-Based Processing Enterprises to Rural Non-Farm Employment and Income in Selected Developing Countries*, FAO, Rome, 1985.

lack of proper replanting policies have resulted in climatological changes and loss of soil fertility which eventually have a negative impact on crop production, and therefore on the supply of inputs. Sound agricultural policies which are based on the notion of ecologically sustainable development will in the long run also benefit RSIE development.

4.5 Integrated agro-industry initiatives

Some recent studies have argued strongly for an "integrated agro-industrial development" approach.¹³² Like "integrated rural development", this appears tautologically a good thing: "unintegrated rural development", for instance, is not likely to be put forward, one might think, as an alternative strategy.¹³³ The real content of such an approach, therefore, needs to be carefully assessed.

A particular case which is comparatively easy to define and accept is where a new crop or activity is introduced to an area. Here crop production and processing/marketing arrangements may need to be introduced together since, on the one hand, small producers cannot be expected to take up the crop if they do not immediately see where or how it can be processed or marketed and, on the other, processors cannot be expected to invest in productive capacity without reasonable assurances that adequate throughput will be forthcoming.

We may classify differently the case where this kind of integrated approach is applied across the board to a range of crops within an agricultural region. An example is that of the Farmers' Organization Authority (FOA) in Malaysia, based on 202 farmers' cooperatives and 1039 agro-based cooperative societies, "involving a diverse range of activities from crop production to small-scale processing".¹³⁴ Although the FOA was mainly involved in supplying inputs and marketing produce it had success with a limited range of programmes relating to agro-based enterprises. This "brings out the importance of the linkages from production through to processing and distribution necessary to ensure the development of viable small scale enterprises".¹³⁵

A schematic outline of a potential "agro-industrial complex" based on rice (see Figure IV.1) indicates potential linkages, but leaves out the question of economies of scale, size of local markets and other factors determining economic feasibility and which might make production in urban locations preferable, or even production in the industrial countries, which may provide stiff competition from efficient modern plants. What the future shows is that potential linkages of this type need to be closely explored, taking into account existing experience in other countries. How far rural location of linked industries is possible needs to be considered.

The promotion of agro-based industries in rural areas is not well formulated in national development plans of most LDCs. A more positive policy would be the involvement of District

¹³² See various references to publications by the Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP), particularly: Rao, B. S., *Integrated Agro-Industrial Development in Rural Areas: India*, CIRDAP, Dhaka, January 1988; and Choudhury, *op. cit.*, 1988.

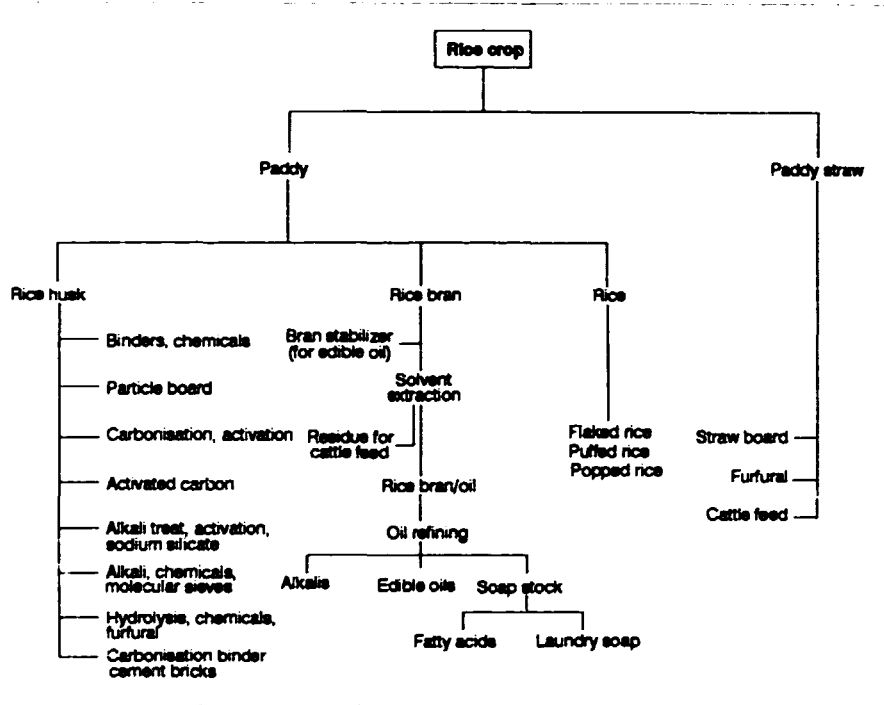
¹³³ see Hirschman, A. O., *The Strategy of Economic Development*, Yale University Press, 1958.

¹³⁴ Choudhury, *op. cit.*, 1988.

¹³⁵ Choudhury, *op. cit.*, 1988, p. 73.

Industries Centres at the district level in the promotion of resource-based agro-industries, supported by District Rural Development Agencies concerned more widely in rural development programmes. A very broad approach has been proposed in the Jacmel zone of Haiti, where RSIE promotion would be part of an overall programme of stimulating agricultural production, improving physical infrastructure (roads, wells, markets) and education. While some basic processing of foodstuffs (maize, cassava) would be a first priority, the more costly projects aiming at wider markets (fruit juice, coffee processing) would only be taken up after improvements in infrastructure and agricultural output.

Figure IV.1: Integrated agro-industrial complex for rice



Source: Rao, B. S., op cit, 1968.

An approach to integrated farming based on one crop is contract farming, in which a central processing plant supplies farmers with seeds and other inputs. By-product industries could be linked to such schemes. Contract farming is gaining in importance, but may not always be suitable for LDCs, unless extension services and infrastructure are provided as well.

In general, a great deal of planning, policy making and promotional effort, whether directed towards agriculture or industry, is based on a horizontal perspective. For example, rural development planning may be decentralized to the district level with district agricultural officers concerned with promoting the full range of crops grown by farmers.

An alternative is the *filière* approach, which takes a "vertical" perspective, following the "thread" or *filière* from the production of basic natural resource inputs through a whole series of possible linked industries. At each link in the chain appropriate policy questions can be posed, such as whether production can best be developed on a small scale or large scale, whether tariffs or taxes bias this choice, whether complementarities (e.g. subcontracting) between large

and small enterprises can be developed, whether urban or rural locations are preferable, whether particular constraints or opportunities exist at specific points, and so on. Possible complementarities between manufacturing and agricultural production - as in contract farming - or natural resource supply are even more obvious.

The filière approach is particularly relevant to resource-based industry by focusing on the availability and production of the basic resource, as in the case of wood supplies. The approach is also more easily tailored to dealing with the basic needs of the mass of rural consumers, unlike an urban-based import-substituting factory which is looked at in isolation.

For example, timber production may lead on to sawmills, rural furniture-making, charcoal making for rural energy, and building poles for rural house construction, as well as a host of other rural producer and consumer items. It may thus form part of a basic needs strategy.

UNIDO is involved in the development of the livestock filière in Niger. Apart from analyzing the three main "sub-filières" - meat, hides and milk products - a preliminary report on the potential of the filière also studies possible complementarities between small scale and modern large scale production, and the role of related industries (animal feed and veterinary drugs).

4.5.1 UNIDO Integrated Programme Approach

The UNIDO Integrated Programme Approach aims at promoting the development of integrated industrial systems. To this end, the application of the programme approach (PA) involves the formulation of integrated sectoral development programmes made up of clusters of projects which are complementary and mutually reinforcing. The programmes are based on national priorities and a systematic analysis of bottlenecks within a given sector or sub-sector. Specialized issues such as energy, the integration of women and environmental considerations is also addressed within the context of the PA.

UNIDO's Programme Development Support Unit (PDSU) was created in February 1989 with the purpose of applying the PA to the formulation of integrated development programmes. Three motives led to the establishment of this unit, namely:

- the growing realization that implementing technical assistance within a programme framework may provide an enhanced opportunity and increase impact of development programmes;
- that the volume of implementation may be increased when working in a programme context; and
- that integrated sectoral programmes would become a key part of country programmes.

The PA is applied at three levels of detail. All three applications aim at the preparation of an integrated industrial development programme or programmes. An integrated development programme contains a set of technical assistance and investment projects for industry as well as policy prescriptions. The three steps in applying the PA involve; firstly, the preparation of an industrial sector typology to identify patterns of sectoral development among large numbers of countries. This permits an assessment of the main bottlenecks and opportunities facing countries with differing patterns of sectoral development. The second step involves preparing an integrated development programme for a country or countries from one or more of the

identified patterns of industrial development. The programme can thus draw on immediately relevant research and also have applicability to other countries sharing the same development pattern. The third step involves the preparation of an integrated programme for one country using the MEPS¹³⁶ industrial simulation model to assess the effects of alternative strategy and programme options. The difference between steps two and three is the level of quantification rather than any change in concept. Each of the three steps complements one another, although each can be applied independently.

The concept which underlies all three applications and which gives an integrated character to the programmes is that of an industrial system. Thus, all work with the PA begins with a disaggregation of the given industrial system. A system's most distinctive processing, production, distributional, commercial, policy or other operations are identified and these are termed system "components". The next step requires an assessment of the constraints which impair the operation of each component, of the linkages existing between components, and of the linkages between components and other areas of the national economy. A quantitative picture is thus obtained of all the constraints which would have to be ameliorated if the system is to be developed as an integrated whole.

Alternative strategy options for the system are next considered. This is necessary because it may not always be economically optimal to seek maximum development of all components of a system or of all the potential linkages in a system. Having considered the strategy options and having related these to on-going activities, government and private sector objectives, a preferred strategy is selected. The integrated programme is then formulated to implement that strategy and will be made up of technical assistance, investments and policies required to simultaneously release all the bottlenecks which hinder the development of the system components. In this way the system is moved in an integrated manner towards the strategy goal.

An industrial system may comprise one or more sectors or sub-sectors. For example, the fertilizer industrial system involves agriculture, mining and even the metalworking sub-sectors. It should thus be emphasized that the resulting development programmes are multi-project packages, frequently addressing problems arising in more than one sector. It may sometimes be required that different technical assistance agencies participate in the implementation of such programmes. In this respect the programmes may also be thought of as providing a framework for coordinating inter-agency cooperation. Similarly, funding of the projects making up the programme may be undertaken by more than one donor.

Due to the quantification involved in assessing the performance of system components, applying the PA at a country level also provides a base line for measuring the impact of a programme. The results of applying the PA in the course of the past year has illustrated in a practical manner the feasibility of obtaining "coherent clusters of projects which are complementary and mutually reinforcing". PDSU is presently finalizing ten integrated development programmes in the agricultural machinery, pesticides, fertilizer and fisheries industries of eight African countries, four of which are LDCs - Central African Republic, Ethiopia, United Republic of Tanzania and Zambia. A further fifteen programmes are in preparation. In all cases local authorities participated directly in the formulation of the programmes.

¹³⁶ MEPS is a tool for the application of the system approach, a methodology for the assessment, programming and management of production and consumption systems.

The PA can respond to the needs of both countries and international agencies. The interest of a member state in applying a programme may be preceded by a UNIDO study at global or regional level identifying countries with similar development options as in the case of the typology study on the fisheries industries of sixty four developing countries. Typology work was also recently carried out for an international agency so as to identify appropriate countries for the receipt of rehabilitation and technical assistance in agro-food industries. A government may request the preparation of an integrated programme at either the second step of the PA or a fully quantitative programme at the third step. Cape Verde is a recent example of the latter where a fully quantitative programme was designed for the agro-food enterprise "Justino Lopez" using the MEPS industrial simulation model. A further example is the use of the MEPS model in programming work on the fisheries industrial system in Namibia being carried out at present.

Application of the PA requires that the sectors to be treated be defined beforehand (the PA does not determine inter-sectoral resource allocation). Sectors to be worked on could be identified during country programming missions or by the government. Given a list of sectors to be considered, the PA could be a valuable tool for country programming work.

4.6 Women in rural small-scale industry

Women play a considerable, usually underestimated role in rural small industry in LDCs. According to rough estimates, RSIE is a supplementary source of income for, on average, some 50 per cent of women engaged in agriculture.¹³⁷ Food processing, garments and crafts (including the production of basic household items such as mats and baskets) are amongst the most common activities. Female non-farm activities overlap very much with household-based enterprise. These are generally traditional activities with low productivity and profitability. This is not to say that they cannot make a very considerable difference to household income: a rural survey of Begumganj, Bangladesh, found that women participating in rural industries received on average an annual income equivalent to US \$237, which compared very favourably with a per capita national income in that year of \$140, while the average monthly expenditure of such households on nutritious food items was very much higher than for other families.¹³⁸

Women are subject to various constraints with regard to remunerated work. In most rural societies, their activities are largely restricted to the household and the plot of family land. This is particularly so in Africa. For instance, hours may be spent in collecting water and fuelwood, tasks which can be alleviated by rural water and energy policies. Appropriate technologies may also be developed to economize time in domestic food processing of cereals and other household activities in order, again, to release time for income-generating activities. Despite the comparative neglect of the field in governments' development plans, a number of significant successes have been achieved.¹³⁹

¹³⁷ UNDP/GON/ILO/UNIDO, *op. cit.*, p. xxii.

¹³⁸ CIRDP, *Role of Women in Rural Industries: Bangladesh and Nepal*, Vol. 1, Introduction and Summary, Vol. 2, Bangladesh, Final Report, Centre for Integrated Rural Development for Asia and the Pacific, January 1988.

¹³⁹ See UNIDO, *Local Production of Appropriate Technology for Rural Women*, Unit for the Integration of Women into Industrial Development, PPD 142 (SPEC), Vienna, November 1989.

While in many cases women's household work and subsistence farming restrict their scope for other activities it is often also considered socially undesirable for women to overstep the boundaries set by traditional roles. Education as well as travelling alone are often out of the question, and the consequent lack of access to markets, sources of non-household skills and education severely limit their participation in industry, unless it is in the traditional cottage industries referred to above. And even within the traditional industries not all branches are open to women - metal-working, for example, is generally "taboo" for women.

A technological constraint affecting women in RSIE is the usually inadequate technology in household manufacturing itself. The two major constraints to increased productivity mentioned by women engaged in rural industries in Begumganj, Bangladesh, in the field survey already referred to were "low level or antiquated technology", cited by 53 per cent and lack of skills/technical knowledge, mentioned by 57 per cent. The next most important being "difficulties in getting raw materials", 14 per cent.¹⁴⁰ Improvement would appear to call for a combination of identification and selection of appropriate technologies, credit or hire purchase facilities for new equipment, perhaps organized through groups, and training where needed.

Absence of technical skills specifically impedes women's entry into some of the more technologically-upgraded activities which might offer more than marginal incomes. Women thus often lose their jobs when technologies are modernized, although this is not just a consequence of their illiteracy or lack of required skills; there is often a subjective factor at play - men are supposed to be "naturally" qualified to handle new technologies, women lack the self-confidence to get acquainted with them. The latter problem is often encountered in training programmes focussing on women.

A related problem is that technological change may lead to the decline of small-scale manufacturing activities in which rural women are traditionally well-represented (e.g. the replacement of traditional pottery and wickerware by metal and plastic products). In Niger, development plans for the livestock *filière* envisage a major expansion of production based on the whole range of animal products (meat, hides, milk). Such plans need to take account of the fact that women are traditionally the makers of milk products and certain leather goods. Attempts need, therefore, to be made to identify niches for their traditional products (assistance could be provided to upgrade their quality) and to integrate women in modernized small-scale production.

Credit constraints, while a common RSIE problem, are more severe for women entrepreneurs, and suggest that a different approach is needed in their case. Since women are more closely tied to household farming activities and involved in selling and service activities, it is appropriate that credit schemes encompass a mix of activities and not be restricted to manufacturing. For the socio-cultural reasons mentioned, women lack freedom in operating independent enterprises and find it more difficult to seek formal credit. Sometimes there is even a legal constraint - women are not always allowed to sign contracts. Women's associations can be valuable here, providing support for initiating and maintaining business activities and for obtaining credit. Credit guarantees may help them to secure working capital and materials from suppliers.

Some women's projects, particularly those for young women, have rather focused on peripheral activities (tie-dye, for example) in some African LDCs. These often provide quite marginal incomes for a comparatively small group of people. It seems much preferable to bring

¹⁴⁰ CIRDP, *op. cit.*, Vol. II, 1988, p. 36.

women entrepreneurs into the 'mainstream' women by adopting major programmes which benefit both men and women, and by adopting women's programmes and measures which benefit women in significant numbers and in significant activities.

One example of a successful project is that of SEWA, the Self-Employed Women's Association, in Ahmedabad, India, although this particular project is urban-based. The association has organized some 25-35,000 poor, urban women in a wide range of occupations as petty vendors and hawkers, labourers, service workers engaged in cleaning and laundry, and also home-based industries: producing cigarettes, incense sticks, snack foods, garments, brooms, etc. The association provides certain services such as credit, training and assistance in marketing, but also serves to articulate the views of women entrepreneurs as a group, in dealing with merchants, the police and municipal authorities, helping to reduce harassment. The project thus covers all types of activities. It follows a target group approach, in order to help a particular group of people. It is participatory. And it brings out the need to influence policies in order to secure the appropriate environment for successful activity. The Indian experience may be well applicable to LDCs, especially the Asian ones.

4.7 Suggestions for the development of rural small-scale industrial enterprises

4.7.1 Overall strategy components

Efforts to promote RSIEs in LDCs are only likely to be successful if the macro-economic framework provides the right "enabling environment" for its development. This would include, among others:

- a shift of priorities away from import-substituting industries based on imported technologies and inputs; and
- the provision of tax incentives, tariff structure and interest rate revisions, etc.

To ensure the implementation of such macro-policies, attention need to be given to strengthening the executive agencies.

The most crucial macro-policy issue, however, is the overall strengthening of the rural economy, paying close attention to the relations between activities, that is, to linkages, as these tend to be particularly weak in LDCs. RSIE programmes need not be conceived in isolation of this overall priority; in many LDCs the sector may moreover be too small to warrant a separate programme. Ensuring the follow-up of donor's rural development programmes (which often stagnate when the donor agency is no longer present) is also essential, as industrial development requires long-term continuity.

Apart from measures to increase farm production through price incentives, rural credit, land reform and the introduction of improved, ecologically sustainable production methods, strengthening the rural economy would include improved education, road and power infrastructure, etc. This would provide a better raw material base for local processing, and would expand the local market for tools and consumer goods produced by RSIE. In areas where the domestic resource base displays sufficient potential, the establishment of integrated agro-industrial complexes, or the establishment of a network of production activities based on the *filière* approach, can be contemplated.

The role played by women in rural development is crucial, but tends to be underestimated. Women, in fact, are responsible for a large part of agricultural output, and are strongly represented in many micro-enterprises in the RSIE category. Policies and measures which do not take into account the specific role, problems and potential of this category of producers are only partly effective in stimulating RSIE growth. There is a need, therefore, to focus such policies on special issues regarding women's involvement in the rural economy, such as:

- reducing household burdens (e.g. by improving local water supply) to increase the time available for remunerative activities;
- improving access to general education and technical training;
- improving access to credit; and
- removing inequalities in legal status that put women on the disadvantaged end.

While a special awareness of the problem of women's participation is essential, and while special measures are needed, the general approach need to be one of "mainstreaming" women's activities rather than treating them as a separate group, as this tends to marginalize them.

In many LDCs, modern small-scale industry is as yet of minor importance in rural areas. It is, therefore, important that policy measures take account of micro/household enterprises, which are usually the most important RSIE category. These enterprises are often subsistence rather than market-oriented, and usually rely on traditional skills and technologies. To enhance their contribution to industrial development in rural areas, special attention must be given to technology and skills upgrading, access to local credit and to energy sources. Assistance would be needed to help identify niches for craft products from household enterprises in international markets; this would also involve measures to increase product quality and design.

Policies promoting RSIE should take into account minimum economic size, infrastructure issues, etc., when considering location issues. While dispersal helps to create local employment and income opportunities and reduces migration to large urban areas, it is often not possible to create viable units larger than micro-enterprises at the village level. For larger units, rural towns may be more appropriate locations. The most effective way to upgrade micro-RSIE enterprises themselves may be by concentrating support efforts on clusters of such units located in urban areas but dependent on markets in and raw materials from the surrounding countryside.

4.7.2 Institutional framework

Given the emphasis on providing a stimulating macroeconomic environment, it is essential to ensure that the relevant ministries (for industry, planning and agriculture) have the capacity to carry out the required economic and policy analysis, are committed to a review of existing policies, and cooperate closely to formulate a set of coherent policies and measures for RSIE. The agencies actually charged with the execution of the policies and measures may also be need to be strengthened.

The requirements with regard to expertise and coordination are even higher if integrated agro-industrial complexes or filières are to be part of a future approach to RSIE development. As the required human resources are usually in short supply in LDCs, technical assistance may be sought to provide short-term expertise and training for national experts.

Institutional arrangements should also include the involvement of RSIE entrepreneurs in policy-making and execution, as an approach to RSIE development. A "top-down" approach is more likely to fail. It is particularly important that the government agencies have a presence in the field, that local coordinators of programmes have autonomy of action and that the agencies co-operate closely with local groups of entrepreneurs. Highly centralized policy execution has proved inefficient in promoting RSIE.

Where there are no local groupings, it should not be attempted to create government-run associations. These tend to be seen by entrepreneurs as representing the government's interest rather than their own. It is usually better to rely on NGOs experienced in grass-roots work. These can offer training, extension services, financial support, marketing, etc., on a group basis, enhancing the interaction between entrepreneurs.

Already existing spontaneous agglomerations or clusters of RSIE producers could be encouraged to interact more intensively. If certain activities for their joint benefit (raw material purchases in bulk, bulk orders for products, collective savings and loan schemes, training schemes, collective subcontracts, etc.) are supported, the entrepreneurs' awareness importance of networks among enterprises - for production, marketing, political or other purposes - could be enhanced.

The experience of most LDCs with general-purpose small industry development organizations (SIDOs) has been negative, as they tend to accumulate too many functions and are usually urban-based, which is a special drawback from RSIE. It has been suggested by many authors that they should concentrate either on coordinating the activities of specialized SSI support agencies, or specialize in a few areas where they have proved their merit. With regard to RSIE, it is important that activities need to be decentralized where this is feasible; decentralization would often involve some re-training of SIDO personnel to increase their understanding of specifically rural problems.

LDCs generally have very little capacity for the development of new technologies, and setting up national R & D centres would usually not be feasible. There is, however, a "shelf" of readily available technologies that are appropriate or can be adapted to the specific needs of RSIE in LDCs. The identification, diffusion and, where needed, adaptation of such technologies could be the task of national technology agencies. These could also monitor improvements of existing technologies resulting from everyday practice in domestic industrial enterprises. International assistance can play a very useful role in the establishment of such agencies.

Although the basis of the system would be a national centre, it could have local agents. These could provide on-the-spot assistance in technology matters to RSIE, in the manner of agricultural extension services. These agencies could work in close co-operation with other agencies involved in RSIE support, and with government bodies involved in the relevant policy issues.

4.7.3 Other key issues

4.7.3.1 Infrastructure

Wherever industrial estates are provided, they have to be designed in a manner to suit the different needs for different kinds of industry. The usual type of estate is unlikely to be suitable for RSIE, as it is usually too remote from these industries' primary markets and sources of supplies; facilities are also likely to be too expensive.

Where spontaneous clusters of small enterprises have emerged, it may be better to improve services to these rather than to create new estates. This reinforcement of evidently viable spontaneous developments has the added advantage of being far less costly to the authorities, and less of a financial burden to the small entrepreneurs. Services can be kept simple: providing some sort of stalls, electricity and water.

For dispersed rural industries, estate-type facilities are obviously not suitable. Here rural electrification is clearly important, particularly if an LDC follows an explicit policy of eliminating the special disadvantages of RSIE in comparison with urban industry.

4.7.3.2 Subcontracting

While subcontracting is not always appropriate, as it depends on a combination of specific factors with regard to products, available skills, etc., it may be helpful to RSIE in securing urban outlets and even export markets. To compensate for the usually weak position of the individual small enterprise vis-a-vis the parent company, it is advisable for the small enterprises to form associations which charge themselves with the dealings with parent companies. Governments would have to provide a clear legal framework for subcontracting arrangements, and ensure that the relevant regulations are complied with.

The development of RSIE can be greatly enhanced by paying special attention to the transfer of technology from the parent firm to the small enterprises. While the RSIE group involved in a particular subcontracting arrangement would have to press for this transfer, and while the contract between the firms would have to specifically stipulate it, the best way to guarantee that the technology of the small enterprises is upgraded is the existence of a strong mutual benefit for both sides involved in the arrangement. Some form of counselling for RSIE may be needed to ensure that they perceive and secure all the benefits from subcontracting.

4.7.3.3 Credit

Credit may not always be an issue in those rural household enterprises whose function is purely to provide a subsistence income, but the fact remains that the absence of credit is a major obstacle to growth of RSIE in LDCs. Given the fact that the formal credit sector is small and not well-adapted to small enterprise, other ways must be sought to provide loans to RSIE.

At the basic level, the encouragement of small savings and loans associations could be contemplated. In a number of LDCs, traditional structures of this kind exist. Their activities could conceivably be expanded to provide modest loans to the smallest RSIE enterprises. The absence of collateral in the usual sense of the word is compensated for by the fact that members know each other well enough to select only borrowers which inspire confidence, and social pressure guarantees the repayment of the loans.

At a more formalized level, cooperative banks can be made a basis for RSIE financing. The Bangladesh Grameen Bank is a successful example of this type of financial organization. Again, formal collateral is not required, being replaced by a system of collective responsibility. This example deserves close study but, as in the case of the savings and loans associations, its applicability depends very much on the existence of a traditional set of values with regard to money lending among the targeted groups.

Where the commercial banking system is sufficiently developed, it could be made to serve RSIE, under certain conditions. Its overhead costs for small loans could be reduced by

involving grass-roots NGOs in local lending; the government (possibly supported by donor agencies) could provide special subsidized loan funds for small enterprises, or credit guarantees. As in the other cases, LDCs would do well to study the experience with various credit schemes in other developing countries before designing their own.

5. TRAINING INDUSTRIAL MANAGERS IN LEAST DEVELOPED COUNTRIES

Generally, LDCs face a severe shortage of the skills necessary for industrial development. In sections 2.3.4.3. and 2.3.6.2 of chapter 2, for example, the need for adequate experienced managers in SSIs and public sector enterprises is found to be crucial, especially in the wake of privatization in many LDCs.

This chapter addresses the issue of HRD in LDCs focusing on industrial management training. It contains: background information to management development programmes (MDPs) and discussions on requirements for industrial management skills; examination of the different groups of potential training candidates and their training needs; analyses of the process of planning, implementing, and evaluating management development programmes and process of management development, starting with the sponsoring organizations and ending with post-training follow-up and; policy recommendations.

Training and education, especially higher education, has in most cases not been sufficient to meet the increasing skill demands of modern industry. Secondary and tertiary education together with vocational training have to be made much more responsive to the demands of industry, especially when future industrial development is to be based increasingly on private sector and small-scale development operating in a more competitive economic environment. In technical education, what is needed is a combination of basic skills and the flexibility to react to the increasing pace of change in industrial technology and structure. For instance, skills in maintenance and production engineering are essential to ensure adjustment capability, reduce spare parts inventories, ensure quality control, etc. Legal and social security frameworks that encourage work mobility and thus skill diffusion and new skill acquisition, are also needed, together with knowledge access. Assessment of human resource requirements is complicated by the fact that official statistics on occupational skill structure by industrial branch are often missing or inadequate. Among the issues in human resource development (HRD) pertaining to industry, the following appear most essential:

- Making improvement and expansion in quality of human resources for industry as integral part of industrial policies.
- How can a conceptual framework of HRD in industry be developed and quantitative/qualitative targets for HRD be set and applied at the macro-level, sectoral level, industrial branch and enterprise levels?
- What form of coordinating mechanisms would bring skill training closer to industry's demand, e.g. through the participation of private sector industrial associations in designing, implementing and monitoring of human resource policies and training programmes?

- What kind of financial measures could facilitate cost sharing of training between industry and government?
- What are the training/retraining priorities in terms of industrial skills and/or occupational categories emerging from rehabilitation and modernization of the public sector?
- How can the perceived need for training of industrial managers be integrated into the restructuring and privatization policies?
- How can training support be made an integral part of financial schemes promoting/assisting small-scale and medium-scale industry in urban and rural areas?
- Making the content of training programmes reflect changing trends in manufacturing production in line with the globalization of international trade and technology development.
- How significant is the impact of technological change in developing countries in terms of labour force restructuring and skill requirements in LDCs?
- How can these requirements be met by dividing areas of responsibility for formal education, vocational training, research and development, and on-the-job training between the public and private sector?
- In what areas of training would subregional and regional cooperation be realistic and most effective?
- How can HRD programmes be made for industry a priority area of international cooperation?
- What type of economic and financial measures would commit foreign investors to technology transfer compatible with national objectives for development of technological capabilities?
- In what way can UNIDO increase and better focus its assistance in the formulation and implementation of a policy framework for integrating HRD into industrial strategies?
- In what areas of industrial and industry-related training can UNIDO's contribution, as compared with other providers of technical assistance, be most effective?
- What role should UNIDO play in coordinating HRD for industry activities within the UN system?

5.1 The need for industrial management training

As the least developed countries are transformed from traditional societies to modern nation states, management of their industrial enterprises in an environment of scarce resources and limited infrastructure is both difficult and critical. For example, an evaluation of 277 development projects in Africa found more than 88 percent encountered human resource management problems,¹⁴¹ and another report identified management problems as the key factor in the failure or unsatisfactory performance of African development projects.¹⁴² Management in industry would be especially important in the LDCs, because their industrial sector is so small by definition, and requires development. Management's importance in the future increases as LDCs adjust to:

- the continuing internationalization of production processes, technology, finance and trade flows with trading blocks such as the EC and US/Canada;
- the need for publicly owned enterprises and utilities to operate in a more competitive environment, become more efficient, operate closer to their capacity, and not be a drain on government funding;
- the perceived need to foster local enterprise ownership and management skills through local entrepreneurship; and
- the coordinated development of rural, industrial and service sectors.

Thus, the issues in management development programme have to relate to different groups of clients operating in different production structures, different geographical locations and at different entry point on the managerial ladder.

Here we concentrate on management development organized and funded by UNIDO and aid donor countries. Three other forms of management development in LDCs need to be acknowledged, although they are not considered in depth in this chapter. These are:

- management degree programmes at institutions of higher education;
- management development of local staff by transnational corporations;
- management development learnt directly as "on-the-job" experience.

By definition, "least developed countries" are the 47 countries identified by the UN (see Box 1). These countries are situated throughout Africa, Asia and the Pacific and Caribbean, and are a heterogeneous group. References to case examples of management development in African LDCs are of particular importance because African LDCs represent more than half the population of LDCs, and the average African LDC's industrial performance has been below that of other LDCs in the 1980s. Nevertheless, references made to other LDCs and the conclusions of this chapter will apply to most LDCs throughout the world.

¹⁴¹ Rosenthal, I., Tuthill, J., Bury, R. and Frazier, M., "Signposts in development management: a computer-based analysis of 277 projects in Africa", Aid Evaluation Occasional Paper No. 10, USAID, Washington DC., 1986.

¹⁴² Youker, R., 'Lessons from evaluations in Africa for external funding bodies', in Davis, J., Easterby-Smith, M., Mann, S. and Tanton, M., eds., *The Challenge to Western Management Development: International Alternatives*, Routledge, London, 1989.

"Management development" is simply defined as promoting the effective pursuit of an organizations' own objectives through changing its manager's attitudes, interpersonal and group behavioural skills, cognitive skills, and knowledge. This definition emphasizes two key concepts. Firstly, the importance of shared values in organizational and management effectiveness, discussed later in section 5.2. Secondly, the definition is not restricted to the manager's knowledge and cognitive skills but includes attitudes and organizational behaviours such as leadership style; thus the definition implies that management development brings about changes in the organization to which the manager belongs.

Also, "management development programmes" (MDPs) are defined as programmes associated with the UN or donor countries which consist of courses presented to participants by trainers; however, the MDP concept is broadened to include planning before and implementation after these courses.

The institutions which control a number of government-owned enterprises are defined here as "development corporations"; examples are the Ethiopian Beverages Corporation, the National Development Corporation in Tanzania and the Botswana Development Corporation.

The rationale for targeting women in management training programmes would need to be appreciated in view of the increasing emphasis on enhancing their potential participation in the industrialization process. This is one of the thematic issues of UNIDO, constituting a special subject of in-depth analysis in a number of reports.¹⁴³

5.2 Requirements for industrial management development

The "grand designs" for development in the 1950s and 1960s have given way to a more tentative approach, for "all the evidence points to the continuing failure of imposed solutions".¹⁴⁴ The quest for more tentative approach to development creates, therefore, an increasing need for appropriate training skills for industrial managers in LDCs. It is a fact that LDCs are heterogeneous, and that precise needs will vary from LDC to LDC depending on its industrial structure, existing knowledge and skills base, socio-cultural conditions and the macroeconomic environment. While a general conception of training needs in LDCs is attempted here, it is similarly important to note that the exact needs for individual LDCs can only be determined through a detailed assessment survey.

Participants in management development programmes could be:

- pre-start up entrepreneurs;
- small enterprise managers;
- large enterprise managers;
 - entry-level managers;
 - middle-level managers;
 - top/senior managers; and
 - development corporation managers.

¹⁴³ Van der Vees, C. and Romijn, H., "Entrepreneurship and Small Enterprise Development for Women in Developing Countries: An agenda of unanswered questions", ILO, Geneva, 1987; Desjardins, C. and Lamy, M., 'Management Training for Women: A Selected and Annotated Bibliography Followed by a Description of Training Programmes', Ecole des Hautes Etudes Commerciales, Affiliée à l'Université de Montréal, 1987; UNIDO, Human Resource Development in the Industrial Sector, Mozambique, ODG.4/GC.3/7q, Vienna, 1989b.

¹⁴⁴ Simpson, E. S., *The Developing World*, Longman Scientific and Technical, London, 1988, p. 328.

The training needs of each of these groups are discussed in turn.

5.2.1 Training needs of pre-start up entrepreneurs

Entrepreneurs who start small businesses promote a more equitable distribution of income and employment opportunities, because small businesses are usually labour-intensive and can be established in non-metropolitan centres.¹⁴⁵ Moreover, it is believed that small businesses require less complex management skills than big businesses and so should be nurtured in areas where management expertise is scarce.

An increasing number of women all over the world are setting up their own micro- or small-scale enterprises. The percentage of women classified as employers and own account workers in the total female employment is highest for African women, 20 per cent, compared to 13 per cent and 15 per cent in Asia and Latin America respectively.¹⁴⁶ The figure may be even higher due to underreporting and differences in defining female self-employment. In addition to the reasons stated above for starting small-scale businesses for women this type of employment is attractive since it can be more flexible, can be run from their homes, and is less restrictive than employment in larger enterprises. This undertaking may also be the last resort to provide them with income in view of the fact that women are twice as likely as men to be unemployed in Africa.¹⁴⁷

Broad programmes to encourage entrepreneurs to start businesses are not required, for the supply of entrepreneurs in response to market growth in developing countries, including LDCs has been elastic,¹⁴⁸ and the recent increase in unemployment of graduates and technically trained people in LDCs will fuel the flow of entrepreneurs (for example, about 40 percent of trained technicians in Djibouti cannot find work) in the formal sector.¹⁴⁹ However, the transition from school to self employment is not an instant and easy process. Maturity, experience, skills and personal savings are important entry requirements into micro- and small enterprises. Although the quality of plans for pre-start up entrepreneurs could be improved through training programmes to enhance entrepreneurship capabilities and confidence building, management training and consultancy programmes, these would not be sufficient.

There is, therefore, the need to coordinate special programmes with other programmes including gender sensitive elements aimed at pre-start up entrepreneurs. This may require coordination of planning, training and access to finance tailored to the needs of society, including the awareness and need to utilize the potential of female entrepreneurship in LDCs. An example of this type of integrated approach is being applied in Scandinavian funded projects of industrial estates in Botswana, Lesotho and Swaziland.

¹⁴⁵ Nelson, R. E., *Small Enterprise development: An Asian Review*, ILO, Geneva, 1981.

¹⁴⁶ ILO, *Role of Employers' Organizations in Promoting Management Development*, Geneva, 1986.

¹⁴⁷ UNIDO, *Human Resources and Industrial Development in Africa*, IPP/REG., Draft Report, 1991b.

¹⁴⁸ Nanjunden, S., *Small and Medium Enterprises - Some Basic Development Issues*, UNIDO, Vienna, 1986.

¹⁴⁹ UNIDO, *op. cit.*, 1991b.

These estates are important since small enterprises grow into medium-scale and large-scale ones and need to be run by private developers or cooperatives rather than by governments.¹⁵⁰ Without this integration, entrepreneurship will be hampered by limited capital and limited business experience, resulting in "entrepreneurial participation restricted to technologically simple small-scale ventures at the periphery of the commercial sector".

But even integrated, multidisciplinary industrial estate programmes will always be of limited effectiveness, especially in rural areas where industrial estates have a poor record.¹⁵¹ So a broader approach to the volume of training required in LDCs would be to include entrepreneurship training in apprenticeship institutions and in primary and secondary school curricula and to give emphasis to the elimination of sex discrimination in training programmes.

This broad approach would influence pre-start up entrepreneurs in the informal as well as the formal sector. Small enterprises in the informal sector are not subject to formal rules of contract, licenses, taxation, inspection, etc., and mostly provide services rather than industrial products.

The informal sector can be an important breeding ground for entrepreneurs who later join the formal industrial sector. Moreover, the informal sector is growing in importance as the government sector in many LDCs contracts under fiscal pressures, and as governments loosen controls on entrepreneurship (such as controls on prices, private ownership and trade) as the negative effects of those controls on economic growth have become obvious.

The founders of enterprises in the informal sector usually acquire their training through on-the-job training or apprenticeships, mostly in small-scale businesses owned by the nuclear or extended family, before setting up their low-cost, easy-to-enter industry. This type of training may also be the only opportunity for majority of women to acquire skills apart from those acquired in the household.

Legislation aimed at promotion of management components into apprenticeship training or secondary and trade school courses, would be of great benefit to this category of potential entrepreneurs in the LDCs. This type of legislation is especially important in LDCs, because there are so few industrial enterprises in which entrepreneurs can acquire their training.

5.2.2 Training needs of small enterprise managers

After start up, small-scale enterprise management development undergoes a transition from planning to management stage. A survey in Malawi, for example, showed that the dearth of entrepreneurial and management capabilities were the main constraints to expansion of small and medium-size enterprises.¹⁵² Although adequate data about training needs of small-scale business entrepreneurs are lacking¹⁵³, it can be conceived, however, that after start up,

¹⁵⁰ Nanjundan, S., *op. cit.*, 1986.

¹⁵¹ UNDP/Government of the Netherlands, /ILC/UNIDO, *Development of Rural Small Industrial Enterprises*, Vienna, 1988.

¹⁵² U.S.A.I.D/Malawi, *New Directions for Promoting Small and Medium Scale Enterprise in Malawi: Constraints and Projects for Growth, Rural enterprise and Agrobusiness Development Institutions Project*, 1987.

¹⁵³ Nelson, R. E., *op. cit.*, 1981.

managers of small-size enterprises must gain confidence in dealing with formal and informal funding sources, and in taking advantage of existing technical assistance and training schemes.¹⁵⁴

In addition, managers who own small enterprises need information about the following¹⁵⁵:

- meeting government and big business tenders;
- exporting;
- management skills such as planning product development, inventory and stock control;
- costing and pricing; and
- credit applications.

A manager who owns a small enterprise has little time for training. One definition of a small business is "an enterprise which is in trouble if the manager is sick", because the manager makes all the management decisions without the help of internal specialists available to big business managers. In addition to having to work long hours, managers who own small enterprises, especially in rural areas, may have difficulty travelling to the venue of the training programme. Training of managers of small enterprises would, therefore, have to be brief and out of work hours, practical, and problem- and industry-specific. It would be advantageous if amongst trainers are practitioners who are successful small enterprise managers and trade associations executives who are in addition sensitized to gender issues.

Again, the lack of infrastructure in LDCs suggests a training programme that is coordinated with finance and extension services, in a "single window" approach; else, the training may not be implemented.¹⁵⁶ That is, management development needs to be integrated into a whole range of measures, such as appropriate fiscal and credit policies, including the promotion of subcontracting networks and arrangements for local small enterprises in place of imports, and legislation to protect private investment, designed to assist small-size enterprises.

Managers who own rural small industrial enterprises (RSIE) have special requirements. They deserve special attention due to their dominant position in the industrial structure in LDCs, their increasing importance in providing alternative means of employment to agriculture, and potential for facilitating urban-rural and agriculture-industry linkages. Comprehensive evaluation of technical assistance provided to RSIE carried out by UNDP, ILO and UNIDO arrived at the following characterization of entrepreneurs in this sector:

Most RSIEs are privately-owned, mostly the proprietors are family members, workers who are members of the family form the largest component of the labour force, and the labour force are part-time or seasonal. While sources of entrepreneurship for RSIEs vary among countries and at different levels of development, in general it is the farmer or family member who turns to RSIE from a part-time to a full-time occupation. He obtains informal on-the-job apprenticeship training in a craft or trade, and either joins the unit which trains him or starts on his own. Most women

¹⁵⁴ Farberin, T. I. J., ed., *op. cit.*, 1988.

¹⁵⁵ Nelson, R. E., *op. cit.*, 1981.

¹⁵⁶ UNDP/Government of the Netherlands/ILO/UNIDO, *op. cit.*, 1988, p.73.

entrepreneurs, who originate from the farming sector tend to concentrate on handicrafts, garment and food related industries.¹⁵⁷

Given the intensely local and decentralized nature of RSIEs including variety of activities, management development programmes need to be community-based and multidisciplinary. They are usually directed at already operating RSIEs and trainees who already have "some technical knowledge and enterprise experience and are able to build further on that base".¹⁵⁸

Thus the key to the success of RSIE management development organizations are local presence and market awareness. It is a two-way process: local organizations are more aware of RSIEs and are financially dependent on them, and the managers who own RSIE are willing to approach the non-bureaucratic and local organizations. In brief, RSIE management development activity must:¹⁵⁹

- have strong field links;
- be based on local presence and autonomy of presence; and
- be technically competent.

Management development has been a low priority for RSIEs and for small enterprises in towns. The First Consultation on Small- and Medium-Scale Enterprises including Cooperatives made only one reference to its importance.¹⁶⁰

In brief, small-scale enterprises are important elements of LDC development, but the special characteristics of their managers make their development difficult, such as the demands on their time, unawareness of the need for management training and location away from training facilities.

5.2.3 Training needs of managers in larger enterprises

The focus of management development in large-scale enterprises here is on middle and senior level managerial requirements. However, the importance of efforts to include 'blue collar' workers into management development programmes is recognized as the new trends of production technologies indicate the move from low skill assembly line production to high skill group work. Changing style of management from hierarchical to participatory style drawing on tacit skills of workers is implicit in the concept of Total Quality Management (TQM) discussed in section 5.2.3.3.

Broadening of the recruitment base for future managers in larger enterprises need to be part of the overall strategy for effective utilization of human resources. In this respect women's potential has neither been tapped nor fully recognized. Thus concentrated efforts are needed to ensure that women are also given an equal consideration for managerial posts and access to managerial training.

¹⁵⁷ Ibid., pp. 26-27.

¹⁵⁸ Ibid., p. 75.

¹⁵⁹ Ibid., p. 129.

¹⁶⁰ UNIDO, First Consultation on Small- and Medium-Scale Enterprise Including Co-operatives, ID/WG.492/9, Vienna, 1989a, p. 26.

5.2.3.1 Knowledge and cognitive skills requirements of managers

The knowledge and cognitive skills requirements of industrial managers are possibly similar in most countries. For example, any industrial establishment requires accounting information, appropriate inventory systems, production plans and market forecasts. Managers in LDC enterprises certainly need these basic management skills and knowledge. For example, a UNIDO study of Liberia found that "management, training and information systems are generally inadequate for routine tasks such as accounting, administration, inventory, purchases and sales".¹⁶¹

So knowledge and cognitive skills for basic functions such as these can and should be transferred from developed countries to LDCs using successful procedures such as **Flexible Learning Packages (FLPs)**.

The transfer of technology- and equipment-related knowledge and cognitive skills makes it essential that contractual or legal requirements for associated management development are linked with government and private sector development projects. Moreover, if a multinational buys a privatized enterprise in an LDC, its development of that enterprise would have to be linked to appropriate management development.

One area of knowledge and cognitive skills which may be particularly appropriate for LDCs is marketing. Government controls have often meant that managers in industry have produced to meet government directives rather than market demand. As government controls are lessened, managers need to understand the need for market research and product design/quality, and matching supply with demand in a competitive market.

A survey of 64 managers in developing countries noted the importance of managerial skills/techniques transferred to their work, and rated hierarchically the following:¹⁶²

- internal/organizational skills;
- export marketing and marketing research;
- functional area skills;
- planning, policy formulation and strategic decision making; and
- product cost accounting and pricing.

5.2.3.2 Behavioural skills and attitudes requirements of managers

The knowledge and cognitive skills noted above are of course necessary for industrial effectiveness, but they are nearly as important as behavioural skills and attitudes. What do managers in these enterprises do? In contrast to the essentially solitary management work of entrepreneurs, managers of large-scale enterprises work with other managers who are senior or junior to them, and must delegate much of the basic work done by entrepreneurs. That is, management is a social process. Having knowledge and cognitive skills is one thing, applying them within an organization is another.

¹⁶¹ UNIDO, *The Regeneration of Liberian Manufacturing Industry with Emphasis on Agro-based Industries*, PPD/R.23, Vienna, 1989d, p. 17.

¹⁶² Yavas, U. and Cavusgil, S. T., *Management know-how transfer in developing countries: efficacy of specialized training courses*, *Management International Review*, vol. 29, No. 3, 1989, pp. 72-80.

Research in developed countries has demonstrated that the training programmes for managers of large-scale enterprises need of course to be related to knowledge and cognitive skill training. Besides that, equal importance has to be assigned to attitudes and behavioural skills. Cognitive skills and knowledge are not the most important aspects of managerial work, despite the emphasis placed on them in most management development programmes.¹⁶³ Typical results emerging from the researches on middle and senior managers include the following finding:

Important as it may seem, education in the enterprise side of management-financial systems, marketing techniques, production methods, and the like - plays a relatively small role in the executive's ongoing development. Rather, the greatest emphasis is on communication skills, delegation, respect for others, decision making, and self-discipline.¹⁶⁴

Results of research about senior and top management, are similar:

They need the skills to manage people, and to manage the relationship between their units and the political and social environment. As a base-line requirement [only] they must also have conceptual and analytical skills.¹⁶⁵

The research above referred to managers in the United States, the United Kingdom and Australia, but there should be no presumption that the situation in LDCs is different. For example, a UNIDO report describes how frustrated managers in Mozambique were that their functional skills could not be applied at work because of "organizational problems" such as a lack of simple controls for variables such as costs and turnover, lack of maintenance, and poor quality raw materials; the managers were most interested in how to overcome these problems.¹⁶⁶ It has to be noted that the "organizational problems" are not just internal, as in developed countries. In developed countries, governments usually have mainly a regulatory function. But in LDCs, governments have far more influence over an enterprises' operations, and so training in establishing and maintaining relationships with governments and suppliers is important.¹⁶⁷

For example, a list of senior management concerns gleaned from managers themselves in LDCs such as the United Republic of Tanzania and Sudan are as follows:

¹⁶³ Buryone, J. G. and Stuart, R., 'The nature, use and acquisition of managerial skills and other attributes', *Personnel Review*, vol. 5, no. 4, 1976, pp. 19-29; Everts, H. F., 'The competency programme of the American Management Association', *Industrial and Commercial Training*, vol. 19, no. 1, 1987, pp.3-7; Knibbs, J., Morgan, S. and Toone, R., 'Dissonant views of the manager's role: management development implications', *Journal of European Industry Training*, vol. 9, no. 3, 1985, pp. 20-22; Cunningham, B. and Trevor-Roberts, B., 'Educating general managers for tomorrow: have we got it right?', *Business Education*, vol. 7, no. 4, 1986, pp. 37-47; Margerison, C. and Kakabadse, A., 'How American chief executives succeed - implications for developing high-potential employees', *American Management Association*, Survey Report, 1984; Dakin, S. R. and Hamilton, R. T., 'The development of general managers: some New Zealand evidence', *Management Decision*, vol. 23, no. 4, 1985, pp. 28-34.

¹⁶⁴ Margerison, C. and Kakabadse, A., *op. cit.*, 1984, p. 30.

¹⁶⁵ Limerick, D., Cunningham, B. and Trevor-Roberts, B., *Frontiers of Excellence*, Australian Institute of Management, Brisbane, 1984, p. 33.

¹⁶⁶ UNIDO, *op. cit.*, 1989b.

¹⁶⁷ Safavi, F., 'A model of management education in Africa', *Academy of Management Review*, vol. 6, no. 2, 1981, pp. 319-331.

- getting organized and becoming more effective;
- time management and delegation;
- being more assertive;
- working effectively in management teams;
- being more involved in the overall training process and not leaving it all to the training department;
- the notion that marketing is a common issue;
- selling skills; and
- customer service and customer awareness.

The emphasis on internal/organizational skills is reinforced in a survey of 152 Malawi managers, which found that managers need to operate within collectivist organizations that emphasize relationships and accumulated power rather than performance.¹⁶⁸

The importance of "political" internal/organizational skills in LDC management development is also confirmed by a survey of managers in 67 countries.¹⁶⁹ The major findings were that countries with low GDP per capita had a culture with high levels of Collectivism and low levels of Individualism (Collectivism measures a preference for a tightly knit social framework based on interdependent responsibilities, and Individualism measures a preference for people taking care of themselves and their immediate families only).

Countries with low GDP also had a culture with high Power Distances rather than small Power Distances (Power Distance measures the degree of acceptance of unequal distribution of power in an organization). Due to their heterogeneity, levels of Collectivism and Power Distance will vary from LDC to LDC. However, by definition, LDCs have low GDPs and limited exposure to industrialization. Thus average LDC levels of Collectivism and Power Distance would be higher than the averages of developing and developed countries. Thus, the above findings seems to be of special relevance to management development in LDCs (Hereafter, the term "collectivist" will refer to high levels of Collectivism and Power Distance).

This collectivist nature of organization culture in LDCs is crucial to understanding the development of their managers, and so deserves closer examination.

In LDCs, moral responsibilities to others are more important than self-actualization. Children grow up in a society where work and extended family lives are highly linked. Thus enterprises are expected to provide more than wages. Compensation packages includes allowances or benefits for housing, transport and so on.

The importance of these social relationships in LDCs nurtures social mechanisms based on prestige, hierarchy and status rather than individual performance, with problems dealt with by custom or consensus. Consequently, managers have a relatively paternal style of relationship based on a concern for the network of people for whom they are responsible, and workers have a deferential attitude to managers and do not seek to show initiative.

This collectivist culture of LDCs is no more irrational than the individualist culture of most developed countries. LDC societies usually have a turbulent past and may have a turbulent

¹⁶⁸ Jones, M., 'Management development: an African focus', *International Studies in Management and Organization*, vol. 19, no. 1, 1989, pp. 74-90.

¹⁶⁹ Hofstede, G., *Culture and Management Development*, ILO, Geneva, 1980.

future, and resources are scarce. The group-centeredness of these societies offers "the individual identity, insurance and social security and community refuge".¹⁷⁰

Collectivism explains four characteristics of management in LDCs. Firstly, management techniques based on an individual manager's efforts may be inappropriate. For example, techniques such as management by objectives and performance appraisal based on individuals have been found to be ineffective.¹⁷¹

The second implication of LDC collectivism is that workers may expect the enterprise to provide continuing benefits to the worker and his extended family, and the expected continuation of existing personal inter-relationships throughout the enterprise results in a concern for status and rituals rather than professional or technical qualifications.

Thirdly, the difference between LDCs and Western countries which arises from the LDC's collectivist culture is that enterprises in LDCs are typically more centralized and authoritarian than in the Western countries. But there are no cogent reasons to suggest that MDPs should try to alter this aspect of enterprise culture of LDCs. Research in developed countries does not conclude that more decentralized enterprises achieve superior organizational performance.¹⁷²

The fourth characteristic of LDC collectivism relates to different manifestations of collectivism in relationships between managers and workers, and among the managerial hierarchy. There are indications that workers do not cherish the values of participatory management such as "creativity" and "independence"; instead, they value "security", "economic returns" and "relationship with the boss". Probably, this is due to the fact that workers are so poor that lower-order, physiological needs must be met before higher-order needs the basis of Western management, are addressed.

On the other hand the managers themselves prefer that their own senior managers become less collectivist and directive in their dealings with them. In contrast to workers, the managers' higher-level needs should be addressed because their lower-level needs are being met. For example, managers in Malawi expressed dissatisfaction with their superiors' authoritarianism, and wanted more opportunities for their own input into managerial decision and action.¹⁷³ Also, the conclusion of a study on several African countries including LDCs was that many managers were "disenchanted" with the way their enterprises were run by senior managers and were frustrated by the red tape involved.¹⁷⁴ The major implication of this finding is that collectivist values need not be altered for management's dealings with workers, but have to be reconsidered for senior management's dealings with other managers.

¹⁷⁰ Safavi, F. and Tweddell, C. E., 'Attributes of success in African management development programmes: concepts and applications', *Journal of Management Development*, 1990, vol. 9, no. 6, p. 58.

¹⁷¹ Jones, M., *op. cit.*, 1989; Seddon, J., 'Assumptions, culture and performance appraisal', *Journal of Management Development*, vol. 6, no. 3, 1987, pp. 47-57.

¹⁷² Mansfield, R. and Alan, K., "Decentralization, management development and organizational performance in a developing country", *Personnel Review*, vol. 14, no. 3, 1985, pp. 33-38.

¹⁷³ Jones, M., *op. cit.*, 1989.

¹⁷⁴ Safavi, F., *op. cit.*, 1981.

In summary it can be concluded that Western managers' behavioural skills and attitudes which were developed in more decentralized and democratic cultures must be modified and transferred with care before being incorporated into LDCs management development programmes.

5.2.3.3 Training needs from an organizational perspective

The above picture of managers' internal/organizational concerns has been derived from managers themselves - their needs for getting ahead in their organizations. But collectivist managers could conceivably pursue goals of status and prestige at the expense of economic performance of their organization. Consequently the next question to be addressed in the search for training needs of LDC managers is: What are the characteristics of economically successful organizations?

Research in developed countries in the 1970s and 1980s suggests that there are no definitive management practices and techniques which characterize excellent enterprises.¹⁷⁵ What distinguishes excellent enterprises from others is a distinctive set of shared values as summarized below:

"We would all like to see some definitive answers about what types of organizations and processes work. However, if you emphasize what it takes to knit the elements together rather than the design of the individual elements, you begin to understand what really makes a difference...vision and leadership".¹⁷⁶

"Two crucial facts arise in all studies of the world's most successful manufacturers. First, the companies that have developed and implemented the most effective manufacturing strategies are those characterized by a strongly held set of values and beliefs, i.e. a corporate philosophy. This philosophy or spirit permeates the business from the top floor to the shop floor".¹⁷⁷

Until demonstrated otherwise, it would be safe to assume that the findings also apply in LDCs. This finding has implications for training of top/senior managers because they must be promoters and protectors of the values of their own organization, and ensure they understand the linkage between:

- culture;
- organizational structure;
- production strategy; and
- customers service.

Often, only Managing Directors (MDs) or their equivalents are aware of these interdependencies for the whole organization. These MDs are "battled away at the interface

¹⁷⁵ Pascale, R. and Athos, A., *The Art of Japanese Management: Applications for American Executives*, Harper and Row, New York, 1981; Deal, T. E. and Kennedy, A. A., *Corporate Cultures*, Addison-Wesley, Reading, Massachusetts, 1982; Peters, T. J. and Waterman, R. J., *In Search of Excellence*, Harper and Row, Sydney, 1984; Gluck, F. W., 'Vision and Leadership', *Interfaces*, January-February, vol. 14, no. 1, 1984, pp. 10-18; Limerick et al, *op. cit.*, 1984.

¹⁷⁶ Gluck, F. W., *op. cit.*, 1984, p. 11.

¹⁷⁷ Hoge, E. C., *The Spirit of Manufacturing Excellence*, Ernst and Whinney, New York, 1988, p. 2.

between their strategies, structures and cultures"¹⁷⁸ but the managers below them apparently were unable to inter-relate their organization's strategy, structures and cultures in any consistent manner.

This finding re-echoes the importance of shared values concept which reinforces the value of the **Planning for Improved Enterprise Performance (PIP)** programme which has been used by the ILO and other organizations in hundreds of enterprises, projects and programmes in scores of countries for organizational development within an enterprise.¹⁷⁹ PIP is a series of senior management workshops, using worksheets to lead the team through problem identification and analysis, objective setting, plan formulation and implementation. The worksheets and procedures ideally are used over and over as senior management group of an enterprise continuously learns to align to the organization with its environment to fulfil its own vision. In this context the training needs of middle and senior management in LDCs are broadly similar to those of managers in developed countries.

Concentrating on the differences noted above, some observers suggest that a completely **new approach to management and management development** is required. It is suggested African managers develop their own indigenous management ideas and techniques for their own socio-cultural environment.¹⁸⁰ Similarly, emphasis need to be placed on training outside formal MDPs, because there is a drastic need for reconceptualization of management and MDPs.

However, management in collectivist organizations has already been conceptualized and implemented in the **"total quality management" (TQM) approach** (sometimes called the TQC movement) which has been implemented in many industrial organizations in several countries. TQM principles were developed in collectivist Japan but have been adopted in the individualistic United States, the EC and Australia. For example, productivity of Japanese-owned automobile plants in the United States is as high as their plants in Japan, even though the workforces are supposed to have different cultures. Thus, evidence is clear that TQM principles are not Japanese culture-bound¹⁸¹ and can be adopted in other countries including the LDCs. Indeed, TQM principles would 'fit' the culture of LDCs extraordinarily well, with their emphasis on workgroups, relationships between members of workgroups and between workgroups, organizational cohesion and consensus, and management responsibility for systemic causes of errors. It is important in this context to include women blue collar workers in this sphere.

Unfortunately, no trials of TQM in LDCs have been reported, even though TQM principles would appear to be the ideal conceptual framework for meeting managers' and organizational concerns identified above. Thus, study tours of LDC managers to collectivist countries such as Japan which have adopted TQM may be useful.

¹⁷⁸ Limerick, D. et al, 1984, p. 13.

¹⁷⁹ Abrahamson, R. and Halset, W., *Planning for Improved Enterprise Performance*, Management Development Series 15, ILO, Geneva, 1979.

¹⁸⁰ Jones, M., *op. cit.*, 1989.

¹⁸¹ Jain, S. K., *Management Education to the End of the Century: The Asian Scene*, ILO, Geneva, 1984.

5.2.4 Training needs of managers of development corporations

Section 5.2.3 above discussed training needs for middle and senior managers of enterprises. But training needs of one more level of management need to be considered. In many LDCs, governments own many enterprises and control them in a bureaucratic fashion which does not promote efficient and effective use of resources. Even if middle and senior managers manage an enterprise which has a strong and distinct vision, their effectiveness may be limited if the structures and control systems imposed upon the enterprise by its government-owned development corporation do not support economic development. Thus management of these corporations must also be restructured and developed.

A case study from the United Republic of Tanzania illustrates the importance of developing the managerial skills in development corporations:

"... in 1981 all management at [an enterprise] ... was localized. Two years later, it was reported that as the local personnel took over the general and technical management functions of the company, one kiln blew up in 1983 allegedly due to insufficient attention given to maintenance by management. The action which followed was drastic involving the demotion or transfer of top management in the company. This decision inhibited further learning-by-doing on the part of affected local personnel. It appears that the option of strengthening the local management was proposed by the Board of Directors [of the enterprise] but the higher level Board of [of the development corporation] decided to remove the whole top management. Since this local management was the most experienced in cement production in the country the only alternative was to engage foreign management".¹⁸²

If the managers of development corporations had themselves been better trained, they might have recognized that the cause of the enterprise problems was a lack of skilled and adequately trained managers. Thus, they would have used a collaborative, "win-win" management style with those managers rather than a confrontational approach, "I win and you lose", they did use.

Managers of development corporations must be trained in order to make decisions as to when and how enterprises should be decentralized or consolidated. In order to make such decisions pertaining to decentralization or consolidation they must be capable of:

- balancing economic and political issues;
- attracting and appointing appropriate MDs of enterprises;
- negotiating win-win strategic alliances with and among the managers of their business enterprises;
- financing the business enterprises and establish accounting procedures to monitor financial discipline; and
- establishing and monitor the enterprises' strategic directions.

Fulfilling some of these training requirements can be achieved in structured meetings of MDs of business enterprises with development corporation managers. At one of these meetings in Africa, MDs of enterprises met with:

¹⁸² Wangwe, S. M., 'Building indigenous industrial capacity: a study of selected industries in Tanzania', paper presented at the workshop on Alternative Development Strategies in Africa, International Development Centre, University of Oxford, 1989 pp. 25-26; Wangwe quoted in UNIDO, op. cit., 1991b.

Representatives of government, supervisory authorities and company teams. In the meeting, each group first exchanged its mutual perceptions of each other. The consultants controlled this airing of views and kept the meeting task oriented, rather than finger pointing. A plan was agreed upon to grant increasing autonomy to the executives in finance and personnel matters, so that they could better accomplish their mandates. This process illustrates a two-stage campaign of using PIP first, then constructive confrontation with authorities later.¹⁸³

But clearly, development of corporation managers must extend beyond meetings such as these, to enable them to make an appropriate decision regarding when and how much authority to delegate to enterprises or retain within the corporation.

One hindrance to the delegation of autonomy from development corporations to their enterprises is the collectivist culture of LDCs noted earlier. Devolution is often taken to be equivalent to privatization, that is, to selling off government owned enterprises to private individuals. Privatization has theoretical foundations: a privately owned asset in a market economy would be employed more efficiently if the few owners bear the profits or losses involved in their use (rather than a multitude of taxpayers). But a government in an LDC may perceive that privatization restricts access of locals to management and supervisory positions and to training for those positions, if the new owners are not locals. This means that privatization must be associated with provisions for management development of locals.

An alternative to privatization is to improve the effectiveness of the board of the enterprise and the management and board of the development corporation. Whenever privatization is only partial, the need to train directors and managers of development corporations remains.

This training will only be accepted by managers and directors if they feel they need to learn. Some directors and development corporation managers are appointees who do not want change¹⁸⁴, and training them will have little effect. Effective training will require "unfreezing" their old bureaucratic ways and replacing them with new management methods. Unfreezing could occur with organizational restructuring of the development corporation and its enterprises and the setting of new economic performance targets and controls for them, such as a government's ruling to reduce funding of their deficits. The replacement could be associated with an MDP which was complementary to this organizational restructuring, aimed at helping the managers achieve their new performance targets and to survive in their new setting.

This approach sometimes called "action learning" was adopted for example in the MDP in Uganda. Enterprise and corporation managers and directors together run a simulated exercise where enterprises' performance was measured against clearly defined objectives; the simulation measured their planned performance against actual achievements and fed the results back to them before they made another set of decisions (see Box 2).

5.2.5 Effect of computers on training needs

In developed countries, computers have influenced how managers manage, and the training needs of managers. However, in most LDCs, less than 20 per cent of available

¹⁸³ Kubr, M. and Wallace, J., *Successes and Failures in Meeting the Management Challenge Strategies and their Implication*, World Bank Staff Working Papers 585, and Management and Development Series 12, The World Bank, Washington DC. and ILO, Geneva, pp. 60-61, 1983.

¹⁸⁴ Kubr, M. and Wallace, J., *op. cit.*, 1983.

computer capacity is being utilized for management tasks such as routine payroll and accounting and information purposes. For example, a UNIDO survey of a number of companies in the Zambian agro-food sector showed all companies had inadequate information systems even for their accounting, administration, purchases and sales functions. Another example is Ethiopia - the first African country to acquire a computer, in 1960. In 1990, it had fewer than ten mainframe computers and about sixty minicomputers, with only eight of them in industry. None of the 2000 PCs in Ethiopia are used in industry¹⁸⁵. One can only conclude that 'the role of manufacturing is very insignificant, but the role of computers is even more negligible in manufacturing activities'.¹⁸⁶ Other indications of the peripheral role of computers in industrial management in Africa include: a 1989 UNIDO survey of computer users in francophone African countries which showed that the overwhelming majority of these were in services industries, with manufacturers being a very small number, and; a 1990 UNIDO survey of all African countries which showed that in about half, only 5 per cent of the factories used computers for management purposes. The conclusion drawn is:

"... the figures indicate a very striking level of underdevelopment as far as computer usage is concerned. There is no obvious correlation with country size or levels of development of the economy as a whole or the manufacturing sector in particular. The results indicate a real difficulty and a clear obstacle to wider use of computers, whether for industrial management or any other purpose".¹⁸⁷

Clearly, a need exists for courses for computer professionals such as system analysts and programmers. National computer training centres have been established in several LDCs, but their impact, that is, the use of computers by management for efficiency have not been encouraging, mainly because the computer input and output is provided too late, and managers find it difficult to use the information.¹⁸⁸ Moreover, LDC managers are generally less familiar with computers and more apprehensive about their use than managers in developed countries.

So before computers can affect the training needs of managers identified in sections 5.2.4 and 5.2.5 above, managers in LDCs need training in basic computer literacy and appreciation. Managers need to get the understanding that computers are essential managerial tools which provide a fast way of processing data thus giving them more time for analytical tasks. For example, a marketing MDP in Uganda introduces participants to very user-friendly software which will provide forecasts of sales which they would not otherwise have available; the enterprise managers have access to PCs in the Public Industrial Enterprises' Secretariat (PIES) offices to run the software, if their own enterprise does not have a PC. Training in the project feasibility software called COMFAR¹⁸⁹ also allows managers to evaluate new projects in ways that were previously not possible. Managers also need to be trained to negotiate with computer suppliers, recruit staff, and suggest and monitor applications for cost-effective investment.

¹⁸⁵ UNIDO, *Computers for Industrial Management in Africa: The case of Ethiopia*, PPD.176, Vienna, 1990.

¹⁸⁶ UNIDO, *Computers for Industrial Management in Africa: An Overview of Issues*, PPD.187, Vienna, 1990a, p. 28.

¹⁸⁷ UNIDO, *op. cit.*, 1991a, p. 34.

¹⁸⁸ Kubr, M. and Wallace, J., *op. cit.*, 1983.

¹⁸⁹ COMFAR, the Computer Model for Feasibility Analysis and Reporting is a programme package developed by the Feasibility Studies Branch of UNIDO for financial and economic evaluation of industrial investment projects.

5.2.6 Conclusion

Participants in MDPs could be pre-start up entrepreneurs, managers of small- and large-scale enterprises, as well as managers of development corporations. Training for pre-start up entrepreneurs and managers of small-scale enterprises could begin at school, concentrate on business basics and motivation, and encourage female students' participation. Training for managers in large enterprises may include internal/organizational and marketing skills, organizational culture, and for development corporation managers on differentiation/integration issues. Management development need to be coordinated, based on improvements in higher level enterprise performance criteria, and sensitive to gender issues.

A system of rewards and punishments must be incorporated in an MDP, as was done in the Ugandan MDP (see Box 2). Moreover, the collectivist culture of LDCs favours group activities during MDPs, with participants learning by doing and discussing together. Thus some experienced participants may be selected and promoted to teach other participants in small group work during the MDP.

5.3 Planning, implementing and evaluating management programmes

Section 5.2 above identified MDP participants and their needs. How those needs can be met in MDPs is discussed in the following section. The approach taken is necessarily a broad one, ranging from the initial selection of sponsoring organizations, through details of the MDP, to post-MDP implementation.

5.3.1 Programme planning

5.3.1.1 The role of sponsoring organizations

Management development programmes can have many sponsoring organizations, ranging from the managers' own enterprises through to governments of developed countries, voluntary organizations (NGOs) and the UN system. Coordinating activities of these various sponsors can be crucial. The coordination would need to focus on agreements/understanding regarding the following:

- programme objectives, content and duration;
- programme funding;
- selection of participants;
- programme evaluation and implementation; and
- continuing programme presentation.

Three action goals may be required at the start of a MDP:¹⁹⁰

- identifying key decision makers in the participating organization;
- facilitating joint decisions where joint concerns are present, in a win-win negotiated framework; and

¹⁹⁰ Schermehorn, J. R., Bussom, R. S., El Said, H. and Wilson, H. K., 'Managing the interorganizational context of management development in a developing country: a case study', *Leadership and Organizational Development Journal*, vol. 6, no. 1, 1985, pp. 27-32.

- maintaining coordination through cooperative mechanisms to commit each participating organization to be responsible for the MDP's success or failure.

The following considerations may be taken into account when establishing coordinating mechanisms of sponsors for an MDP:

- reducing to a minimum the number of sponsoring agents so that there are not too many inter-organizational relationships to monitor and control;
- allowing a sufficient range of sponsors to ensure the survival of the MDP in case the "political" environment becomes turbulent;
- not creating new relationships for the MDP, since this will only exacerbate local rivalries and be outside those power structures which control funds; and
- allowing, if possible, other organizations to participate in MDPs, since these organizations would have vested interest in the success of MDP (for example, the Development Bank of Papua New Guinea runs effective MDPs, because the training will affect the participants' ability to repay their bank loans).

The last point above suggests that sponsoring of MDP should be a vertical slice through an industry rather than a horizontal slice. For example, an individual bank will be more committed to an MDP if only its loan customers are involved, for the MDP will give the bank a competitive advantage. In contrast, an MDP open to all hardware retailers in a region would not give any of them a competitive advantage. This competitive advantage provided by effective management development explains the finding that most industry associations do not provide training,¹⁹¹ and those that do merely emphasize industry-wide concerns such as industrial and labour relations issues and functional areas of supervisory or junior management.¹⁹²

To improve industry association training, the ILO (1986) suggests that industry-wide employers organizations strengthen links with management development organizations.¹⁹³ But many management development institutions in LDCs need to be strengthened themselves.

5.3.1.2 The role of a client

"Sponsors" discussed above are organizations, but the "client" discussed in this section is preferably an individual manager directly senior to a MDP participant. If that manager is explicitly committed as a "client" then he or she could be involved in the following aspects of the MDP:

¹⁹¹ UNDP/Government of the Netherland/ILO/UNIDO, *op. cit.*, 1988.

¹⁹² ILO, *op. cit.*, 1986.

¹⁹³ ILO, *op. cit.*, 1986.

- analysis of training needs of potential participants - as noted in section 5.2.1, this could be an early step in planning an MDP;
- selection of participants, for example, a successful maintenance MDP in Ethiopia was preceded by short seminars for client top managers who then selected participants for the MDP proper;
- presentation of some of the material in the MDP sessions, alongside trainers. In the distant future, the ideal situation in which managers do all the training might occur, for example, IBM does not have "trainers", for managers present all sessions to their subordinates;
- evaluation at the end the MDP; for example, evidence show that clients' involvement in evaluation of MDPs to be very useful.¹⁹⁴

"Managing directors of the various participating organizations have come to the evaluation meetings to talk about the impact of...[theMDP] in their companies and savings banks. They have advised on their future needs, suggesting in turn new approaches to learning from experiences and making them work in organizations."¹⁹⁵

- ongoing presentation of MDPs after the trainers have left - if clients and participants are aware that they will have to present later MDPs, they are more committed to learning and improving the MDP; and
- acceptance, review and final approval of participant projects after the MDP, to implement the principles covered in the MDP. For example, successful MDPs in Ethiopia included special, post-MDP seminars for clients on how to apply their participants' recommendations.

The involvement of client managers in planning, running and especially in implementing MDPs is important in LDCs where any management development might be viewed as a threat to the status and prestige of more senior managers, as noted above. For example, in an MDP in Sudan, the worrying question about whether the participants would be allowed to apply the principles they had learnt on the job was raised "by the whole group".¹⁹⁶ Client managers need to feel empowered by their junior's involvement in an MDP, to ensure the junior's own empowerment.

5.3.2 Programme implementation

5.3.2.1 Determining the scope of management development programmes

Given the recent research findings noted above of the importance of internal/organizational skills and enterprise culture, limiting participants in an MDP to only one

¹⁹⁴ Coates, J., *op. cit.*, 1990.

¹⁹⁵ *Ibid.*, p. 6.

¹⁹⁶ UNIDO, Technical Services for Training Under the Sudan Sugar Rehabilitation Project: Phase 1 Appendices I-III, Technical Report, IO/R.123, Vienna, 1989c, p. 568.

enterprise is highly recommended. An in-house **Planning for Improved Enterprise Performance programme (PIP)** in one enterprise could become the starting point for all later management development training in that enterprise. The PIP is expected to establish future directions and training needs of the enterprise and provide a framework for linking later MDPs.

However, most enterprises cannot afford to have all or most of its management absent on a MDP; moreover, preparation of in-house MDP material is expensive and time-consuming. One alternative is to pick and choose modules from among modular material such as the ILO's **Flexible Learning Packages (FLP)** material for developing managers' cognitive skills.¹⁹⁷

Another alternative to one-enterprise MDPs is to select MDP participants from several enterprises within the same industry. However, participants would have to be from different parts of a city, region or country so that close competitors are not forced to withhold vital company based information from each other during the MDP.

Alternatively, extensive group work could be incorporated into a **multi-industry MDP** so that participants from an enterprise or an industry could often work together. In such MDPs, a **"mixed grill"** approach could also be taken so that participants from an enterprise are spread through several groups to prevent their progress being constrained by the mindset and power structures of their own enterprise. For when participants relate concepts raised by trainers in the MDP to their own organizations, they may have to admit mistakes and weaknesses. One trainer in LDCs has found that there "are many cultures in which admitting to mistakes, especially when they are interpersonal, causes much anguish",¹⁹⁸ and this is exacerbated when participants from one enterprise have to work together during an MDP. Moreover, information gleaned in MDPs is a possible source of status and prestige within an enterprise's hierarchy, and so may not be disclosed in discussions where other participants from a manager's own enterprise are present.

5.3.2.2 Scheduling

The duration of the MDP will be determined by the training needs analysis. The duration of a MDP session could be one day or several weeks. Combining MDPs covering several areas into one optional diploma could be considered.

For small enterprises, MDP sessions will usually have to be at night or on weekends unless there is a seasonal influence or activity which would allow sessions in the day.

For other participants, part time or full time day sessions may be appropriate, for at least one African country has found after-hours "evening activity [is] ... unproductive owing to fatigue and [has] rescheduled sessions in the morning",¹⁹⁹ and evening sessions were not recommended in a MDP in Mozambique.²⁰⁰ Moreover, LDC transport and electricity difficulties may make evening sessions difficult.

¹⁹⁷ ILO, *Flexible Learning Packages (FLP): Technical Note on Methodology*, Geneva, 1985.

¹⁹⁸ Coates, J., *op. cit.*, 1990, p. 6.

¹⁹⁹ *Ibid.*, p. 4.

²⁰⁰ UNIDO, *op. cit.*, 1989b.

5.3.2.3 Instructional techniques

5.3.2.3.1 Non-computerized instructional techniques

All too often MDPs in LDCs rely upon lectures as an instructional method. This method may not be the most beneficial for the participants because "wise and erudite lectures show clearly the amount of learning acquired by the teacher but pay less attention to the learning of the learners".²⁰¹

In addition to lectures, there are other instructional techniques that are more useful because they elicit the personal experience and expertise of the participants. These are ranked below according to the level of participants' involvement:

- assigned reading;
- group discussion;
- analysis of critical incidents;
- case study;
- simulation;
- study tours to other countries; and
- work based on experiential learning in the form of:
 - * specific projects
 - * structured diary analysis
 - * action learning and self teaching action groups
 - * contract learning
 - * mentoring.

Any or a combination of the instructional techniques chosen depends on their availability, time, and training needs.²⁰² Given the behavioural skills and attitudes identified in section 5.2.3.2 instructional techniques incorporating participants' involvement are clearly to be preferred:

"Managers are sometimes more comfortable when the materials are taught through lectures and discussions. Some instructors may decide that it is safer to lecture, especially when learners are uncomfortable with discussion or are keen to learn from the instructor's experiences. Thus the learner is encouraged but never forced to learn in a new way. However, most learners appreciate being helped to learn in different, more effective ways. Certainly in management training programmes where the participants do most of the talking better learning usually results, although the participants may not necessarily realize it at the time".²⁰³

Experience has shown that these techniques may not be readily acceptable as an alternative to traditional use of lectures. One explanation for this is the cultural foundations on which participatory instructional methods are based. In developed, more individualistic countries, the techniques have foundations of self-awareness and collaborative functioning of

²⁰¹ Coates, J., *op. cit.*, 1990, p. 6.

²⁰² ILO, *An Introductory Course in Teaching and Training Methods for Management Development*, Management Development Manual 36, Geneva, 1972; Smith, B. and Delahaye, B., *How to be an Effective Trainer*, Wiley, New York, 1987.

²⁰³ ILO, *op. cit.*, 1985, p. 7.

pairs and small groups. But in collectivist LDCs, foundations have to be more group-oriented, "emphasizing group unity and internalization of external standards".²⁰⁴

That is, the hierarchy of needs is different in the two types of countries.²⁰⁵

Thus, the first step towards using the more participatory action learning techniques in many LDCs is to acknowledge the participants' collectivist values. The next step is to train trainers in how to deliver the techniques. Such techniques could include, for example, the use of non-verbal communication skills and physical arrangement of training room facilities.

The third step is to use a wide variety of training techniques. For example, when confronted with Asians' preference for "cookbook" programmes, one experienced trainer used a variety of teaching methods in his programmes, and another found that "none of the available training techniques were perfect enough to produce the desired results."²⁰⁶ Thus, exclusive use of any one technique must be avoided.²⁰⁷ Similarly, incorporating into the teaching 'a broad range of effective pedagogical techniques using relevant, locally prepared material' is recommendable.²⁰⁸

Another ILO expert concurs:

"It is no exaggeration to say that the features of management education and training - concern over their relevance to the continuously changing real life situation and emphasis on learning to learn - are becoming the determining factors in the selection, use and further evolution of teaching and training methods. Since each method has its strengths and weaknesses, a mixture of methods based on the teacher's assessment of their potential and in certain cases emphasizing one particular method around which the programme is built, is the predominant feature of management education and development activities today, and will probably continue to be in the near future".²⁰⁹

For small enterprise training, the same conclusion holds, a mix of techniques is required:

"The level of education declines as MDPs move to smaller towns and less developed areas. The training content for business orientation and project planning must be modified to suit the absorption capacity of the entrepreneurs. Giving less emphasis to written material and making more use of business games, group exercises and practical examples proves to be effective ... modifying

²⁰⁴ Lindsay, C. P. and Dempsey, B. L., 'Experiences in training Chinese business people to use U.S. management techniques, *Journal of Applied Behavioral Science*, vol. 21, no. 1, 1985, p. 274.

²⁰⁵ Nevis, E. C., 'Using an American perspective in understanding another culture: towards a hierarchy of needs for the Peoples' Republic of China', *Journal of Applied Behavioral Science*, vol. 19, no. 3, 1983, pp. 249-264.

²⁰⁶ Tait, W. J., 'Training the trainer in Asian and Western Pacific countries', *Training and Development Journal*, vol. 26, no. 10, 1972, pp. 44-47.

²⁰⁷ Howard, C. G., 'Model for an international management development programme', *Training and Development Journal*, vol. 26, no. 9, 1972, p. 23.

²⁰⁸ Willoughby, C., *Strategies for Strengthening Management Training Institutions in Developing Countries*, ILO, Geneva, 1985, p. 2.

²⁰⁹ ILO, *An Introduction Business Games*, Management Development Manual 27, Geneva, 1968, pp. 3-8.

appropriate tools and techniques for imparting the essential concepts of business is often difficult".²¹⁰

In summary, a mixture of participatory techniques appears highly recommendable, and these have to be adapted to local conditions and participants.

Regardless of the techniques adopted, visual and audiovisual materials such as overhead transparencies, slides, videos and films could be used. They add realism to a training session which a mere verbal description cannot. However, their use requires a projector which works, a trainer who knows how to operate it, and a reliable electricity supply.

Of the audiovisual material, videos and films require the audience to follow at a set speed, and cannot be halted if a participant cannot understand an issue raised. Furthermore, their unalterable script may not be appropriate to the culture or knowledge of an LDC audience. Finally, their costs of production and purchase are relatively expensive. For these reasons, initial use of audiovisual materials should probably be restricted to overhead transparencies and slides.

5.3.2.3.2 Computer-assisted instructional techniques

Personal Computers (PCs) should continue their infiltration of industrial enterprises in LDCs although cost, unreliable electricity, and poor maintenance and repairs will remain barriers. PCs' influence on management development may not be as extensive, for they will remain a complement rather than a substitute for the training techniques discussed above. For example, at present, PCs are used to allow participants to do some exercises that apply some cognitive skills first raised in a lecture or book:

"In this way, the computer becomes a tool for individualizing instruction, permitting students to work at their own pace, and often at their own work site... Research indicates that computers are best at improving the effectiveness of an already good training package, especially on topics where managers must be numerate in order to solve problems and allocate resources".²¹¹

Unfortunately, these cognitive skills are not the most important requirements of management, as noted earlier. Moreover, the training software is expensive to develop, at least two to three times as many hours per hour of presentation time as non-computer materials.

One effective approach would be to have groups of participants do PC exercises, with plenary discussion of the results. Ideally, the groups would be limited to three or four members so that all of them could see the PC screen at the same time, and contain participants with a mix of work and PC experience so that group members would learn together.

This suggestion is reinforced by the success of the business simulation exercises in the Ugandan MDP. A spreadsheet programme was written allowing participants to make 'what-if' strategic decisions and receive immediate feedback on their results, for example, the effect on profit of a price change or the effect on inventory of a production decision. Groups of participants

²¹⁰ Patel, V. G., 'Developing indigenous entrepreneurship: the Gujarat model', in Neck, P. A. and Nelson, R., *Small Enterprise Development: Policies and Programmes*, second edition, ILO, Geneva, 1987, pp. 119-120.

²¹¹ Kubr, M. and Wallace, J., *Successes and Failures in Meeting the Management Challenge Strategies and their Implication*, World Bank Staff Working Papers 585 and Management Development Series 12, The World Bank, Washington and ILO, Geneva, 1983, p. 81.

experienced together the interrelatedness of strategic decisions, and then reflected on their PC-based experience in plenary sessions.

The use of PCs in MDPs enables trainers as well as participants to make effective management decisions. For example, word-processing software permits quick changes to case studies and notes so that names, places, relationships and currency can be localized.

5.3.2.4 Role of trainers

Given the training needs and instructional techniques identified above as essential for MDPs, trainers would have to be viewed as "process consultants" rather than "resource consultants". Process consultants attempt to help others solve their own problems; in contrast, resource consultants provides expert information or services, thereby merely transferring knowledge.²¹²

Due to the fact that expatriates tend to be resource rather than process consultants,²¹³ there may be grounds for preferring local trainers. "For instance, in Tanzania there is an organization in Arusha called ESAMI (The East and Southern Africa Management Institute) which believes firmly that management development in Africa is an Africa-Africa problem, and therefore they consciously exclude a lot of European input from their programme".²¹⁴

The use of local trainers should be encouraged, however, not at all costs. Care must be taken that these trainers have up-to-date knowledge of the industry and are qualified in the use of training techniques discussed above. Thus it may be advisable to use expatriate trainers to start a MDP alongside designated local counterparts, with the pre-planned objective of the locals soon taking over the programme from the expatriate trainers. ILO's experience confirms this suggestion:

"Inexperienced trainers sometimes use FLP units mechanically. This creates a negative attitude in learners. It is vital that an FLP unit be run by someone trained in the method. This involves working first as a learner, then as assistant trainer and finally as trainer under supervision".²¹⁵

Further confirmation is provided by the Economic Development Institute's (EDI) working with the transport and communications divisions of the Eastern and Southern African Management Institute in Arusha to develop new MDPs. Now, ESAMI conducts regularly MDPs without EDI's support.²¹⁶

One difficulty with the built-in "handing over" of the MDP to locals is that outside trainers (expatriate or not) are being asked to work themselves out of a job. It may be thus advantageous for sponsoring organizations to link this built-in obsolescence with recruitment into other training jobs in other LDCs, perhaps narrowing the number of its MDP trainers and building a longer term relationship with them.

²¹² ILO, *Some Ideas on the use of Expatriate Personnel to Assist Small Enterprise Development*, Geneva, 1979.

²¹³ ILO, *op. cit.*, 1979.

²¹⁴ Coates, J., *op. cit.*, 1990, p. 9.

²¹⁵ ILO, *op. cit.*, 1985, p. 7.

²¹⁶ de Lusignan, G., "Bridging the "management skills gap", *Finance and Development*, vol. 27, no. 1, 1990, pp. 40-42.

Given that there are very few managers in some small LDCs such as Lesotho, Rwanda and Cape Verde, establishing a cadre of management trainers for one country alone could be too expensive. This would suggest that regional management development institutions would be more appropriate for many LDCs to share scarce human and technical training resources. This type of regional cooperation would also facilitate sharing of management development experiences within a common socio-economic environment such as language, trade and cultural links (some francophone, anglophone or lusophone African LDCs, for example), isolated islands (Tuvalu, Kiribati, Vanuatu, Samoa, and the Maldives, for example), or landlocked LDCs (in central Africa, and Afghanistan, Nepal, Bhutan and Lao People's Democratic Republic, for example). Where regional management development institutions already exist and include non-LDC members (ESAMI, for example), quotas for participants from LDCs could be set to ensure that they benefit.

In addition to the considerations above, personal qualities of trainers also play an important role. If the trainer is merely a resource consultant, then knowledge might be the major criteria for choosing trainers. But process consultants must meet also cultural criteria. For example, many Vietnamese refuse to learn from individuals whose nationality is different from their own.²¹⁷ Usually, the trainer has to be older, be better educated, appear more prosperous and have more status than the participants. The trainer's authority will also be aided by other authority figures officially opening and closing the MDP, for example, government ministers or prominent business people (see Box 2).

Trainers can add to their status as authority figures, by making sure that logistical arrangements for participative activities are well organized. Learners are sometimes less tolerant of participative learning situations than they would be of traditional instructional situations. Thus the trainer must rehearse carefully to ensure all materials are available, and be of high quality and free of unnecessary errors.²¹⁸

In collectivist LDCs, participants will treat appropriate trainers with the deference usually given to authoritative elders, and expect closer one-to-one care from a trainer than in developed countries. Thus trainers will have to be willing to provide broad directions for MDP sessions, and then spend emotional and intellectual energies on assisting participants to learn within that scope.

The respect for trainers may make participants too passive to benefit from the participatory instruction techniques by being too receptive to prescribed knowledge and not able to get involved themselves in the training activities. So trainers must build on the face-to-face interaction to produce the trust, support and encouragement required for participants to learn from those techniques.²¹⁹ This relationship will provide more of a counselling environment rather than a critically authoritarian one, and be the foundation for eventual transfer of power over their learning to the participants themselves. Experience from Uganda showed this power can be transferred from the trainer to the group of participants by arranging for participants to select a Course Leader from among themselves. This Course Leader then begins to replace the

²¹⁷ Agnelly, R. L., 'Training the Vietnamese', *Training and Development Journal*, vol. 26, no. 9, 1972, pp. 36-41.

²¹⁸ ILO, *op. cit.*, 1985.

²¹⁹ Pun, A. S. L., 'Managing the cultural difference in learning', *Journal of Management Development*, vol. 9, no. 5, 1990, pp. 35-40.

Box 2: Case study of management development in an LDC: Uganda

This is a brief description of the experience of an MDP in an LDC. The case is not presented as a model for others to follow, for a major reason for the failure of any development programme is "the blind tendency for leaders to standardize all interventions, and the negative interaction effects created in the process".* The case is merely a story of a MDP in Uganda which illustrates many of the concepts developed in chapter 5.

After years of political and economic unrest, the new government of Uganda has set about rehabilitating the economy. With UNDP assistance, the Public Industrial Enterprises' Secretariat (PIES) established programmes for industrial enterprises of the state-owned Uganda Development Corporation (UDC). An early step was commissioning diagnostic evaluations of several enterprises by management consultants. In effect, these evaluations also became a training needs analysis for development of the enterprise managers.

A coalition of PIES, UDC and their Ministry set up a five-day MDP for the chairmen of boards, directors, managing directors and senior management of the enterprises. Some UDC staff also attended the MDP. Two expatriate trainers were recruited, and they modified their materials with local trainers who were told that they would soon take over presentation of the MDP. That is, the MDP materials - centered on a simulation, and on several case studies and role plays - were localized so that they reflected Ugandan conditions. Software on personal computers (PCs) allowed the trainers to make these changes very quickly.

After this trial, a real MDP began. Some of the participants were very experienced business people, but some had no business experience at all. In a number of cases some participants were not convinced to attend the MDP. But they were convinced by the enthusiastic support from the MDP, the PIES Director and his Chief Technical Adviser, they were told that attendance at the MDP might affect the level of support their enterprise would receive from PIES.

The MDP was opened by the Deputy Minister. The trainers, all in their late forties, introduced themselves. They established their authority by noting their numerous degrees, publications, and consultancies, and their management background in both private and public sectors. Then they disclosed personal details about themselves such as the size of their families and their anxieties about the MDP.

After this introduction, groups of participants worked through several experiential exercises which usually ended with discussions of their application in Ugandan management practice. One of these exercises was a PC assisted simulation of enterprises within a 'UDC'. At the start of each module or section of the MDP, the trainers provided a structure of clearly stated objectives and plan of activities. But after this start, the trainers' influence was deliberately and gradually diminished. Indeed, after one day of the MDP, the participants selected one participant to replace the trainers in the chairing of discussions.

During the MDP, a very distinguished local businessman, the PIES Director and other PIES staff played senior roles in the role plays. The local trainers watched and assisted the expatriates.

At the end of the MDP, the PIES Director led the participants in a review of the MDP, and in a discussion of action plans for enterprises and the UDC arising from the MDP. In a closing ceremony, the PIES Director presented participants with a certificate, and the Minister spoke of the importance of the management of their enterprises to the nation.

The two trainers then wrote an instructor's manual containing detailed guides to each session, including overhead transparencies and PC programmes and left. Since their departure, the local trainers presented twice on their own successful MDPs.

After the MDPs, the PIES has recruited teams of consultants to counsel (but not direct) the enterprise managers, run a workshop to establish action learning groups among the managers, and developed an MDP for marketing skills.

* Paul, S., *Managing Development Programmes: The Lessons of Success*, Westview, Boulder, Colorado, 1982 pp. 232.

trainer in chairing participants' case study and role play discussions for a brief period of a day or two (see Box 2).

5.3.3 Evaluation, application and follow-up

Programme evaluation and follow-up activities are two important aspects of MDPs which assist managers to apply their new skills back at their workplace.

5.3.3.1 Evaluation

An MDP can be measured in four ways, in ascending order of importance to organizations, these are:²²⁰

- reaction;
- learning;
- behaviour; and
- results.

Reaction can be measured by attendance and by questionnaires at the end of each session, module and programme. Learning can be measured with 'before and after tests' or in exercises that embody the programme's desired outcomes.

Thus reaction and learning can be measured in the classroom, but changes in behaviour and results can only be measured back at work. A measurement of these may often indicate no change resulting from the MDP. This may be a reflection on the organization rather than on the participants, the trainers or their MDP. In other words, MDP-caused behaviour and results involve implementation back at work, and so always require support from the participant's organization.²²¹

5.3.3.2 Application and follow-up

An MDP must prevent "encapsulation of training", that is, the training experience is enclosed in a capsule and not applied at work. This can be partly explained by rewards: MDP change outcomes are rewarded by the trainer during the MDP, but not at work.

The first step in application can begin before the MDP, if managers are asked to gather work material appropriate to the MDP, and bring it with them to the MDP. For example, a Kenyan work study MDP²² asked participants to measure their productivity before the MDP, including information about resources, processes and the time taken for each process.

The next step towards countering encapsulation is to have training materials as realistic and adapted, as much as possible, to the local conditions.

The third step is to incorporate time into the MDP for participants to relate the MDP ideas to their own work experience as was once applied in an MDP:

²²⁰ Smith, B. and Delahaye, B., *op. cit.*, 1987

²²¹ Nuczynski, A. A. and Lewis, J. W., 'The influence of organizational variables on management training transfer' and 'Response to Cooper and Burgoyne: organizational and individualistic approaches to learning transfer', *Journal of Enterprise Management*, vol. 2, no. 1, 1979.

"In a careful and a caring way, people need to be induced to reveal their own experiences and lead their conclusions to intentions and plans for the future, which in turn will create new experiences... Trainers do not need to have experience of participants' experiences, they need to create an atmosphere that allows participants to relate their own experiences and move forward with them into the future".²²²

Involving the participants' superior in the MDP's final evaluation session is also helpful in this regard, as is collating policy recommendations from participants for anonymous on-forwarding to their superiors.

The fourth step towards countering encapsulation is to arrange follow-up activities such as:

- seminars with participants or guest lecturers presenting papers which extend the concepts covered in the MDP;
- action plan for individual project with client;
- action plan for group project with client;
- individual mentoring and counselling;
- further MDP sessions with the trainer; and
- workshops of participants where one presents his or her problems and the others propose solutions using concepts learnt during the MDP and their own experience.

In addition to these suggestions, follow-up activities could include participant visits to other countries, perhaps along the lines of those provided by the Association Internationale des Etudiants en Sciences Economiques et Commerciales (AIESEC). In the case of LDC participants, countries visited need to be industrially more developed developing countries such as Kenya and Mauritius rather than developed countries, so that lessons learnt can be more easily transferred back to the LDC cultural and economic environment. Visits to other LDCs would probably not be as mind-broadening as visits to more industrially developed developing countries. Experience with fellowships for 33 Ethiopians to visit other countries reinforces this suggestion of participant visits. "It was the unanimous opinion of all parties that training both in the form of fellowships and study tours was one of the most important inputs of the project... and brought substantial performance improvements to the industries which benefitted".²²³

Visits of managers of LDCs to other countries may become an even more important part of management development. As the internationalization of economies accelerates, LDC involvement requires managers who are outward looking and searching for opportunities beyond their national and regional borders. The relative information sparseness of LDCs (fewer libraries, newspapers, magazines, television channels, and so on as found in section 1.2.7 of chapter 1) makes visits an important means of building this awareness.

Whichever of the MDP follow-up activities listed above is chosen, arrangements need always be made for participants to meet after the MDP to report to each other on applications of MDP material. For example, participants in a Kenyan MDP found that these follow-up

²²² Coates, J., *op. cit.*, 1990, p. 6.

²²³ UNIDO, *Industrial Projects Development Phase III*, DP-ID.SER/C.18/Rev.1. Vienna, 1988, p. 18.

meetings provided creativity and direction, because "each individual was recognized in an atmosphere of mutual support and commensation".²²⁴

5.3.3.2.1 Action plans and action learning

Of the follow-up activities listed above, action plans are probably the most common, but LDC experience demonstrates the plans have to be limited to one project that is within the participant's area of authority. The project have to be such that it can be completed in three to twelve months and have a demonstrable effect on how the organization operates. The MDP participant would have to carry out the project under a supervising manager who agrees that the project is worth doing, who will be influenced by its outcome, and who will decide whether it has been completed.²²⁵

After the MDP, trainers arrange for supervision of participants. For example, a maintenance MDP in Ethiopia even had seminars to train client top managers in supervision of participants' projects.

Action plans could involve individual or group projects. A useful variation on these is "action learning" projects in which individual participants meet regularly in a group known as a "set of associates" to share their experiences of undertaking an individual project for a client.

Action learning projects can be enlarged to become the core of a MDP, with the trainers-run sessions being relegated to a support role. An example of this type of MDP is the 18 month, part-time MBA programme of the International Management Centre for Buckingham (IMCB) run in Kenya, Indonesia, Malaysia, Vanuatu and Fiji. The participants try to introduce change in their own organization through management action.

Similar programmes were organized in Egypt and India. Here the individual managers in the set of associates worked on a problem in another function in another set to make each manager face problems from new angles. "It is not a question of the blind leading the blind, but that of the blindfolded helping the other blindfolded to pull the bandages off their eyes".²²⁶

It is suggested that action learning is worth experimenting with in LDCs, because it "may address the needs of Malawian [and other LDC] managers for security and social interaction while enabling them to identify real problems and to use their shared experience to develop solutions".²²⁷

Action learning need not follow an MDP and need not be associated with IMCB programmes. For example, in Nigeria the Eastern Nigerian Development Corporation was seriously concerned about saving over 100 small vegetable oil mills. Arrangements were made for managers of 10 profitable mills to meet with managers of 10 unprofitable mills, without requiring a manager to disclose the state of his or her mill to the others. Aware that they all

²²⁴ Safavi, F. and Tweddell, C.E., "Attributes of success in African management development programmes: concepts and applications", *Journal of Management Development*, 1990, vol. 9, no. 6, p. 53.

²²⁵ Coates, J., *op. cit.*, 1990.

²²⁶ Revans, R., 'Action learning in a developing country', *Management Decision*, vol. 24, no. 6, 1986, pp. 3-7.

²²⁷ Jones, M., *op. cit.*, 1989, p. 89.

might soon lose their jobs, the managers simply talked together about managing their enterprises. Within three months the whole corporation was solvent.²²⁸ The point is that managers in trouble can together learn more from each other than they can from outside experts.

Whether action learning is associated with the sessions of an MDP or is merely an after-training project, several considerations may have to be borne in mind when action learning is adopted:

- formal processes of obtaining client support and arranging regular meetings of the sets of associates are essential; and
- learning resources such as FLP modules must be available to the set, as experience shows:

"Trainers who have made special efforts to set-up action-learning groups sometimes find FLP units particularly valuable in providing programmed knowledge that a group needs to solve a particular problem. For example, a group that is trying to solve investment problems might benefit from a four-hour FLP session on capital investment analysis, while another group exploring joint ventures might want a four-hour session from the technology change series" and²²⁹

- the set of associates needs a facilitator for training in team building and problem analysis skills, organizing the learning resources noted above and managing discussions so that it provides efficient depth of analysis and group support.

Action learning is something which is recommended far more often than it is actually used. Why? One reason may be that it is difficult to implement the three considerations noted above. Another reason may be its emphasis on projects that are essentially an individual's project by each associate, when organizational change is usually a workgroup phenomenon. If the projects were seen as group project rather than an individual's project, action learning may become far more successful, especially in LDCs with collectivist cultures.

Management development must continue beyond the MDP and be a part of on-going activities. This will occur if managers learn to continuously learn during the MDP. Learning is an ongoing, cyclic process from planning, through experience and reflection on that experience, to further planning. Action learning may facilitate this process of learning. Interestingly, this cyclic approach to improvement is a key aspect of TQM, which has a similar plan-do-check-act cycle. This is another reason for trying TQM in LDCs in addition to the reasons suggested earlier.

5.4 Policy proposals

Relevant management development experience from several perspectives are reviewed above. A case study on management development in Uganda, summarized in Box 2, gives a

²²⁸ Revans, R., *op. cit.*, 1986.

²²⁹ ILO, *op. cit.*, 1985, p. 6.

practical illustration of some of the issues discussed. Below are policy implications in the context of LDC's. These implications are grouped into general guidelines and then into suggestions for policies at the national and regional levels and for UNIDO and other multilateral and bilateral agencies:

General guidelines for all policy-makers may include:

- Knowledge and cognitive skills training should be provided to managers, and could be transferred from developed countries (section 5.2.3.1).
- In addition to knowledge and cognitive skills training, management development may include important training in organizational and behavioural skills and attitudes. Gender issues may be addressed when appropriate (section 5.2.3.2).
- Training in behavioural skills and attitudes have to be grounded in the collectivist culture of LDCs (section 5.2.3.3).
- Different types of management development may be provided for entry level managers, middle managers, top/senior managers, and development corporation managers (and their boards of directors). Programmes have to ensure women's access and participation (sections 5.2.4).
- Managers may need computer appreciation training before the potential of existing LDC computers can be realized. PCs could be maintained at central offices for use by enterprise managers and their staff (section 5.2.5).
- MDPs have to be designed and delivered for managers and their organizations, with special emphasis on group work, experiential learning, and client manager involvement throughout the MDP and its implementation (section 5.3.2).
- Management development could be used as a tool for enhancing organizational restructuring of enterprises and their development corporation, so that "unfreezing" of old managerial patterns is forced to occur (section 5.3.3.2.1).

Proposals for national policy makers could include:

- "Grand designs" for national or sectoral management development should be avoided; rather, the need for management development could be created in association with other aspects of industrial policy, such as partial privatization of some enterprises or the restructuring of development corporations (section 5.2.4).
- Industrial performance and improved overall utilization of human resources may be the major objective of management development programmes (section 5.2.3.3).

- Coalitions of MDP-sponsoring organizations could be supported and facilitated, and include organizations with a vested interest in the MDP outcomes (section 5.3.1).
- Building up of local training capacity need to be an integral part of MDPs (section 5.3.2.4).
- Appropriate entrepreneurship and small-enterprise management training could be incorporated into school, university and apprenticeship programmes to ensure that women are not excluded in terms of either access or participation (sections 5.2.1 and 5.2.2).
- Adequate management development during privatization and equipment investment negotiations with donor countries and transnational corporations, could be mandated (section 5.2.4).
- Management development institutions could be supported, although this will often have to be done on a regional basis (section 5.3.3.2).

Proposals for regional policy makers could include:

- The relevance and possible coordination of management development institutions and universities could be supported, for countries with similar socio-economic characteristics (section 5.3.2.4).
- The understanding of LDC managers could be broadened beyond their national boundaries to the industrially more developed developing countries, through visits and attendance at regional management development institution programmes (section 5.3.3.2).

Proposals for policy makers of UNIDO and other multilateral and bilateral agencies could include:

- Industry policy actions could be complemented by management development programmes so as to ensure that their outcomes are gains in industrial performance and not simply increases in collectivist prestige (section 5.2.4).
- Because of its importance to management development, modular, experiential training material on collectivist behavioural skills and attitudes might be developed, possibly in association with ILO. Differences between dealing with workers and with other managers could be included (section 5.2.3.2).
- TQM could be tried in some selected LDC enterprises, to see if TQM can be modified to provide the "reconceptualization" of management required in the LDCs. By implication, inclusion of "blue collar" workers would broaden the recruitment base for potential managers including women (section 5.2.3.3).

However, these techniques are expensive to establish, as the development of the FLP cognitive skills material demonstrates.²³⁰ To prevent duplication of similar materials for collectivist behavioral skills, UNIDO could coordinate the development of modular materials for those behavioural skills.

Policies such as these could complement industrial policies and assist management development to play its role within the broad range of industrial development in LDCs.

Apart from indigenous factors of industrial development in LDCs discussed in the previous chapters, other exogenous factors, predominantly supply factors are of significant importance. ODA assistance and international support aimed at increasing public and international perception and awareness of industrialization in LDCs are relevant exogenous factors that affecting industrial development in LDCs.

²³⁰ ILO, *op. cit.*, 1985.

6. POTENTIAL ROLE OF OFFICIAL DEVELOPMENT ASSISTANCE (ODA) PROJECTS IN PROMOTING INDUSTRY IN LDCs

6.1 The role of ODA assistance to industry in LDCs

One of the important indicators of the criteria for classifying "least developed" countries is a low share of manufacturing in total output. This low share of manufacturing value added in GDP epitomizes the embryonic stage of the manufacturing sector in LDCs. It is not surprising, therefore, that the level of industrialization in the 47 LDCs is the lowest in the world. It follows that the scope for utilizing domestic industrial capacity in both capital and aid projects in the LDCs - be they initiated by external donor agencies, the state, the private sector or individuals within particular countries - is likely to be severely limited.

The small industrial base together with severe economic problems across all productive sectors, minimally-developed infrastructure and the fact that the dominant form of livelihood lies within subsistence agriculture sector (and in some cases in fisheries), suggest that the immediate development priorities for the LDCs lie outside the manufacturing sector.

This fact is illustrated by the trend of financial allocation to different economic subsectors and subcategories during the 1980s: during 1984 through 1986 only 2.4 per cent of ODA was channelled to industry (including manufacturing, mining and construction sectors) in LDCs²³¹, 9.8 per cent for all developing countries (1986/87).²³² That portion of ODA to industry, 2.4 per cent, was even smaller compared to the share in 1981 through 1983 (2.7 per cent).²³³ On the whole, multilateral organizations such as the World Bank, IDA, the UN agencies and the EC tend to give greater support to the industrial sector in the developing countries than bilateral donors. In 1986/87, only 14.2 per cent of the total fund of multilateral donors was spent on industry and other production in the developing countries;²³⁴ in the LDCs, however, the share amounted to just 2.3 per cent in the period 1984-1986, a decrease from 2.8 per cent in 1981-1983.²³⁵ This was even lower than that of bilateral donors (2.5 per cent) during that period.

²³¹ UNCTAD, *The Least Developed Countries 1988 Report*, Geneva, 1989, p. A-50. The ratio is high in some LDCs, for example, in Myanmar 12 per cent of total ODA was channelled to industry.

²³² OECD 1989 Report *Development Cooperation in the 1990s*, Paris, 1989, p. 213.

²³³ UNCTAD, *op. cit.*, 1988, p. A-50.

²³⁴ OECD, *op. cit.*, 1989, p. 213.

²³⁵ UNCTAD, *The Least Developed Countries 1989 Report*, *op. cit.*, p. A-50.

A predominant characteristic of LDCs is the high proportion of foreign aid in overall resources available for development in their economies. This proportion is even higher than that of other developing countries.

Thus in 1988, total official development assistance (ODA) to the LDCs amounted to 17.8 per cent of their gross national product compared with 1.4 per cent for all developing countries.²³⁶ The total volume of ODA thereby amounted to more than 100 per cent of total domestic investment in LDCs.²³⁷ In that year, ODA accounted for 66.5 per cent of total imports of LDCs, compared with a figure of 9.6 per cent for all developing countries. For 30 out of the 40 LDCs for which data are available, the ODA/import ratio was in excess of 50 per cent in 1988, and over 100 per cent for one quarter of all LDCs.²³⁸ What is even more important is that ODA accounts for more than 100 per cent of total external financial flows to the LDCs today - up from 72 per cent in 1980. This marked increase in the share of ODA flows is mainly the result of a significant fall in both private foreign investment (accounting for less than one per cent of the total investment in the late 1980s) and export credits to the LDCs.

Aid flows could thus influence the pattern of growth and development in the LDCs. This is far more significant for LDCs than for other groups of developing countries. This in turn suggests that there is a major potential role for aid money to be used in the promotion, expansion and deepening of the manufacturing sector of the LDCs over and above the direct use of aid funds targeted explicitly at industrial sector development - for the setting up of factories, rehabilitation, maintenance, and upgrading of existing factories, training factory managers and technicians, and drawing up industrial sector plans, etc.

This could happen in four principal ways:

- Firstly, where suitable industries are already in existence in an LDC, non-industrial donor projects could purchase domestically-manufactured products rather than obtain them from abroad.
- Secondly, the creation of new industries could be furthered in cases where there is at present no domestic source of manufactures but where information on the demand for manufactured goods arising from a series of planned projects are pooled together and a joint assessment would point to sufficient domestic demand to justify the establishment of local industries²³⁹.
- Thirdly, institutional arrangements, rules and regulations of aid agencies could be designed in a manner which further encourages domestic sourcing of manufactures from the LDCs.

²³⁶ OECD, *op. cit.*, 1989, p. 142

²³⁷ UNCTAD, *The Least Developed Countries 1989 Report*, pp. A-11 and A-30.

²³⁸ UNCTAD, *op. cit.*, 1989, p. A-24.

²³⁹ There may also be cases where some LDCs might be able to supply goods to aid projects being executed or planned in other LDCs. This possibility is discussed further below.

- Fourthly, mechanisms could be created to make the purchase of manufactured goods from LDCs more interesting and competitive in the context of international development aid projects (especially within a regional setting).

The next section of this chapter examines the available evidence to judge the extent to which aid projects in non-manufacturing sectors in the LDCs do make use of domestically-manufactured goods or exploit the potential provided by aid projects for expanding domestic manufacturing capabilities. It also highlights a series of factors which inhibit local sourcing.

6.2 Survey of local sourcing of manufactures for ODA projects

6.2.1 An overview

Projects executed by different multilateral and bilateral agencies in LDCs require a whole variety of different manufactured products, some relatively simple, some more complex. Thus, capital and infrastructural projects would need construction materials such as cement, bricks, cement blocks, concrete, building and roofing materials, glass, putty, window frames, paint, wood, furnishings and fittings. Health projects might additionally require supplies for hospitals and health centres or spray cans for insect eradication, educational projects equipment for schools and colleges of education, agricultural and/or fishing projects equipment and supplies such as fertilizers, pesticides, fishing tackle, boats and related equipment. Then there are the large or complex supporting items such as vehicles, transport and computer equipment, the less complex such as bicycles and parts, as well as the more mundane items such as the food, drink, clothing, medicines, and other consumables of both foreign and domestically-employed aid personnel (permanent and temporary).

In the ideal world, in which the only concern of donors is the prosperity and long-term development of LDCs, donor projects (particularly the larger ones) would be integrated into and form part of the long term development plan of a particular LDC with progress assessed on an annual basis. Donors requiring manufactured products for their projects would check whether these were available locally before sourcing internationally. They would have available information on domestic sources of supply of items required for particular projects, their price, quality and availability. Equipped with this information, they would incorporate domestic purchasing into their overall purchasing profile. Plans for future donor projects and programmes would be discussed with relevant government officials and integrated, where appropriate, into the planning framework for the country. Donors would not only communicate the progress of projects and programmes with the relevant government authorities but, through both the mechanisms of formal round tables as well as the informal exchange of information, would keep other donors constantly up-dated and informed on project progress, seeking cooperation from them as deemed appropriate in a constant two-way flow of information. At the macro-level the requirements of all projects, present and future, would be assessed and combined together in order to evaluate whether, and if so when, viable domestic industry could be established to supply products that are imported now or, in the absence of new industries, would continue to be imported.

The real world, however, is far removed from such an ideal one. First of all, donors also have a certain degree of self interest and often wish to combine development assistance with national goals of their own (such as the creation of employment in their own country, the establishment of long-term cooperation links etc.) which only allow for a limited amount of local

sourcing in developing countries. The scattered data that are available indeed suggest that there is only very little local sourcing of manufactured products for aid projects in the LDCs taking place; most manufactured goods used for such aid projects are simply imported.

Although this is understandable - not only due to donor countries' resistance towards local sourcing but also due to the low prevailing level of industrialization in most LDCs - it would, nevertheless, appear necessary to address that problem more openly.

There is little evidence to suggest that there are satisfactory mechanisms in place either to increase local sourcing or, more importantly, even to raise the importance of either present or future local sourcing. In particular, the series of institutional rules and regulations encouraging local sourcing tend to be eclipsed and over-ridden by other rules and regulations and a series of direct and indirect pressures. This aggravates the already existing unfavourable environment concerning the manufacturing sector in many LDCs. Especially the small domestic markets often impede the establishment and expansion of local industries in LDCs²⁴⁰ which in turn would be - in many cases - a pre-condition for LDCs to become a reliable source for manufactured products within the context of development aid projects. However, development aid projects, which create a one time demand for certain manufactured products, can hardly justify the establishment or expansion of local industries unless their long-term viability can be guaranteed by other means. One way would be to create mechanisms in which such LDC industrial enterprises were explicitly incorporated in the sourcing of development aid projects in other developing countries (especially in a regional context) to use their capacities efficiently over an extended period of time.

6.2.2 The information gap

A basic and all-pervasive problem is simply lack of information. In most LDCs there would appear to be an ubiquitous ignorance about local sourcing possibilities even among government officials.²⁴¹ This in itself is a reflection both of the inadequacies of planning mechanisms and of data inadequacies about local industry. It affects, in particular, manufacturing products originating in small-scale and informal sector enterprises. In many LDCs, no industrial census has ever been conducted and no industrial statistics are gathered on a regular basis.²⁴² Even in instances when national or sectoral plans have been written, they have very incomplete data on the availability of local manufactures. As a result, information on local sourcing is not available (in easily accessible form) from within the government and so cannot easily be passed on to donors. While some of the LDCs, such as Bangladesh, the United Republic of Tanzania, Botswana, Malawi and Nepal, have detailed development plans, often including details of the present status and future expansion of the manufacturing sectors, most of them do not.

²⁴⁰ This problem has also been addressed at the Second UN Conference which stressed the need for LDCs to be given "greater and preferential access of LDC products to regional markets" to overcome the problem of small domestic markets. See UN, Paris Declaration and Programme of Action of the Second United Nations Conference on the Least Developed Countries, A/CONF.147/Misc.9/Add.1, Paris 1990, p. 26.

²⁴¹ This problem is less serious (at least for formal sector manufactured products) for those countries with larger manufacturing sectors and detailed development plans, including Bangladesh, Myanmar, Nepal, Sudan, Tanzania and Yemen. In Uganda, however, which has (in LDC terms) a sizeable manufacturing sector, there are large gaps in knowledge about domestic manufacture, largely because so much is derived from small-scale and informal sector sources. See Friedrich Ebert Foundation, Small-Scale Industry in Uganda, Kampala, 1989.

²⁴² For example, in the Maldives, a ministry of trade and commerce was only established in 1983.

But this is only the start of the problem. Even if a comprehensive data-base listing local manufactured products were available this, in itself, would be insufficient for donor purposes. It would be necessary to have three further pieces of information:

- levels of capacity utilization and the extent to which demands by donors for products could be met;
- delivery times; and
- the quality of the domestically-manufactured goods (especially the last type of information, although of crucial importance, will be the most difficult to deliver; in this context, the use of national or international standards and their control by independent bodies or institutions could play a significant role).

UNIDO activities aimed at filling these gaps in basic data retrieval and availability are quite significant. For instance in 1987, it provided technical assistance to the Government of the Maldives to prepare an industrial plan and the data contained therein would clearly contribute to information on domestic industrial sourcing.

Another potential initial source of information about industry in particular LDCs is contained in country-specific industrial sector study reports undertaken by and/or published by UNIDO.²⁴³ One problem here is that the series of publications most widely known such as "The Potential for Resource-Based Industrial Development in the Least Developed Countries" (1982-1986)²⁴⁴ and the "Industrial Development Review Series"²⁴⁵ (since 1985) do not yet cover all LDCs which is mainly due to a lack of financial resources being made available for this important task.

Another problem is that these reports and studies which address a wide range of issues related to industry, industrial development and industrial policy, do not contain the same level of concrete data on sourcing potentials for all LDCs. Thus, the reports on small LDCs with a small industrial base (such as the reports on the Pacific islands LDCs), - quite understandably - contain less concrete data on industry than do, for instance, the reports on larger LDCs with larger industrial sectors such as the United Republic of Tanzania, Yemen or Bangladesh. It must be pointed out, however, that these UNIDO publication series could be tailored to address the problem of bridging the particular information gap of concern to us here, namely by additionally providing an up-dated data-base of locally available manufactured products to which donors requiring manufactured inputs might refer.²⁴⁶

²⁴³ These are likely to be the first source of information on industry in the LDCs that other UN agencies, especially, would have access to or make use of.

²⁴⁴ These were as follows: Botswana (1982); Comoros (1982); the Lao People's Democratic Republic (1983); Lesotho (1982 and 1986); Malawi (1983); Nepal (1984); Rwanda (1982); Somalia (1983) and Tanzania (1982).

²⁴⁵ These were as follows: Angola (1990), Bangladesh (1986, 1989); Botswana (1987); Cameroon (1990), Central African Republic (1986); Democratic Yemen (1989); Djibouti (1989); Ethiopia (1991); Liberia (1988), Malawi (1987); Mali (1986); Mauritania (1989); Myanmar (1987); Nepal (1988), Pacific Island States (including Western Samoa, Vanuatu, Kiribati) (1986); Somalia (1988), Sudan (1985 and 1989); Tuvalu (1989); Tanzania (1986); Vanuatu (1986) and the Yemen Arab Republic (1989).

²⁴⁶ It should, perhaps be added, that such a data-base embracing sourcing from small and informal-sector manufacturers is not even provided by industry ministries of the more advanced developing countries either on a one-off or continually up-dated basis.

It thus seems safe to conclude that donors drawing up projects do not have anything like sufficient information about the range of products which are available locally. This is especially true for simpler consumer-good products including clothing (uniforms) and furniture, and for the range of goods manufactured by small-scale or informal sector enterprises which, in the LDCs particularly, constitute a high proportion of total manufacturing output. As a result, it is likely that opportunities for local supply are missed because of ignorance of availability. The most that usually happens is that donors know about or are made aware of the existence of the three or four major (formal sector) industrial plants in the country, particularly those in the construction sector (cement, bricks etc.) and domestic procurement investigation initiated by the government frequently stops at this crude level of assessment.

6.2.3 Gaps in donor information exchange procedures

Besides information gaps about local products, gaps in donor information exchange and procedures provide additional constraints to exploiting local sourcing. While the recent institutionalization of more formal round table meetings among donors in the overwhelming majority of LDCs, together with less formal exchanges of information (initiated frequently by the United Nations' Resident Representative) has certainly improved intra-donor communication and information exchange, this usually falls short of exchanging information on domestic sourcing. *A fortiori*, there is even less exchange of information about the potential local sourcing of future projects, or planning between donors and with the government's planning agency, ministry or department about possibilities for establishing new industries as a result of increased demand from these projects.

The exchange of information on projects among different donors tends to be extremely limited, and where it does occur it tends to be confined largely to the broad outline of projects, not to the technical details.

The need for more detailed information has recently been argued by a number of senior UN officials. Thus, the 1988 report of the Resident Representative in Fiji comments that:

"The key to coordination and harmonization is transparency: donors must tell each other what they are doing and what they are planning to do".

The limitations of current information-exchange has also been pointed out in the 1987 Report of the Resident Representative for Somalia which comments thus:

"In many areas, donor coordination has been limited to the exchange of information about their respective activities. What is needed is closer consultation and coordinated actions at the various levels of project development to avoid over-lapping and to increase net development effect".

Advocacy for closer coordination of activities is, however, not universally shared within the donor community, for it raises the question of the extent to which it is - or should be - the responsibility of either individual donors or even of donor coordinating bodies to go beyond exchanging information about current and future projects and - in the case we are considering here - take on the additional role of overseeing the potential for local procurement opportunities and of advocating their exploitation. Round Table process and Donor Information Exchange Procedures could significantly fill in the inter-donor information gap.

One view expressed by some UNDP Resident Representatives²⁴⁷ is that their role stops, and ought to stop, at coordinating information exchange. This is articulated, on the one hand, because of lack of staff to carry out such functions, but also on the other hand, at a more fundamental level. The filling of such a role, it is argued, is a task that should properly be undertaken by the recipient government.²⁴⁸ The fact that the job is not done, or done inadequately, is seen principally as a problem of inadequate manpower capability of the recipient government at coordinating information exchange. It is this problem which needs to be addressed, and it is argued that the remedy lies more in resolving the problem of manpower shortages within governments than in attempting to short-circuit the problem by donors taking on the job themselves. As the 1988 report of the Resident Representative in Fiji puts it:

"It is the responsibility of the recipient government (i.e. not the agencies) to provide the necessary coherence and assure the linkages".

This view is supported in the 1988 report of the Resident Coordinator in Samoa. Although his statement refers to the more general issue of aid coordination it could be applied with even more force to the more technical matter of local procurement:

"... if the purpose of aid coordination is to increase coherence between programmes and projects of different donors, to avoid overlaps or duplication between them and to create maximum mutual effect, then obviously there are limits to what can be achieved by increased contact between donors alone. First and foremost is required a coherent strategy on the side of the recipient".

In contrast, the 1987 report from Nepal places the issue of procurement squarely on the shoulders not of the recipient government but of the relevant donor:

"The question of procurement should be put to the executing agencies whose responsibility it is to procure goods and services. This is not a role that should be played by the Resident Coordinators".

If one accepts the argument that the job of exchanging information and coordinating projects among donors with a view to increasing local sourcing is not the role of the Resident Representative or UN aid coordination staff, is this a job which should be carried out by the UN agency with overall responsibility for industry, namely UNIDO?

There are a number of issues which need to be considered in this context. First is the practical point that UNIDO does not have Country Directors (UCDs) in most LDCs and so does not have the information needed to monitor the extent to which account is taken of local industry in supplying goods to donor projects.²⁴⁹ But even if it had the staff, it could be argued that UNIDO's main task - in common with that of other specialized donor agencies - is simply

²⁴⁷ Or at least among those who have expressed an opinion on the issue.

²⁴⁸ UNCTAD argues for "improvements in aid coordinating mechanisms which strengthen the central responsibility of LDC Governments... The focal point for aid coordination in government should be clearly identified, vested with adequate authority and strengthened in staff and skill as necessary." See UNCTAD, *The Least Developed Countries 1989 Report*, p. 112.

²⁴⁹ In the first half of 1991, UNIDO had only seven UNIDO Country Directors (UCDs) located in 42 LDCs, a further 26 LDCs were covered by UCDs being situated in neighbouring countries and for 9 LDCs no responsible UCDs existed at all as of March 1991. As of 11 April 1991 there were 11 JPOs in LDCs. See UNIDO, *Country information sheet*, 10, CRM, 1991/6, March 1991).

to promote industrial or industrially-related projects at the specific request of the government. Where it is called upon to draw up or participate in constructing a national industrial plan or programme or, more specifically, to assist in creating a data-base of local manufactures, this is undertaken within the parameters of a particular contract which has a defined beginning and end. It has never included a "watching brief" to promote local industry through, for instance, providing information and trying to persuade other donors and donor agencies to increase the domestic sourcing of (all) their aid projects. Similarly, there is no institutional requirement for other UN agencies to provide UNIDO with their detailed project documents and thus to exchange information about sourcing goods from domestic industries. If such an attitude is adopted in a rigid manner, a major problem can result: it removes any obligation from other donors (especially those which are part of the UN system) from informing UNIDO of activities which are or could be of relevance to UNIDO. That this is far from an academic point is borne out by briefing notes put together by UNIDO on Lao People's Democratic Republic in October 1989:

"In analyzing the list of projects financed by UNDP, we must come to the conclusion that UNIDO has neither been consulted nor involved in most of the industry-related projects".

The 1988 Resident Coordinator's report for the Democratic Yemen was critical of UN agencies which carry out projects but which fail to formulate their own sectoral strategies.

It is thus by no means clear that UNIDO ought predominantly to play a passive and receptive role. What is more, there are precedents for taking a more positive, innovative, co-ordinating and promotive role from other UN agencies at least in relation to the matters of particular concern to these agencies. A number of examples are provided, for instance, in the 1988 report of the Resident Coordinator in the United Republic of Tanzania which points to the following initiatives:

UNICEF, UNFPA and the WHO hold regular coordination meetings to exchange information, harmonize programmes and approaches to achieve greater complementarity.

UNFPA acts as a focal point on health and population issues for visiting missions such as the World Bank, USAID, IPPF".

The WFP has been instrumental in the establishment of inter-ministerial committees where relevant government ministries/departments and UN agencies are presented.

Of even more relevance to the present discussion, other UN agencies have even taken initiatives in relation to procurement issues and promoting regional industrial integration, albeit in a restricted and limited fashion. Thus the same report on the United Republic of Tanzania points out that:

UNICEF is actively involved in a regional network of supply officers with the aim of decreasing the Southern African Development Coordination Conference's (SADCC's) dependence upon external sources of supply.

6.2.4 Procurement in theory and practice

In this section the more technical aspects of procurement and procurement procedures, especially as they apply to multilateral agencies within the UN system, highlighting some details

of particular projects executed by one of the most important specialized agencies to provide project aid to the LDCs, the World Bank²³⁰ is considered.

6.2.4.1 General overview

The procedures of obtaining goods (and services) required for projects in LDCs fall under the umbrella of common principles and practices governing procurement coordinated by the Inter-Agency Procurement Services Office (IAPSO). In general, the supply of goods for development projects in the LDCs is determined principally through the system of competitive bidding, most commonly at the international level but sometimes at the local level, under the following basic procurement principles.²³¹

All organizations strive:

- to procure equipment and services of the requisite type and quality within the time prescribed, at the lowest possible cost;
- to provide access to procurement opportunities for interested and qualified parties;
- to undertake competitive bidding on an international basis; and
- to secure a wide geographical distribution of procurement from developing countries and under-utilized major donor countries.

The principal means used by the UN organization to achieve procurement at the lowest possible cost is through competitive bidding in line with each organization's established financial regulations and rules. In order to give all potential suppliers world-wide a chance to compete, the competitive bidding is mostly international in nature, and special efforts are made to identify procurement sources in developing countries.²³²

Within this overall framework, different agencies have more detailed particular regulations, a summary of which is contained in the June 1989 edition of the UNDP and IAPSO publication *General Business Guide for Potential Suppliers of Goods and Services to the United Nations System*. There is, however, a potentially important general exception to these principles. Since 1977, the possibility has existed for suppliers in the developing countries to receive a price preference in international bidding of up to 15 per cent of the purchase price of indigenous equipment and supplies originating in all these countries, on the condition that the purchasing country agrees to this arrangement. For its part, UNIDO has been in the forefront of similar initiatives to promote industrial development in the developing countries; in October 1988 its Industrial Development Board recommended to the Director-General that 25 per cent of a

²³⁰ Commitments to the LDCs through the World Bank's International Development Association (IDA) amounted to US\$ 1.5 billion p.a. in the period 1985-88 (World Bank 1989:1). In 1988, total (net) ODA receipts originating from the IDA amounted to US\$ 1.9 billion, 42 per cent of all multilateral aid to the LDCs and nearly double the ODA receipts from the UN agencies. See UNCTAD, *The Least Developed Countries 1989 Report*, p. A-36.

²³¹ UNDP and IAPSO, *General Business Guide for Potential Suppliers of Goods and Services to the United Nations System* (including Annex: Common principles and practices governing procurement of goods and services), 9th edition, Copenhagen, April 1989. p. 75.

²³² No special emphasis is made on procurement from LDCs.

developing country project's services and equipment should come from this group of countries.²⁵³

For the LDCs in particular, there are no accurate figures on the share of goods which originate in the country where the project is being undertaken and which have been obtained in multilateral aid projects through competitive bidding procedures²⁵⁴. However, international data show that in 1987, only 20 per cent of all procurement supplies from UN agencies originated in developing countries.²⁵⁵ The overall share for the LDCs is likely to be minute - less than 1 per cent - and only of any significance for countries with relatively larger manufacturing sectors such as Bangladesh.

There are a whole range of constraints to the procurement of products from the LDCs which are required in aid projects. Two major ones are clearly the low level of industrialization of these countries, and (as noted above) the paucity of information about domestic sourcing. There are also the interrelated problems of product quality and price, speed of delivery and reliability of supply. Then there is the major practical difficulty of the impact of applying the 15 per cent preference rule for LDCs. Specifically, if an LDC accepts the higher priced goods, the recipient countries' budgets are charged with the full cost of goods and services including the 15 per cent premium. As a result, the effective purchasing power of the available pool of aid money is reduced. In practice this acts as so great a deterrent as to render the preference almost meaningless. The obvious solution to remedy this situation would be the creation of a special international LDC fund, out of which a premium of up to 15 per cent for goods originating in LDCs could be paid for in order not to reduce the purchasing power of the recipient government's budget and in order to give them an incentive to use LDC manufactured products. However, special control mechanisms to impede any abuse of such a system would have to be implemented from the initial stage.

Another important set of causes is even wider in scope. One is that UN analysis reveals that developing countries frequently prefer to purchase from major donor countries in the belief that products from major developed countries are - *ex definitione* - superior.²⁵⁶ Clearly this problem is likely to apply with even greater force to products from the LDCs. Another is the low level of awareness that particular donors have to the whole issue of local industry promotion and development. Unless their attention is specifically drawn to the possibility of looking (or searching) for local supplies, donors will (understandably) devote attention to their own immediate and particular concerns and priorities which, except for UNIDO, are unrelated to industrial issues. One illustration of this would be the World Bank's contribution to the May 1989 meeting of donors preparing for the Second UN Conference on the LDCs; it fails to

²⁵³ At the Fourth Session of UNIDO's Industrial Development Board in October 1988, the Board requested the Director-General to have recourse to the greatest extent possible to experts, services and equipment from developing countries in technical cooperation projects of UNIDO in order to substantially increase - to a minimum share of 25 per cent - the share of the total contract value and equipment purchased by the Organization from those countries, in the shortest possible time. (See UNIDO, IDB. 4/Dec.15.).

²⁵⁴ With or without the 15 per cent preference.

²⁵⁵ Joint Inspection Unit (of the United Nations) JIU, Practices and Procedures aimed at a more Equitable Geographic Distribution of Sources of Procurement for Technical Co-operation Projects (JIU/Rep/89/8), Geneva, May 1989, p. 7.

²⁵⁶ This point is made in the May 1989 report of the UN Joint Inspection Unit, Practice and Procedures aimed at a More Equitable Geographical Distribution of Sources of Procurement for Technical Co-operation Projects, Geneva, (JIU/REP/89/8).

mention industry at all, either in relation to current programmes of the Bank or in the outline of its plans and priorities for future long term projects and programmes. It would thus appear that for such a pivotal agency as the World Bank, neither the particular issue of local sourcing nor, more generally, concern for industrial promotion and development of the LDCs are high priorities.

Yet another restraint on local industry promotion has its origins in those tasked with drawing up donor projects. With few exceptions, they are highly trained, often with considerable professional experience and expertise in designing and setting up similar sorts of projects across different countries. But these attributes, together with severe time constraints, bias expertise towards looking for sources of supply that are well known to them and easily accessible. These will tend to be international and from the major industrialized countries. It is therefore not surprising that they will know very little of available or potential supplies in the LDCs or, importantly, have the time to go out and search for this information. As the 1989 report JIU observes:

International project managers are a powerful influence in the final determination of the source of equipment and should be recognized as such... Recognition must be given to the fact that international personnel are themselves attracted towards the products, facilities and services of developed countries through familiarity among other reasons.²⁵⁷

A further set of constraints inhibiting local sourcing arises from applying the principle of "fair treatment" implicit in the UN's desire for international bidding. According to the UN's Common Principles and Practices Governing Procurement of Goods and Services by the United Nations System of Organizations,²⁵⁸ to qualify as a prospective supplier a firm should:

- register with the individual UN organizations which commonly procure the goods offered;
- document its qualifications as a supplier of the particular goods to be procured;
- provide documentary proof of its financial standing; and
- have no affiliations with countries designated by the General Assembly of the UN as unacceptable sources of supply;

The prospective supply firm should be able, as required:

- to arrange delivery and provide installation, commissioning and after-sales service in the country where the equipment is to be used;
- to supply technical manuals, instruction booklets and spare parts lists in the required language(s);
- to dispatch company staff to the project site at short notice in case of emergencies;

²⁵⁷ UN Joint Inspection Unit, *op. cit.*, 1989, p. 10.

²⁵⁸ UNDP and IAPSO, *op. cit.*, 1989, p. 76.

- to ensure proper administrative, technical and quality controls; and
- to provide all documentation needed in connection with the shipment of the goods.

In striving to be "fair", the qualifications necessary and regulations laid down for a manufacturer even to be considered as a potential source of supply for equipment under this system are clearly biased against small producers and those located in the LDCs. They are handicapped by having limited resources themselves either to find out about the opportunities which exist, or to communicate rapidly through widely-used modern communications systems (telephone, telex and fax) their ability to supply the goods required.

The price of goods presents another important set of real or potential problems for local sourcing. The most common concern is that local supplies in the LDCs are disadvantaged because they tend to be priced higher than internationally-traded goods, often because of a lack of economies of scale, overvalued exchange rates and/or special characteristics of international markets. Also the cost structures of many LDC enterprises with relatively low fixed costs but relatively high variable costs act as a potential bias against competing aggressively on world markets. A particular example here would be that of clinker produced by the erstwhile joint venture CIMAO located in Togo in West Africa which in the early 1980s attempted to sell its output in neighbouring Côte d'Ivoire at a price 74 per cent higher than clinker imported from Europe. Part of the reason for the price difference was because of over-capacity in Europe. This led to a price setting policy of the European supplier which was based upon its marginal costs and those marginal costs were far lower than those of the Togolese competitor. Even if the Togolese enterprise had followed such an aggressive marginal cost approach instead of a "full cost plus mark up" approach it could not have competed successfully with the European competitor given the existing different cost structure.²⁹⁹

But even if the quoted price of the imported product is lower than a domestic alternative, this needs to be weighed against the time-consuming process of going through international bidding procedures. As the Third Five Year Development Plan for Bangladesh argues:

Procurement against international competitive bids is time-consuming and not always in conformity with the urgency of requirement of particular items for certain enterprises. Since cash is scarce and procurement has to be made under commodity assistance, the buyer, in order to be on the safe side, always tries to make over-booking of stores with borrowers' money and bank interest.³⁰⁰

A related issue is the effect on costs (and therefore on prices) of establishing inter-linked industries: the establishment of an industry in one sub-sector can lead to a reduction in price of other (high-cost) manufactures, thereby increasing the opportunities for local sourcing. Thus in Mauritania in 1981, a cement packaging factory was opened using bulk cement brought in from Spain, followed in 1985 by the establishment of plaster manufacturing unit. As a direct result of these initiatives, it was reported that the price of building materials dropped

²⁹⁹ Nytelka, L., *Ivorian Industry at the Crossroads*, Oxford paper presented to the workshop on Alternative Development Strategies in Africa, Queen Elizabeth House (mimeo.), Oxford, 1989, pp. 40-41.

³⁰⁰ Republic of Bangladesh, *The Third Five Year Plan 1985-90*, Dhaka, November 1985, p. 223.

considerably.²⁶¹ However, also the opposite development cannot be ruled out. Especially if new industries producing intermediate goods are established and quantitative import controls and/or customs duties to protect such infant industries are then introduced, the input prices of downstream industries are likely to rise. This in turn can render those industries even less competitive and makes them less interesting for local sourcing by donors unless special mechanisms are found to compensate those industries for their higher input prices.

Further insights into the problems of procurement and the LDCs come from the UNDP's continually up-dated **Guidelines on Project Formulation**.²⁶² When officials embark upon the drawing up of a project, their attention is drawn to a number of "special considerations" which they need continually to bear in mind. In particular, they are alerted to "those economic and social goals which have been established on a global basis by the governing authorities of UNDP and in furtherance of which UNDP is required to undertake necessary actions".²⁶³ Specific mention is currently made to four considerations: women, the poorest and most vulnerable sections of the population of a country, the environment and the need to promote technical cooperation among developing countries. What is of relevance here is that there is no special consideration given to the promotion of domestic industry in countries where projects are undertaken and, in particular, to the need to look for domestically-produced goods when drawing up projects. Indeed the section in the Guidelines discussing inputs not only fails to make any recommendation to look for local sources or to promote local industry, but appears (at least implicitly) to assume that inputs will normally be sourced externally:

With regard to equipment, note that they should be functionally relevant; that their potential economic and social impact should be attuned to the economic and social goals of the Government (eg those relating to employment, integration of disadvantaged groups of population in the development process, environment, etc.) and that the country receiving them (emphasis added) has appropriate repairing and servicing facilities. Make adequate provision for spare parts that are unavailable or difficult to obtain in the country.²⁶⁴

A summary of some of these major constraints is contained in the annex to the 1989 JIU report, reproduced here in full:

Constraints to procurement from developing countries²⁶⁵

"Efforts to increase procurement from developing countries are beset with a number of constraints - some on the part of the United Nations system and the others in the developing countries. These are:

- inadequate knowledge in the United Nations system and relative difficulty in identifying competent and experienced consulting engineering organizations and reliable manufacturers and vendors in the developing countries;

²⁶¹ Economic Intelligence Unit, *Country Profile 1989-90 Mauritania*, pp. 76-77.

²⁶² United Nations Development Programme (UNDP), *Guidelines on Project Formulation*, Programme Policy Division of the UN, New York, 1984.

²⁶³ UNDP, *op. cit.*, 1984, section 105.1.1.

²⁶⁴ *Ibid.*, section 109.6.

²⁶⁵ JIU, *op. cit.*, 1989, Annex; see also DP/1987/19, paragraph 7.

- conditioning, attitudes and inertia of international project staff and procurement officers who have been accustomed to certain types of equipment and services from established sources and their reluctance to try out untested sources in developing countries;
- limited experience of suppliers in the developing countries regarding requirements to be met in submitting bids or proposals;
- inadequate interest by some suppliers from developing countries in overseas sales, given the size of the local markets, the internal price structure and/or the quality control requirements;
- lack of information in developing countries on opportunities for the supply of equipment and services to projects undertaken by the United Nations system;
- asking, in invitations for services, for international, regional or in-country experience, which the bidders from developing countries may not have, thus simultaneously eliminating them from current contracts and depriving them of the experience to qualify in the future;
- inadequate infrastructure and high transportation costs preventing the rapid and economical movement of goods between developing countries;
- the changing content of the equipment component of projects reflecting their high-tech nature;
- attitudes in some developing countries that may favour goods and services from developed countries or maintain the traditional sources; and
- considerations concerning standardization, warranties, start-up, training and availability of after-sales service, including long-term arrangements for spares, which sometimes preclude participation of suppliers and manufacturers from developing countries".

Finally, however, it is important to note that even if procurement rules and the practice of donor agencies tend not to favour local sourcing they are not immutable. Not only is there evidence of change at the level of individual agencies to encourage further local sourcing, but it is apparent that different donors can and do treat the issue quite differently. Thus, the ILO has recently increased the share of procurement it will permit to originate in developing countries, has raised the financial ceilings for local procurements and made waiver procedures more flexible. More specifically in the United Republic of Tanzania, the FAO increased the local procurement limit from US\$ 10,000 to US\$ 20,000 per item, which has enabled important equipment items such as vehicles to be purchased locally.²⁶⁶

6.2.4.2 Some project evidence

Detailed examination of a number of World Bank project documents on LDCs illustrate some practical difficulties with procurement methods and procedures which can or could inhibit the current use and encourage the further development of local industry. One problem is that

²⁶⁶ Reported in the 1988 Resident Coordinator's Report for the United Republic of Tanzania (p.10). Procedures for the UN Secretariat require that "single purchases in excess of US\$ 10,000 are subject to international bidding unless there are exceptional factors which preclude bidding"; see UNDP and IAPSO, *op. cit.*, 1989, p.12.

even when it has been decided that goods could be procured locally, it is common practice to stipulate that these be obtained through the system of competitive bidding, frequently with a minimum of three bids. Such a condition simply excludes large slices of industry in the majority of LDCs. What is more, when the Bank waives tendering procedures and engages in what it refers to as "prudent local shopping" for equipment, it always tries to keep these purchases to an absolute minimum, avoiding this method of purchase wherever it can. Further, it only adopts these procedures under specific circumstances. These include: when existing contracts are extended, when there is no need for standardized or proprietary equipment,²⁶⁷ when delivery is urgent or when competitive bidding has been unsuccessful.²⁶⁸

In a World Bank forestry project in Ethiopia in 1986,²⁶⁹ it was decided that "small off-the-shelf items costing less than US\$ 20,000 each, which are required urgently, and purchased by prudent local shopping with at least three price quotations" could be obtained. However, the report of the project goes on to add that "the total value of procurement through prudent shopping would not exceed US\$200,000".²⁷⁰

Local sourcing is also discouraged by the practice of combining together sets of equipment requirements into different "packages". Such a practice severely reduces the ability of an LDC supplier to be able to provide all elements in the package, while it is not uncommon for these packages themselves to be procured under international competitive bidding.²⁷¹ Thus the Forestry Project report states that "vehicles, equipment, tools, nursery supplies, machinery and fertilizers valued at US\$ 12.7 million would be packaged up as far as possible into contracts valued at US\$ 100,000 and above and procured in accord with international bidding procedures".²⁷² In relation to construction work and the supply of local construction materials, while recourse was to be made in part to local sources (US\$ 0.8 million out of total material costs of US\$ 5.7 million), local sourcing was clearly viewed as the second-best option:

Contracts for civil works amounting to US\$ 14.1 million include construction for building, housing, roads... These contracts would not be suitable for international competitive bidding (ICB) because the works would be too small-scale and dispersed to attract international interest.²⁷³

Reports by the World Bank on a series of substantial irrigation projects in Myanmar would appear to confirm the absence of coordination of either current and planned projects with

²⁶⁷ This still leaves unanswered who is to decide this important question.

²⁶⁸ Japma, C. J., *Tying of Aid*, Paper prepared for the OECD Working Party on Financial Aspects of Development Assistance, Department of Economics, Groningen, Netherlands, 1989, p. 21.

²⁶⁹ World Bank Staff Appraisal Report, Ethiopia: Forestry Project, 6096-ET, May 29, 1986.

²⁷⁰ *Ibid.*, p. 24.

²⁷¹ It should be noted that international competitive bidding does not preclude local manufacturers - indeed in this instance specific reference is made to their being allowed the 15 per cent local preference of the cif bid price.

²⁷² World Bank Staff Report, Ethiopia, *op. cit.*, 1986, p. 24.

²⁷³ World Bank Staff Report, Ethiopia, *op. cit.*, 1986, p.24

a view to encouraging local industry. The issue is illustrated in relation to the construction industry. World Bank documents for the 1986 US\$ 26 million irrigation rehabilitation project in Myanmar make the comment that no private contracting industry exists in the country and so (understandably) state that the work would be undertaken by foreigners.²⁷⁴ What is of particular interest is that the report on this project refers to the suitability of foreign contractors because they have worked so well not in one but in two previous projects as well as on one other current project - (Irrigation I (US\$ 17 million), Paddyland I (US\$ 30 million) and Paddyland II (US\$ 34.5 million). What is more, the documents state that the 1986 project is to be the first stage in a 25 year master plan for irrigation rehabilitation in the country. While further knowledge of the different irrigation projects and of the construction industry in Myanmar might provide clear answers, it is striking that no mention is made of the possibility of creating a local construction capability arising from what is clearly a significant demand for construction materials over an extended period.

On the other hand, it is equally apparent that some World Bank personnel make particular efforts to source locally, highlighting the key role that project officers can play here. Such differences occur in part because the wording of directives about sourcing would appear to allow scope for initiative. Thus the 1989 General Business Guide reports that "The Bank generally requires use of international competitive bidding procedures unless other procedures are more appropriate for specific procurements".²⁷⁵ In this connection, a Bank staff appraisal document of an electrification project in the southern provinces of the Lao People's Democratic Republic reports on the local availability of wire and switches thus:

Provision will be made in the bidding documents to allow partial supply from domestic manufacturers. Some small-scale local industries in Vientiane manufacture house-wires and switches. According to EDL (Electricité du Laos), the quality of their products is acceptable, but their quantity of production has been limited.²⁷⁶

The project document fails to explain why the quantity of production has been limited. Neither does it explain why local construction companies were granted permission to erect the warehouses necessary for the project but why the building of the wooden-pole treatment factory was to be a turn-key "single responsibility" contract for the supply of goods and equipment, civil construction, equipment installation, testing and commissioning.

6.2.5 The problem of aid tying

LDCs received US\$ 11.5 billion in official development assistance in 1988. Of this, US\$ 7.4 billion or nearly 65 per cent consisted of bilateral aid from the major western donor countries, members of the Development Assistance Committee (DAC) of the OECD. Of significant importance is the sharp increase in bilateral aid. The share of bilateral aid in total aid to LDCs increased from 38 per cent in 1978 to 65 per cent in 1988.²⁷⁷

²⁷⁴ World Bank Ye-U Irrigation Rehabilitation and Modernization Project, Report No. 5524-BA, July 1986.

²⁷⁵ UNDP and IAPSO, General Business Guide Report, 1989, p. 54.

²⁷⁶ World Bank, Staff Appraisal Report, Lao People's Democratic Republic, Southern Provinces Electrification Project, May 1987, 6733-LA.

²⁷⁷ UNCTAD, The Least Developed Countries 1989 Report, p. A-37.

Tying goods and services to the country of origin of the donor is a problem that challenges local procurement directly. It applies particularly to bilateral aid but even multilateral aid tends - *de facto* - to get more and more tied through some types of special funds arrangements.

The extent to which the major donors do - *de facto* - tie the aid they provide to LDCs to the purchase of goods and services produced in their own countries is not exactly known. However, some sketchy evidence confirms that the practice of aid tying does exist and its effect is substantial. Country-based evidence, such as those derived from the 1988 Resident Representative's report on Samoa confirms that goods identical to local ones are imported from Australia, New Zealand and Japan. While the 1988 Resident Representative's report from Guinea comments that bilateral assistance continues to be tied to the procurement of goods from the donor country, evidence from the United Republic of Tanzania states that a Japanese aid project utilized imported cement when the cement factories in the United Republic of Tanzania are under-utilized and the United Republic of Tanzania is, in most years, an importer of cement.²⁷⁸

A general indication of aid-tying by DAC bilateral donors can be gleaned from Table 6.1 which shows the proportion of tied aid commitments to LDCs. On the whole, 51 per cent of the 1987 aid commitments of DAC donors is tied or partially tied. This shows an increase compared to previous years; the share of tied aid in total aid to LDCs increased from 48 per cent in 1985 to 50 per cent in 1986.²⁷⁹

It is likely, however, that the extent of aid tying is even higher than the figures in Table 6.1 would suggest. The reasons include the rise in mixed credit and associated financing schemes

Table VI.1: Aid tying and total ODA commitments of DAC bilateral donors to LDCs, 1987

Country	Tied and partially-tied aid commitments (Per cent)	Aid commitments to LDCs	
		(US \$ million)	Percentage share of total DAC
Australia	48	59.8	0.5
Austria	28	11.8	..
Belgium	57	84.4	0.7
Canada	48	304.5	2.4
Denmark	17	186.1	1.5
Finland	82	89.1	0.7
France	47	783.2	6.3
Germany, Federal Republic of	43	872.4	6.9
Ireland	..	11.0	..
Italy	82	1,357.0	10.6
Japan	44	1,084.5	8.7
Netherlands	43	429.8	3.4
New Zealand	45	10.4	..
Norway	31	123.9	1.0
Sweden	10	5.9	..
Switzerland	25	126.1	1.0
United Kingdom	58	338.8	2.7
United States	64	827.0	6.6
Total DAC	51	6,789.6	53.1

Source: OECD data base, quoted in Jepma, C. J., *op. cit.*, 1989.

²⁷⁸ UNCTAD, *The Least Developed Countries 1989 Report*, p. A-37.

²⁷⁹ Jepma, C. J., *op. cit.*, 1989, p. 18.

which link the provision of, usually, soft loan finance to purchases of equipment from donor countries. Another less tangible but equally important reason can be advanced:

There are many ways in which donors can influence procurement without formal tying. They can choose particular sectors or commodities that are more susceptible to procurement from the donor. More or less subtly, they can indicate that the recipient would be wise to place orders with the donor. Such practices, combined with traditional commercial links which may create inertia in the choice of suppliers, can result in much bigger procurement orders out of aid than formal tying practices alone would produce.²⁸⁰

Evidence from studies of particular donors tends to confirm this picture. For example, "most of France's aid to its former dependencies returns to France regardless of tying conditions".²⁸¹ Even in the case of Canada which is considered to be a donor less prone to tie its aid than many other DAC bilateral donors, it was found in the early 1980s that "over 82 per cent of its aid was tied to the procurement of Canadian goods and services although DAC figures state(d) that only 51.75 per cent of Canadian bilateral aid" was tied.²⁸² For the UK, a 1986 report puts the figure at 74 per cent, compared with the figure of 58 per cent given in Table 6.1, above.²⁸³ After a thorough examination of all the evidence of tied aid, it was safely be concluded that:

... some 70 per cent of bilateral aid of the European Community (EC) countries has led to procurement in the donor countries. This is 20 percentage points more than procurement based on tying alone.²⁸⁴

However, the tying of aid should not only been seen negatively. This potential (and often actual) advantage for donor countries is also an incentive for them to continue and strengthen their development aid activities. In addition, economically strong pressure groups in donor countries have thereby been created, which have an explicit interest in the continuation and strengthening of development aid activities, a fact which especially in times of budget consolidations in donor countries impedes any significant cut in the overall development aid budget that would otherwise occur.

On the other hand, the negative consequences of increases in the share of tied aid must not be neglected as they are also considerable. There are two principal ways in which industrial development in LDCs is held back as a result of aid tying. To the extent that products supplied by the donor could have come from local sources, the expansion of local industry is impaired. But additionally, studies have consistently indicated that tied aid tends to cost between 10 per cent and 30 per cent more than products obtained competitively.²⁸⁵ To the extent that this

²⁸⁰ Cassen, R. and Associates, *Does Aid Work?* Oxford University Press, London, 1985, p. 286.

²⁸¹ Cassen, R., and Associates, *op. cit.*, p. 287.

²⁸² Riddell, R. C., *Foreign Aid Reconsidered*, London, James Currey, 1987, p. 208.

²⁸³ Jepma, C. J., *op. cit.*, 1989, p. 20.

²⁸⁴ Jepma, C. J., *op. cit.*, 1989, p. 20.

²⁸⁵ For a review see Riddell, R. C., *op. cit.*, 1987, p. 209.

represents a loss of international purchasing power to the aid recipient,²⁸⁶ potential overall growth and development is constrained because of a reduction in import purchasing capacity. This particular difficulty is highlighted in the following comment from Bangladesh's Third Five Year Plan:

Under these (aid-related imports) arrangements, the buyer is to buy from a particular market or group of markets and not from the competitive or cheapest source... As such, every year corporations and enterprises are constrained to make a substantial amount of uneconomic purchases. These purchases have far-reaching effects on the cost of finished products and their marketing ...²⁸⁷

Public sector procurement procedures remain cumbersome owing to the tendering formalities and conditions imposed by various aid-giving countries, and financial power in matters of import of materials is also limited.

A final point to note is the possible impact of the EC Single Market on the tying of bilateral aid. Although European donor countries have been reluctant to discuss the aid implications of EC 1992, it is the view of senior officials in Brussels and Luxembourg as well as of officials at the OECD in Paris that from 1993 individual countries will no longer be able to tie their bilateral aid to their own nationals, goods or services. If this view is sustained, it would mean that individual European donors in their bilateral aid programmes will not, thereafter, be permitted to link the aid they give exclusively to the supply from their own nationals: in the case of technical assistance, their own goods; in the case of commodity aid and other product purchases, and their own banks, finance houses, export credit agencies; and shipping and insurance, in the case of aid-related services. They will have to widen their tendering procedures to encompass all 12 EC member countries.²⁸⁸ This could mean - *ceteris paribus* - a significant increase in the purchasing capacity and hence a *de-facto* increase in the development assistance given to developing countries by European donors. It does of course raise the question of whether the level of bilateral aid will be maintained at current trend rates if the benefits to the donors are at least potentially curtailed. But if it is maintained, the impact in terms of reducing the cost of international purchasing could be quite significant. Another potentially positive side effect of such a removal of existing barriers, which *de facto* compelled donors to look for resources only within the donor country, could be the following: Once this barrier is lifted there should not exist any major obstacle to extend the search for manufacturing inputs for development aid projects beyond the borders of European donor countries. Thus it should become easier for European donor countries to follow the recommendations of the 1990 Paris Declaration to increase the effectiveness of foreign development assistance by "untying of aid to the maximum extent" and giving "priority for purchasing from local sources".²⁸⁹

²⁸⁶ For some donors, it is apparent that if aid were not tied to domestic purchases then the absolute amount on offer would fall.

²⁸⁷ Republic of Bangladesh, *op. cit.*, 1985, p. 223.

²⁸⁸ It needs to be added, however, that it is the view of many politicians in EC countries who have expressed an opinion on the subject that as aid constitutes an offshore activity, the rules of public procurement applicable within the EC should not - and will not - apply.

²⁸⁹ UN, Paris Declaration and Programme of Action of the Second United Nations Conference on the Least Developed Countries, Paris, 1990, p. 18.

6.2.6 Economic performance and local sourcing

While one common constraint inhibiting local procurement is clearly the low level of industrialization in the LDCs, there is no doubt that another major factor has been the relatively poor, and - for some LDCs even deteriorating - performance of their manufacturing sectors, especially in the early 1980s.

For all LDCs combined, the UNIDO data-base reveals that manufacturing value added in constant 1980 US\$ increased by less than 2.2 per cent per annum over the period 1975-1988, far below the target rate of 9 per cent per annum stipulated at the First United Nations Conference on the LDCs in Paris (1981).²⁹⁰ Contrary to public perception, the growth rate of MVA in the 1980s (1980-1988) seems to be higher (2.3 per cent per annum) than that of the late 1970s (1975-1980) (2.0 per cent per annum).²⁹¹ The increase in the growth rates in the 1980s, however, occurred only in the second half of the 1980s. In the early 1980s (i.e. from 1980 to 1986) growth rates of MVA had declined to a meagre 1.7 per cent per annum before bouncing back in the second half of the 1980s. Given the high population growth rates in the LDCs, MVA per capita in constant 1980 US\$, nevertheless declined from US\$ 20.53 in 1975 to US\$ 18.26 in 1986 (-11.1 per cent) before rising again to US\$ 18.95 by 1988 (3.8 per cent).²⁹² If one varies the base years of the analysis, the whole picture changes as follows: In the ten year period to 1987, the rate of growth of MVA of the LDCs was 1.64 per cent, less than half the rate of 3.86 per cent achieved in the ten year period to 1977, and a staggering fall from the 13.47 per cent ten year average recorded for 1973, the first ten year period after the independence of most LDCs.²⁹³

The principal concern here is the effect that the aggregate performance is having on local procurement. The majority of LDCs have suffered since the late 1970s from severe foreign exchange shortages resulting from large foreign debt commitments, high debt service payments, deteriorating international prices for their major primary commodity exports²⁹⁴ and "too much weight" that was "put on the role of the State in development" while "insufficient attention was paid to individual initiatives and enterprises".²⁹⁵ This dismal performance made many LDCs enter into vigorous structural adjustment programmes in the mid 1980s. These adjustment

²⁹⁰ The reasons for this, however, include the fact that individual LDCs have set for themselves target rates of growth of MVA lower than the group target. Thus, in the first half of the 1980s, Bangladesh had a target rate of growth of MVA of only 8.4 per cent (achieving 4.8 per cent in practice), while the Third Five Year plan (1986-90) of the erstwhile Democratic Yemen announced an effective moratorium on new industrial projects (other than the biscuit factory). In practice many LDCs which did have ambitious growth rate targets for MVA (United Republic of Tanzania, Malawi and Somalia in Africa) are now engaged in short term structural adjustment measures, the primary concern of which is often rehabilitation rather than industrial expansion.

²⁹¹ As with all statistics on the LDCs, these figures need to be treated with some caution. However, the underlining trends, that is, deterioration of the manufacturing sector in the early 1980s and the (slight) recovery in the late 1980s, seem to be out of question and are confirmed by most statistical data available.

²⁹² Figures are from UNIDO Database 1991, Regional and Country Studies Branch.

²⁹³ Figures from UNIDO's Report Writer Retrieval System, Countries Time Series Data-Base, November 1989.

²⁹⁴ The details can be found in UNCTAD, *The Least Developed Countries Report 1989a*, New York, 1989, and *Trade and Development Report 1989b*, New York, 1989.

²⁹⁵ UN, *Paris Declaration and Programme of Action of the Second United Nations Conference on the Least Developed Countries*, Paris, 1990, p. 4.

policies, however, have had adverse short term effects. Such adjustment programmes which curtail development project plans, trim public services and squeeze imports of inputs to the manufacturing sector affect adversely domestic demand.²⁹⁶ At the same time "private sector development in pursuit of national objectives has not always been facilitated by modern investment codes and regulations and by dynamic institutions providing financial, technical and related support" and "the parastatal sector has not been given the degree of autonomy, or developed the level of effectiveness, necessary for the success of national development efforts."²⁹⁷

The effect of these constraints on local procurement has been to reinforce the factors already frustrating the use of domestically-made products in aid projects. A problem in this context has been the disruption of existing (state) planning mechanisms without them being replaced by more adequate market oriented planning mechanisms (through chambers of commerce, trade unions, associations of industrialists and other similar institutions), so that any ordered use of current local products has become even more difficult to promote. As a result, attempts to utilize donor funds in a coordinated way to plan for future industrial development have also been adversely affected. Disruptions to production caused particularly by lack of imported inputs and spare-parts has increased the unreliability of supply, heightening the already strong compulsion of donors to source externally.

6.3 Proposals and policy implications

6.3.1 Filling the information gap

A series of proposals are put forward here which could help to promote the use of locally-produced industrial inputs in the projects and programmes of donors. Many of these follow directly from the analysis of the previous sections of this chapter.

A first conclusion arising from this analysis is that in spite of all the difficulties highlighted, there are grounds for arguing that there is considerable potential for non-industrial donor-funded projects both to use currently-available manufactures and to help promote future industrial expansion to a far greater extent than occurs at present.

A careful analysis of recent tenders of development aid projects in LDCs,²⁹⁸ shows that there is - apart from some sophisticated machinery and equipment (such as computers, digital telecommunications systems, transformers, photocopiers, scanning machines, hydro-electric turbines with electronic control systems, cranes, dredgers, special trucks and tractors, audiovisual equipment, scientific equipment such as medical equipment, radiological equipment, laboratory equipment including microscopes, spectrometers, oscilloscopes, etc.) - enough room for local supplies. Development aid projects such as: road rehabilitation projects, for example, in the United Republic of Tanzania have a demand for "crushed stones"; an Ethiopian dairy rehabilitation project has a demand for 'irrigation equipment'; a pipeline rehabilitation project in the United Republic of Tanzania needs portable de-watering pumps and rotary compressors; the Botswana Telecommunications Corporation has a demand for the supply of security fencing for its radio telephone towers. Other aid projects in a number of African LDCs created the

²⁹⁶ Details of the effects of structural adjustment policies are contained in UNCTAD, *op. cit.*, 1989b.

²⁹⁷ UNCTAD, *The Least Developed Countries Report 1989*, New York, 1990, p. 5.

²⁹⁸ *African Economic Digest*, January 1990 - March 1991.

demand for manufactured goods which could be sourced locally: in Ethiopia, the supply of furniture, a library, kitchen and catering equipment is needed for an education project, and pipes, fittings and plumbing tools are needed for a water supply project; a World Bank project in Lesotho has the demand for office equipment and other items such as gums, staple pins, office clips, blue and red ball pens, office bells etc.; educational projects in Gambia, Madagascar, Mozambique, Rwanda and the Sudan created the demand for school furniture and basic instructional equipment; in Burkina Faso briefcases for pupils are needed within the framework of another education project; irrigation equipment is needed in Mauritania; insecticides are needed in Mali and Cameroon; a water supply scheme in Malawi has a demand for pumps and filters as well as several steel tanks; a sugar rehabilitation project in Uganda has a demand for mud filters and pumps; a petroleum engineering aid project in Madagascar shows a demand for water pumps, and gas-oil and oil centrifuges; bathroom furniture (sheets of hardboard, mosaic pieces, concrete rounds and bathroom equipment) are needed in Cape Verde for an EDF-project; as part of the flood reconstruction programme water pumps and earth working equipment are needed in the Sudan; cast-iron and PVC pipes, plumbing and miscellaneous accessories are needed for the installation of a water network in Togo; in the United Republic of Tanzania there is a demand for corrugated iron sheets as part of a smallholder food crops project, in Uganda an EDF programme calls for the supply of bicycles; in many LDCs (e.g. Mozambique) hospital rehabilitation includes the installation of air-conditioning and ventilation systems as well as hot- and cold water systems etc.

Potential for local sourcing of manufactured inputs can be found in the case of nearly all types of development aid projects and there are thousands of (smaller) items which could be made available by LDC manufacturers instead of being simply imported if those manufacturers received a timely and detailed information on the specific demands arising from future development aid projects and if those projects could be designed in such a way as to take best advantage of existing local manufacturing resources.

However, data gaps are still enormous, both in relation to the details of current sourcing of equipment and to the approaches used and methods of decision-making utilized by donors to source their equipment supplies. Thus the first proposal is that further work be done to increase information in both areas. This could be done in two particular ways. Detailed country studies of aid projects and procurement processes could be undertaken. These would require, at minimum, visits to the countries, discussions with the relevant UN and other donor officials and analysis of detailed project documents, using similar terms of reference to those drawn up for the present exercise.²⁹⁹ Given the diversity of both the levels of industry in different LDCs and the varying extent to which macro-constraints inhibit their manufacturing sectors, it is proposed that a range of countries be selected including representatives of those with larger industrial sectors, those with minimal industrial capacity, those which have been particularly affected by macro-economic constraints and those which have managed steady industrial expansion in the 1980s.

Another (complementary) approach would be to select a number of the major multilateral and bilateral aid agencies which dominate the aid projects of the LDCs and examine the extent to which they source or attempt to source locally and the extent to which the considerations of local sourcing are integrated into their project cycle deliberations. To undertake such an analysis, it would clearly be essential to visit the headquarters of the organizations selected. At minimum it is proposed that one multilateral and one bilateral donor

²⁹⁹ The discussion of particular World Bank projects, above, suggests that it is insufficient solely to read project documents, especially if one wants to understand why local sourcing did not take place.

is selected; given the variety of experience of different agencies recorded above, however, it would clearly provide a far richer source of data if at least two of each were to be investigated. The previous discussion suggests that, for the multilateral agencies, UNICEF and the World Bank, while, for the bilateral agencies, France or the United Kingdom together with a Scandinavian country, the Netherlands or Canada would highlight different approaches of the two types of donor.

6.3.2 Proposals at the country level

The over-riding objective is to raise the profile of domestic sourcing possibilities; this can be done by putting forward proposals to inject both information about and awareness of the issue in the donor community. Action will be required on a number of fronts.

One reason for limited local sourcing is because individual LDC governments, and therefore the donors, have no or limited information about local sources of supply. To address this problem a series of initiatives could be undertaken. First, assistance could be given to LDC governments (and where they exist ministries of industry) or other institutions (such as Chambers of Commerce, Associations of Industrialists, etc.) provide a data-base of locally-manufactured products, by pooling information which is at hand or could fairly easily be made available. For such a data-base to be useful to donors it would need to contain the following information: product name and brief description; comment on quality (standards norm or specification); size of order that could be met; delivery time; actual or potential supply problems; (i.e. total capacity and actual capacity utilization), name of manufacturer(s) contact address/telephone number and person.

Besides providing a data-base of accessible information on locally-manufactured products, in most countries there is an additional need to compile an inventory in particular of products produced by the small and/or informal sector. Hence a second (albeit related) exercise would be to provide assistance for the seeking out of information and concomitant compiling of data on manufactures produced by the small/informal sector and for putting this information on the data-base. In contrast with the proposal in the previous paragraph, this initiative is likely to require some detailed survey work in most if not all of the LDCs.

Clearly the final decision to embark on either of these exercises would rest with the respective LDC governments. There would, however, be two clear benefits for UNIDO to offer its services to assist with the gathering and presentation of the data. First, it would have a comparative advantage in being able to design a system common to all the LDCs. Secondly, as the UN agency with responsibility for industrial issues, UNIDO is in the unique position of having the potential to ensure that donors take note of and utilize this information in planning and executing their projects.

The next step, therefore, would be to seek means for UNIDO to bridge the gap between the donors and the information on locally-made products. There are a range of proposals that can be made, ranging from the long term to the more immediate. Perhaps the most basic objective is for UNIDO to raise the profile of industry among the donor community: to help them always to "think industry" when approaching all the different aspects of their own work. There are a number of ways in which this could be done. It is apparent, however, that many of them can be facilitated through UNIDO having more staff members permanently in the field.

A number of tasks for UNIDO staff can be outlined together with the benefits which should accrue. First, it would enable UNIDO to be able repeatedly to insert an industry

perspective into formal and informal gatherings and round table meetings of the donor community. Second, UNIDO would then be in a better position to keep in regular touch with other donors projects and to take the initiative within the donor community in coordinating the actual or potential industrial impact of their projects so as to ensure that maximum use is made of local resources.³⁰⁰

Third, UNIDO would then be in a position to discuss the potential of local content sourcing directly with project leaders of other donor agencies responsible for planning, designing and implementing future projects, and, in particular, to raise the profile of local sourcing into decisions being made for equipment sourcing. Clearly much more can be done before decisions are finalized to influence the sourcing of equipment, its unpackaging, its design and appropriateness and the method (ranging from direct local purchase to international competitive bidding) of purchase. Clearly, too, however, this is an area of potential sensitivities between donors and the host government. Thus, both in order that this task to be done, and for it not to be seen in any way as a challenge to the government's own role, it would be important for UNIDO to undertake this work either explicitly for or in extremely close collaboration and liaison with the government. In countries, such as Bangladesh, where the government already injects such information into the overall planning process, such data are already being processed. In most countries, however, up-to-date information on the potential use and especially the integration of equipment needs is not gathered in any comprehensive manner. What is more, even in countries such as Bangladesh, there would appear to be a role for UNIDO to play - if only to raise higher on the agendas of the donor community the issues of the potential for local sourcing and donor coordination.³⁰¹

In parallel with this initiative and with the same objective of raising the profile of industry among the donors, UNIDO could both expand upon the present level and coordinate the dissemination of information about industry in the LDCs to other donors in a more systematic manner than occurs at present.³⁰² The manner in which this could be done ought to be the subject of further discussion. The following proposals constitute one set of ideas: greater allocation of resources to the UNIDO Industrial Development Review Series in order to include a comprehensive country by country analysis of industry covering all LDCs; initiating a new series whose specific purpose is to disseminate information on local sourcing; offering technical assistance to produce industrial sector surveys in the case of those LDCs where such information does not exist; offering to up-date information which is old or no longer relevant to the current problems of industry in the LDCs.

Assembling such information should not be seen as an end in itself; it is important to pass the information on and attempt to ensure that it is acted upon. There would, however, appear to be no institutional mechanism in place at the present time for UNIDO either to disperse such information to other donors, at the international or local levels, or to ensure that this information is acted upon.

³⁰⁰ As pointed out above, this role of co-ordination is now frequently undertaken *inter alia*, by UNICEF, UNFPA, WFP and WHO.

³⁰¹ Clearly the tasks outlined here for a permanent UNIDO presence on-the-ground are substantial and care has to be taken that such an additional workload can also be absorbed by those UNIDO staff who are already resident in the (larger) LDCs.

³⁰² UNIDO would need to coordinate its efforts in this field with those of the World Bank to avoid any duplication. Recent examples of parallel industrial studies undertaken by the World Bank and UNIDO in both Côte d'Ivoire and Zimbabwe with little to no inter-action between the efforts of the respective institutions suggests that there is scope for change in this area.

6.3.3 Altering the international agenda

Improving the data-base and raising the consciousness of donors about the potential for local procurement through initiatives that are within the specific competence of UNIDO need to be complemented by a series of parallel but broader initiatives at the international level. While a number of the proposals in the following paragraphs are clearly beyond the scope and competence of UNIDO to execute or even to promote in isolation, they could be brought by UNIDO to appropriate international fora.

It is apparent that the actual and potential use of donor project procurement is limited in most LDCs. The problems LDCs have been facing in the 1980s are likely to persist well into the 1990s unless and until there is both a major additional injection of external funds into the economies of the LDCs and a reduction in the annual amounts paid in debt servicing. It is thus clearly important for UNIDO to give its full support to the efforts of both the LDC governments and other UN agencies to attempt to increase the level of donor funds channelled to the LDCs. One approach would be for UNIDO to undertake its own analysis of the external resource gaps of the LDCs and/or to feed its own data into that of other agencies such as UNCTAD or the World Bank. Either way UNIDO needs to play a more prominent role in the international discussions about external financial resource short-falls. One way it can do this is by playing a more active role in the deliberations of the OECD's Development Assistance Committee.

As highlighted in the chapter on "Procurement in Theory and Practice" in drawing up projects, all UN agencies are required always to pay special attention to four "special considerations": the environment, women, the poor and most vulnerable groups of the population and the promotion of technical cooperation among developing countries. It is proposed that UN agencies add a fifth "special consideration", namely the need always to look for opportunities to promote domestic industry in the LDCs.

It is also suggested that in the case of the least developed countries, current rules and practices which tend to favour international competitive bidding and are biased towards the supply of equipment in relatively large packages be altered. In particular, it is proposed that normal international competitive bidding procedures should be adopted only after an assessment is made of domestic sourcing potential³⁰³ and that if domestic products are available there should be flexibility in procedures to allow project managers to purchase directly from domestic sources (prudent local shopping) if there are fewer than three local manufacturers,³⁰⁴ and that there be no pre-determined upper limit to the amount of project funds which can be used for local procurement.³⁰⁵ However, alternative control mechanisms have to be found which will prevent any abuse of such a system. A UNIDO role in monitoring and controlling such prices of manufacturers of LDCs by comparing them with actual world market prices could be envisaged as a first step. It is additionally proposed that the packaging up of "small" orders for equipment supplies be undertaken only after an assessment is made of domestic sourcing potential and that such packaging does not prejudice supplies of equipment from domestic

³⁰³ The term "domestic sourcing potential" refers to manufacturing capabilities and not to the supply of foreign goods brought in by local merchants. It is proposed that international "rules of origin" clauses currently applicable to LDCs be used to determine foreign as opposed to local manufacture.

³⁰⁴ In such a situation, it is unlikely that local tendering could take place.

³⁰⁵ It may be necessary to provide an upper percentage limit for particular countries. This would need to be investigated. The general point made here is to remove the bias against local sourcing which currently exists.

manufacturers. In both instances, it is proposed that the common rules applicable to prospective suppliers to UN projects are set aside.

There are clearly problems with the practical effectiveness of the 15 per cent procurement benefit of sourcing from developing countries. In relation to the LDCs, it is proposed that "the individual project budget be disburdened and a suitable home for the burden found elsewhere".³⁰⁶ In this context, the Joint Inspection Unit proposes three possible alternatives: to charge any appropriate current reserve account, widening its provisions if necessary; to set up a special reserve by charging the Programme's general resources at the beginning of each new quinquennial IPF cycle; to charge the Programme's general resources at the end of a financial year or at the end of each Indicative Planning Figure (IPF) cycle.

It is proposed that non-UN and all bilateral donors be encouraged to adopt similar approaches to local procurement to those being proposed for the UN agencies. In addition, there are a series of particular measures related to bilateral aid donors which, it is proposed, UNIDO place on the agenda of appropriate international fora. These should have a direct and indirect impact on the promotion of local industry both through encouraging local procurement and through raising the efficiency of domestic industrial establishments.

In particular, it is proposed that bilateral donors untie their aid to the extent of refraining from providing equipment to the LDCs which is manufactured in the recipient country or for which an appropriate local substitute exists. Additionally, it is proposed that, through the medium of the DAC, bilateral donors publish details of the extent to which the aid they channel to the LDCs is tied.³⁰⁷ Especially this disclosure could - de facto - act as a moral deterrent for donor countries to further increase the already very high share of tied aid.

Finally, given the acute problems many LDC industries face in relation to low capacity utilization levels and requirements for rehabilitation, it is also proposed that donors not only raise the level of their ODA commitments to the LDCs but that they increase the share of funding they currently channel to the industrial sector in order to make it more competitive and thus ready for local sourcing within the context of future development aid projects. Three particular uses for this expanded industrial aid are proposed. First and, where appropriate,³⁰⁸ donors could utilize or expand commodity aid funds in order to provide imported inputs, spare-parts and replacement machinery to existing industry. Second, donors could raise the level of funding of local and recurrent costs in industry. Third, donors could utilize additional funds to help bridge the gap in the training of indigenous management and technical skills for industry.

³⁰⁶ JIU, *op. cit.*, 1989, p. 12.

³⁰⁷ Using agreed DAC definitions of tied and partially tied aid.

³⁰⁸ Clearly it is wishful thinking to propose that tied aid should be abandoned. The qualification "where appropriate" is made here to suggest that donors should only be encouraged to provide tied commodity aid for those goods which they themselves produce at internationally competitive prices.

7. AID COORDINATION AND INDUSTRIAL DEVELOPMENT IN LDCs

The problem of aid coordination and how to stimulate manufacturing capabilities through use of domestic manufactured products in aid projects in LDCs are major key issues of international importance.

Aid coordination is a problem that has been addressed by the international community at several levels. Given the overriding importance of ODA for many LDCs, and the small share of it directly devoted to industrial development, the question of aid coordination relates not only to avoiding overlap and duplication of efforts, but more importantly to reassessing the role of industry in development cooperation. Important questions arising from the issue of aid coordination include the following:

- How can the LDCs themselves become more directly involved in the process of aid coordination? By which means can this national coordination capacity be enhanced?
- What is the desirable role of international organizations, especially UNIDO, in the coordination process?
- To what extent is the small share of ODA devoted to industry a consequence of inadequate coordination, and to what extent is it a reflection of low priorities for industrial development among donor countries and/or recipient countries?
- How can international awareness of and support to industry be enhanced? (see chapter 8).

There are no straightforward answers to the above. This chapter, however, attempts to address the problem of aid coordination for industrial development in the LDCs by: defining the term aid coordination; examining the need for aid coordination, the features of aid and industry, industrial strategies, existing aid coordination mechanisms and modalities, trends in aid coordination, aid coordination requirements, and policy proposals for improved aid coordination for industry in LDCs.

7.1 Introduction

In view of the unfavourable economic environment facing LDCs, their limited capacity to generate investible surpluses and the magnitude of unmet development needs, there seems to be strong case for an increased volume of external aid - financial and technical- to meet short-term and long-term development needs. The Second United Nations Conference on the Least Developed Countries stressed not only the need for strong policy direction for effective aid management among recipient countries and donors, but also the development of feasible mechanisms and institutions for better aid coordination of resources for development in the

LDCs.³⁰⁹ In this setting, aid coordination becomes a critical issue in industrial development and development in general in LDCs.

The concept of aid coordination as used here concerns concessional aid flows (Official Development Assistance -ODA- as defined by OECD's Development Assistance Committee), but a number of issues that arise also have a bearing on foreign direct investment and on non-concessional flows such as trade credits.

Though ambiguous its operational definition, the concept of "aid coordination" is topical, thus emphasizing the need to clarify its definition for operational purposes. The "classical" notion of coordination suggests that all development assistance should somehow be thrown into a common pool of untied funds from which resources would be drawn to promote activities which have absolute priority. This suggestion may seem absurd and unpractical, because interests of recipient government and donors differ. Experience of recent years show, however, that some LDCs, including Bangladesh, Mali, Mozambique and Sudan have accepted joint aid coordination in the context of economic rehabilitation or structural adjustment. In these case examples the donors at the request of the recipient countries met at the so-called Consultative Groups (organized by the World Bank) or Round Table Meetings (organized by the UNDP) to ensure that key projects in the investment programmes receive financing. Evidence shows that recipient LDCs still stand out as weaklings in the aid coordination process, because of their minimal influence in the identification of key projects. So that LDC recipients may be able to identify economically viable projects which are of benefit to the mass of the population, especially the rural poor their stake in the coordination process need to be enhanced.

Contrary to the above, a more ambitious concept of aid coordination is the passive "exchange of information" among donor representatives. Such coordination is aimed at avoiding contradictory policy advice, for example on policies of cost recovery.³¹⁰

Although many doubt the benefits of aid coordination, its mechanisms and agencies of coordination, there is an increasing consensus that coordination is necessary. Its main objective is to improve the efficiency of existing aid, to ensure that better use of any additional aid resources, to reinforce public support for aid from donors, and above all to make a better use of scarce resources for industrial development in the LDCs. Industrial development (and development in general) is a vast and dynamic field with a very wide range of sectors and linkages with other economic sectors. Donor-funded projects in physical infrastructure, industrial facilities, and "human resources-related" projects, for example, will have several implications for an LDC economy. Lack of coordination in aid programmes may mean that resources are spread- too thin- that the expected impact of projects are never realized. There is thus an urgent need to reassess the various projects and examine how a synergy effect and cost-saving can be achieved through rationalization and coordination of these numerous projects. Moreover, aid coordination will mean a clear purview for future viable investment sectors for the donors, better use of scarce resources and non-duplication of projects.

Aid coordination is a complex matter and one of concern to both the donor and recipient LDCs alike. The actions of both parties involved determine its scope and success. The extent

³⁰⁹ UNCTAD, Paris Declaration and Programme of Action of the Second United Nations Conference on the Least Developed Countries, A/CONF.147/Misc.9, GE.90-52264/24118, 15 September 1990, pp. 17-21.

³¹⁰ The Nordic UN Project, Perspectives on multilateral assistance, Report No. 10:1989, Stockholm, June 1990, pp. 24-25.

to which LDCs are capable to attract foreign aid and the effectiveness of such scarce resources for industrial development depend on the economic advantages of identified industrial projects and to a large extent on effective coordination of aid.

Up till now, there seems to be little or no coordination of aid received by many LDCs. LDC governments have no clear policy or mechanisms to coordinate aid flows. It seems they do not want to intrude upon the donors's aid decisions and thereby risk discouraging aid flows. Donors may fear the political and economic advantages accumulated over the years might dissipate in a framework of reinforced aid coordination.

During the 1980s aid coordination was an increasingly prominent topic, and it is certain to remain on the agenda during the 1990s. Aid coordination is especially relevant for the Least Developed Countries (LDCs) which, as a group, are more dependent on aid than other developing countries.

In order to assess the requirements of aid coordination for the industrial sector in LDCs, a number of threads have to be woven together. These include:

- the state of industrial development in LDCs, their general dependence on aid, and the significance of aid to the industrial sector in particular;
- the changing perceptions of industrial development strategy; and
- the changing aid relationships and the evolution of aid coordination mechanisms.

The state of industrial development of the LDCs is discussed in chapter 1, and the overall aid flows to the LDCs in the previous chapter. These chapters represent very important background and introduction for this chapter.

7.1.1 Aid and industry in LDCs

Most LDCs share the following characteristics:

- a high and increasing dependence on aid. In 1988, concessional assistance from all sources to the LDCs averaged two-thirds of the value of their imports, whereas the average for all developing countries was only 10 per cent.³¹¹ By 1989 ODA accounted for 94 per cent of net resource flows to the LDCs.³¹²
- a low share of manufacturing³¹³ in total GDP, and disappointing performance of the manufacturing sector in recent years. (As noted in the Paris Declaration and Programme of

³¹¹ UNCTAD, *The Least Developed Countries 1989 Report*, op. cit., Annex Table 14.

³¹² OECD/DAC 1990 Report.

³¹³ The share of industry (including construction, electricity, water and gas, together with extractive mining) is considerably larger than that of manufacturing. Many of the same policy issues apply both to manufacturing proper and to industry broadly defined.

Action, the growth of manufacturing output in the LDCs during the 1980s was far less than was envisaged in the Substantial New Programme of Action, and also less than half of the growth rate achieved during the 1970s).

- a low proportion of aid flows directed into industry.³¹⁴

At the same time, it is important to bear in mind the heterogeneity of the LDCs, particularly as this affects their aid coordination. Clearly the context of aid coordination in the large LDCs, with populations measured in tens of millions, is quite different from the very small LDCs. The latter face a different, and more restricted, menu of options for industrial development, have a smaller pool of skilled personnel, and face proportionately much higher overhead costs of government. There are also significant differences between LDCs that are not necessarily related to size - for example, labour is much scarcer in Bhutan than Bangladesh, in Botswana than Malawi; landlocked countries may face particular difficulties in developing exports, and so on.

7.2 Strategies for industrial development

7.2.1 Background

For the LDCs, the 1980s was a "lost decade" for development. The overall poor performance in the development process necessitates a reappraisal of development strategies for LDCs for the 1990s. In this process, there is the need for much revision of attitudes to, and prescriptions for, industrial development.³¹⁵ Chapter 2 discussed the key changes in industrial strategies, since these have very direct implications for the role of aid to the industrial sector. Some issues remain controversial; for example, some critics argue that the de-emphasis of industrial strategy has gone too far.³¹⁶ There is nevertheless substantial agreement about what has gone wrong with many industrialization efforts and about what this implies for the future.

The following paragraphs offer a simplified summary of a range of various strategies of industrialization that have been or are being presently applied in LDCs. The intention is not to re-argue the case for changing views on industrialization, but to identify changes in approach

³¹⁴ Only 5.5 per cent of DAC bilateral aid commitments in 1989 were for industry, mining and construction; for multilaterals as a group the equivalent figure was 6 per cent, less than 4 per cent of UN agencies' commitments for industry, mining and construction (DAC 1990 Report, Table 29). In contrast to industry, the agriculture sector received 11.3 per cent share of bilateral ODA and 28 per cent of multilateral development finance; economic infrastructure received 19.1 per cent share of bilateral and 13.3 per cent share of multilateral commitments; and social and administrative infrastructure sector received 25.7 per cent share of bilateral and 27.8 per cent multilateral commitments. (These figures are for aid to all developing countries. It is, however, unlikely that the share of aid flows to industry in LDCs exceeds the average.) The picture is similar for technical cooperation assistance to LDCs: concerning the share of technical assistance to industry and trade, LDCs for which data is available received only 5 per cent of total technical assistance to developing countries (see Table IV in UNDP, *Technical Cooperation in the Development of the Least Developed Countries*, contribution for the Second United Nations Conference on the Least Developed Countries, 21 February 1990).

³¹⁵ The World Bank has been the most vigorous party in reappraising industrial development strategy (see for example, the World Bank, *World Development Report 1987* and the Bank's various studies of sub-Saharan Africa).

³¹⁶ See Riddell, Roger, *The Manufacturing Sector in African Development*, in *Development Policy Review*, March 1990.

that have particular implications for aid (and aid coordination) in respect of industrial development.

7.2.1.1 Past industrial development strategies

The main features of industrial development paradigm followed especially in the past (or partially being followed) included the following:

- an emphasis on the leading role of manufacturing industry in transforming the economy;
- a leading role for the state in the detailed planning of industrial development, together with;
- public sector ownership of major manufacturing enterprises;
- an emphasis on large-scale capital investment in developing the manufacturing sector; and
- a strategy of import substitution behind high protective barriers.

The socialist centrally planned economies were seen as paradigm of what might be achieved by this approach to industrialization. The Basic Industry Strategy which evolved in the United Republic of Tanzania represented this paradigm and its elements were reflected in the industrialization efforts of many LDCs, including Guinea, Guinea-Bissau, Lao People's Democratic Republic and Mozambique. However, experience in practice was very disappointing. Basic industry strategies failed to match expectations in many dimensions, and their weaknesses were starkly exposed in the unfavourable external economic circumstances of the 1980s. Import substituting strategies failed to reduce import dependence; individual enterprises often performed poorly, with management quality a frequent problem; technology transfer was disappointing; the priority accorded to industrial development held back growth in other sectors, especially agriculture, which in turn acted as brake on industrial development.

7.2.1.2 Present industrial development strategies

In the light of these experiences, a new industrial development paradigm has emerged.³¹⁷ It includes the following elements (although there is still debate as to their relative weight):

- the need to establish an appropriate, sustainable macroeconomic framework;
- the importance of "getting prices right" domestically, and of ensuring a reasonable correspondence between international and domestic prices;

³¹⁷ The World Bank plays an influential role in the moves towards the reappraisal of industrial strategy. However, it is worth noting that many aid agencies, including the World Bank itself, subscribed at the time to the industrialization strategies which were later found wanting. This point is emphasized in the World Bank's own reviews of its aid relationship with the United Republic of Tanzania.

- the importance of the agricultural sector (as a source of demand for industrial products, to generate resources for investment, and as a stimulus for agro-industrial linkages);
- the importance to industrial development of progress and performance in other sectors - notably education and transport, communications and other physical infrastructure;
- the need for industrial enterprises to operate in a competitive environment, with a presumption in favour of private ownership; and
- the recognition of the importance of small- and medium-scale industrial enterprises (which reinforces the perceived importance of the private sector).

The transition to a market orientation attempted by the erstwhile planned economies of Eastern Europe, contrasted with the dynamism of the newly industrializing countries (NICs) of Asia, has increasingly seen the NICs rather than the former CMEA members taken as the models from which other developing countries may have most to learn.

The new set of industrial development paradigm presently applied has radical implications for the role of governments in promoting industrial development. The new view of the government role is encapsulated in the catch-phrase "enabling environment". There is consensus on the importance of the government's role in setting a macroeconomic framework in which industry can thrive, and in undertaking activities in which it has a comparative advantage over the private sector, such as the provision of basic infrastructure and general human resources development. There is still controversy over whether an "enabling environment" is all that is required, or whether, in addition, active state promotion and sponsorship of industry is needed.³¹⁸

Disappointing experience with industrialization efforts in many developing countries has been the main spur to new thinking about industrialization strategy, but revisionism has been given added impetus by technological change, which has also tended to undermine traditional assumptions about industrial development. Five main trends associated with an acceleration of technological change in industry may include:

- an increased rate of innovation;
- broader applicability of new technology;
- shorter life cycles and greater flexibility in response to customers' needs;
- increased automation and a smaller role for unskilled labour; and
- changes in the use of inputs (often reducing demand for traditional developing country exports).

³¹⁸ Riddell, R., for example, argues that a policy framework more supportive of industry than the 'benign neglect' approach associated with the World Bank merits greater consideration. He, however, stresses that the approach he advocates is very different from what might be termed the 'industrialize at all costs' view that has been influential in Africa.

Such changes affect the comparative advantages of LDCs: an abundance of cheap, but unskilled, labour confers less of an advantage than before, while distance from markets becomes more of a disadvantage; production of industrial raw materials may be less of a basis for industrialization as such materials become a smaller proportion of value added in manufacturing, and so forth. Technological changes also affect the modes of industrialization and technology transfer that are appropriate. New technology gives greater weight to skills and institutions and less to physical capital; for LDCs, therefore, it is not enough to import physical capital if the technological and management skills to use, adapt and update it are not also acquired. Technological change thus tends to reinforce the revised paradigm.³¹⁹

For sustainable industrialization, LDCs may choose from below the strategies or a combination of strategies which best suit their size, resource base and stage of industrialization:

- Public sector investment in heavy industry
 - new investment
 - rehabilitation and privatization of existing plants;
- Import substitution
 - consumer goods
 - capital goods;
- Export-led growth
 - processing of raw materials for exports
 - processing of imported raw materials and/or intermediate goods;
- Agriculture-led industrialization;
- Government involvement in planning or making indicative plans;
- Prices set by international market forces and private sector takes lead role; and
- Government responsible for "enabling environment" consisting of appropriate policies, support to infrastructure, human resources development.

As earlier mentioned, there is no need for an *a priori* decision on which development strategy to be followed. Rather, choices for a particular or a combination of the above need to embrace the criteria: country's resources, development stage and the industrial sector to be developed. For example, it may seem unrealistic for Botswana and Djibouti with minuscule agriculture sectors (less than 10 per cent share in GDP in 1980 constant prices) to embark on an agriculture-led industrialization.

³¹⁹ Dahmen, C. J., Technological change in industry in developing countries, in *Finance & Development*, June 1989.

7.2.2 Implications for industrial sector planning and aid

The changing perception of industrial sector development strategy has a number of significant implications for planning of the sector and for aid to it. First, industrial development has to be seen in a less compartmentalized way. Relevant links include:

- the relationship between industrial development and the general macroeconomic context. This involves establishing a stable macroeconomic environment which avoids the disruptive consequences for industry of persistent imbalances, while ensuring appropriate price incentives for industry; and
- the relationship between manufacturing industry and complementary sectors.

Industry's relationship with other sectors has several aspects. Industry is highly dependent on transport, communications and energy services. In the short term, rehabilitation of such services may be as important as the rehabilitation of industrial plant itself. In the longer term, improvements in transport, communications and power may be an essential part of the enabling environment for industry. The inter-relationship between industry and agriculture is recognized as being particularly important. Industry is unlikely to thrive when agriculture does not, whereas agricultural development increases the opportunities for industry, by increasing people's incomes and generating demand both for manufactured consumer products and for agricultural inputs. Education (both general and vocational) is vital in providing the fundamental skills that manufacturing industry requires.

Industry may not be seen as a single motor which by itself can pull the rest of the economy and to which other sectors should be subordinated. Rather, a balanced strategy is required, in which industrial planners show awareness of the links between industry and other sectors, while, at the same time, the implications for manufacturing industry are taken into account in formulating macroeconomic policy and strategies for other sectors.

Secondly, the role of government must be less direct, though not necessarily less important. The management of industrial enterprises is one aspect of this. There is now a presumption in favour of private sector ownership and management of commercially-oriented enterprises, with direct government ownership as the exception to be justified by special circumstances. However, the competitive orientation of management, rather than public or private sector ownership *per se* is seen as the key requirement, and this implies a more "arms-length" relationship between the government and those enterprises which remain in the public sector. Although there will be less direct government involvement in managing industries, the "enabling environment" is highly dependent on the quality of government.³²⁰

Thirdly, there is the need for a bigger role for the private sector and more importance for small and medium scale enterprises. There is an increasing need for governments to facilitate and promote private sector industrial development. This will require a better understanding by governments of the spectrum of existing and potential industrial activity in the private sector as the basis for evolving appropriate forms of support.

³²⁰ See, for example, Arturo Israel, *The changing role of the State: Institutional dimensions*, Working Paper WPS 495, World Bank, August 1990.

All these factors tend to make the manufacturing sector in LDCs less amenable to planning in its traditional forms. By the same token, effective aid for industrial development is less straightforward. And, at the same time, precisely because the sector is seen in a less compartmentalized way, coordination becomes more important.

The success of industrialization will increasingly be measured by the volume of private, rather than public investment that industry attracts.³²¹ It is unrealistic to expect the industry sector to "move up the league table" ahead of overall macroeconomic concerns, human resources, agriculture, infrastructure rehabilitation, and so forth. However, it is important that an appropriate industrial perspective should permeate the discussion surrounding these higher profile topics. An important part of "aid coordination" for the industry sector is to ensure that macroeconomic policies and programmes and those primarily directed at other sectors contribute appropriately to industrial development. With respect to aid that is targeted at industrial development, the accent must be on its quality rather than quantity.

Besides the structural adjustment programmes, many LDCs, including Benin, Ethiopia, Mozambique and Togo have launched profound privatization policies. Privatization and consequent rationalization of the public sector cannot be successful if the private sector cannot get access to ODA aid resources. The response of the United Nations Capital Development Fund (UNCDF) to the need of rural credit programme in Bhutan, village banks in Mali, umbrella credit facilities in Lesotho and credit for small and micro enterprises in the United Republic of Tanzania is significant but not sufficient. Access of ODA resources to private small- and medium-size industrial enterprises need to be substantiated by the involvement of the private sector in the aid coordination process. This will mean a kind of **participatory development** which is all about harnessing human talents and energies at all levels of the society, including the grass-roots. This does not imply bypassing the government, but teaming up with a strong and competent government and its ministry of industry and trade or commerce with the representatives of private small- and medium-size enterprises sector representatives, the chamber of commerce, university and research and technology institutions etc., in the aid coordination processes. Such an "ambitious" teamwork will be possible and effective in a market economy with democracy as a supportive base for industrial development. Effective capital assistance and participation of the private sector in aid coordination will foster income generation and cater for the basic needs of the underprivileged groups, create a framework for the people's dynamic commitment in development process and ultimately build up the basis for good local, provincial national government. Aid coordination need not disadvantage the private and informal industry, but mechanisms are to be created so that it becomes beneficial to both public and private sectors in LDCs' development.

The reassessment of industrial development strategy has to be made in relation to the changes in aid relationships. The approaches to aid coordination are discussed in the next section.

³²¹ The World Bank's long term perspective study (LTPS) for Africa envisages a smaller share of aid going to industry and other productive sectors. Although increased aid flows are advocated, the LTPS scenario almost certainly also implies a reduced level of aid for industrial production. See World Bank, *Sub-Saharan Africa: From Crisis to Sustainable Development*, 1989, Chapter 8.

7.3 Issues and trends of aid coordination

7.3.1 Background

This section summarizes evolving aid coordination mechanisms so as to provide a context for subsequent discussion of aid coordination in relation to the industrial sector.

Aid coordination is an issue that has tended to be raised by aid agencies, rather than recipients.³²² It has come to mean much more than a concern to avoid the overlap and duplication that can result when a number of agencies try to do similar things independently: increasingly, so-called "policy dialogue" has been at the centre of the process. There have been important changes in the way that many multilateral and bilateral aid agencies view their relationship with aid recipients and with each other. These changes are strongly related to the development experiences of the 1980s, and have been reflected in the evolution not only of attitudes but also of institutional mechanisms for aid coordination.

The term "aid coordination" itself is often used rather loosely, so that "better coordination" becomes the prescription for dealing with any deficiency in any aspect of aid management. On the recipient side, the effective planning and utilization of aid depends on the whole planning and administrative machinery of the government, not just on whatever agency is assigned the formal responsibility for managing aid. "Better coordination" becomes an empty recommendation unless the specific problem to be addressed is clearly identified.

On the government side as well as the donors', there are many different actors whose interests may differ and whose actions need to be harmonized. Although harmonizing the various efforts of aid agencies and recipient - ensuring that they are mutually consistent and reinforcing - has obvious potential benefits, there are always costs involved too: coordination should be optimized, not maximized.

There are many different levels at which coordination may be sought. Much discussion of the subject concerns coordination at country level (for example through Consultative Group meetings), but there are also important supra-national coordinating forums (such as the Development Assistance Committee of the OECD amongst western donors, and various regional groupings of recipients, for example, the ACP group which negotiates aid with the European Community under successive Lomé Conventions, and the Southern Africa Development Coordination Conference). Coordination efforts may focus on "high-level" policy issues, on avoiding duplication of effort at operational level, or on common administrative or technical problems. The attitudes and approach of the various parties may be quite different at different levels of focus, and so it is important to be clear what sort of coordination is at issue.

7.3.1.1 The need for aid coordination

There are three main strands to the problem which better aid coordination is supposed to address. These include:

- the number of aid donors with which the average developing country has to deal;

³²² Recipients are more likely to have the volume of aid as their primary concern.

- the capacity of the recipient government itself to coordinate the aid it receives; and
- the increasing salience of macroeconomic and policy concerns, as against a focus on investment projects.

Other problems which make better aid coordination necessary are:

- the unpredictable, complex development patterns in increasingly pluralistic economies/societies; and
- the rapid and difficult process of industrial development.

The impetus towards more explicit aid coordination from each of these sources has increased, and in each case the impetus has tended to be even stronger for the LDCs than for other developing countries.

Number of donors: The average developing country is said to have twenty-five to thirty official aid agencies.³²³ In some of the smaller LDCs there are fewer active donors, but there may be off-setting difficulties of coordination - for example, fewer of the active donors are likely to be represented in-country. (Each aid agency may offer a variety of financing instruments or different "windows" for aid, and this adds to the complexity of the coordination problem.)

Recipient coordination capacity: Almost every analysis of aid coordination acknowledges that the primary responsibility rests with the recipient government. Thus, at "all but the highest levels" of coordination, the role of the recipient government is crucial. Unless the recipient has a firm grasp of the aid process, coordination will not take place, or will at best reflect only the donors' priorities".³²⁴ The DAC's 1986 guiding principles on "Aid for Improved Development Policies and Programmes and Implications for Aid Coordination" stresses that developing countries have the central responsibility for setting their policies and priorities and for aid coordination. Yet there has been an uncomfortable contrast between aid agencies' protestations of recipient responsibility and sovereignty and the increasingly direct role which donors have played in aid coordination. In part this reflects increasing donor scepticism about the policies being followed by developing countries, but in many cases it also reflects the vacuum created by declining administrative capacity on the part of recipients.

LDCs were often administratively weak to begin with, and public sector capacity has been further eroded by the economic travails of the 1980s. The symptoms - declining public resources leading to the erosion of physical and social infrastructure, underpaid public servants lacking the means to do their jobs properly - are by now depressingly familiar. The same circumstances that have reduced recipient capacity to manage aid have made the tasks of aid management more difficult. Uncertainty about levels of resources available has increased, and, as domestic resources have dried up, so has the scope for allocating them in ways that compensate for imbalances in donor flows (even providing the complementary local resources required by aid projects has proved impossible in many cases.) Incipient weaknesses in resource

³²³ Casson, Robert et al., *Does Aid Work?*, London, Oxford University Press, 1986. This figure does not include NGOs.

³²⁴ Casson et al., *op. cit.*, p. 227.

planning and allocation systems show up much more starkly in harsh economic circumstances.³²⁵

Declining Project Focus of Aid: Traditionally, aid was viewed as a resource input requirement to help meet a capital gap. Channelling aid to projects satisfied the donors' need to have something to show for their assistance as well as the recipients' needs for investment. The identification of aid with capital projects has been weakened by several factors:

- Often, projects themselves have not been very successful, and it has increasingly been seen that policy and macroeconomic factors outside the control of individual projects need more attention.
- The problem of meeting the recurrent costs generated by projects has become more acute, and has led to a broader focus on public expenditure as a whole. This is reflected in numerous World Bank public expenditure reviews: in the years since such reviews began to be conducted, their focus has widened from the programming of public investment to the review of capital and recurrent expenditures as a whole.
- Balance of payments support ("programme aid") has become much more significant for countries facing severe economic imbalances, with conditions relating to recipient policies rather than to project implementation. Programme lending is a key feature of the Structural Adjustment Programmes that many distressed LDCs have negotiated with the World Bank and IMF.
- Technical assistance has acquired renewed prominence. Rather than diminishing as countries have built their own capacities, the volume of technical assistance has actually increased.

The changing composition of aid has complicated the tasks of aid coordination. Project aid was often aligned with the responsibilities of a Planning Commission or Ministry. As funds become scarcer and programme aid becomes more important, the roles of the Finance Ministry and the Central Bank become more prominent (the IMFs' links are always with the Finance Ministry rather than the Planning Ministry/Commission, and this may be true for the World Bank as well). And the scarcity of resources is likely to make competition fiercer amongst the various agencies of government. On the donor side, policy-related aid reinforces the case for coordination amongst donors, since recipients cannot simultaneously satisfy inconsistent policy conditions (cost-recovery - the question of charging for basic services as a means of raising the funds to pay for them - is an area where governments have sometimes received conflicting advice from donors).

³²⁵ It is worth noting that the LDC most often believed to be an example of competent planning and aid management system - Botswana - has not had its planning and budgeting system subjected to the test of a sustained period of declining government revenue.

7.3.2 Individual donor responses

Responses to changing aid relationships have been both formal and informal, and are reflected in the way individual aid agencies manage their programmes as well as in their collective coordination mechanisms. In most cases the initiatives have come from donors. Shifts in the composition of aid, such as the increasing prominence of import support programmes, have already been noted. There have also been more subtle shifts in the types of "project" support aid: much aid has retained a "project" format while project content has shifted away from new capital investment towards rehabilitation or even the financing of operating costs. As government administrative standards have deteriorated, donors have been less inclined to route their assistance through government and more likely to retain direct control themselves; there has also been a greater readiness to use NGOs as intermediaries. There has also been a *de facto* change in the emphasis of technical cooperation: more of it has been defensive - more concerned with keeping key government functions operating than with enhancing or developing them.

All these responses by aid agencies are easy to understand, but it is worth noting that many of them make the recipient's aid management tasks more difficult. It is more difficult for government to keep track of aid that does not pass through the government's own books.³²⁶ It is now common to find some of an LDC's best-qualified economists working for aid agencies rather than for the government, which cannot offer competitive pay or conditions.

In many LDCs, aid agencies take the lead in conducting major economic and sector policy studies, and even in collating and analyzing basic data. LDC governments are often unable to produce documents of the standard of the World Bank's periodic Country Economic Memorandum or UNICEF's "Situation Analyses" of social and economic conditions (especially as they affect women and children).

7.3.3 Collective responses: Consultative Groups and Round Tables

Collective responses have centred on Consultative Group (CG) or Round Table (RT) meetings. The World Bank has been the convenor of CGs while UNDP has taken the lead in organizing RTs, but there has been a steady convergence of approach and format. The CG format is developed as a means of organizing donor support for structural adjustment programmes approved by the World Bank and the IMF. Round Tables began mainly as pledging sessions, but have increasingly focused on policy issues and on coordination amongst a country's donors. Most LDCs have held one or more CG or RT meetings in the period since 1981.³²⁷

Agreement on adjustment policies has always been at the centre of the CG process. A pre-condition for the holding of a CG has been agreement between the developing country, on one side, and the World Bank and IMF on the other, on a Policy Framework Paper (PFP). The PFP sets out macroeconomic policies and targets for a three-year period; through the CG the World Bank and IMF seek to mobilize aid resources to support the country's reforms. Round Tables originally had less of a macroeconomic and crisis focus, but similarly sought to mobilize

³²⁶ Most LDC governments' records on aid are very poor; UNDP offices have taken on the role of preparing annual compendiums of aid in standardized Development Co-operation Reports.

³²⁷ Pandey, Devendra raj and Williams, Maurice, Aid Co-ordination and Effectiveness: Least Developed Countries 1981-89, study prepared for the Second United Nations Conference on the Least Developed Countries, UNCLDC 11/4, 8 March 1990.

donor support in the context of an overview of the country's aid requirements. Over time CGs have tended to adopt a longer time perspective and to widen the analytical framework to give more emphasis to sectoral concerns and to the analysis of the impact of adjustment, rather than being narrowly concerned with very short-term macroeconomic adjustments. RTs have become increasingly concerned with the recipient's policies, as against a "shopping list" of aid requirements. For both CGs and RTs, UNDP usually takes responsibility for coordinating analysis of technical cooperation requirements, so that the focus is not exclusively on financial requirements.

Both CGs and RTs meetings themselves tend to be rather formal and ceremonial. Their real significance is in legitimizing, and providing a timetable for a process of dialogue between the developing country and its major (western) aid partners. The developing country has to provide documentation for the meeting in which it sets out policies and aid requirements, while the sponsoring multilateral agency provides an endorsement which, it is hoped, will galvanize support from multilateral and bilateral donors alike. Documentation for the CG/RT often substitutes for a recipient's more conventional National Development Plan that has been rendered irrelevant by economic crisis. Preparation of the recipient's documentation for the CG/RT has often depended upon assistance by consultants and/or by the sponsoring multilateral itself.

The CG pattern of coordination has generated more specialized and more general meetings. More specialized meetings, accompanied by a similar process, may deal with particular sectoral requirements (for example, aid requirements for the rehabilitation of Tanzania's transport sector were the focus of a special donor conference). Some special meetings at country level have focused on the social dimensions of structural adjustment programmes. Drought relief and other emergency assistance programmes have generated similar coordination arrangements.³²⁸

At the more general level, meetings of aid agencies may be convened to consider the overall aid requirements of a group of countries. The most significant example is the group of about 20 donors which meets twice a year at the World Bank in support of the Special Programme of Assistance (SPA) for debt-distressed African countries - with 16 LDCs amongst them - which are undertaking World Bank-assisted structural adjustment programmes. This group has succeeded in mobilizing programme assistance and in standardizing the terms and conditions on which it is provided.

7.3.4 Coordination of technical assistance

UNDP has taken on a special responsibility for reviewing the technical assistance (TA) requirements of LDCs. There has been increasing dissatisfaction with the effectiveness of technical assistance, which accounts for large, and increasing, resource flows to LDCs. The primary focus of recipients' planning and resource allocation procedures has normally been on financial assistance, and procedures for allocating and evaluating technical assistance have been less well developed. Recipients commonly regard TA as less valuable than project or programme assistance, often seeing it as a donor stipulation which has to be accepted as part of the price of receiving financial assistance. The refusal of many countries to borrow to finance TA programmes reflects their scepticism of its worth.

³²⁸ See Pandey and Williams, *op. cit.*, p. 154.

Box 3: Coordinating Technical Assistance - NaTCAPs

National Technical Cooperation Assessment and Programming (NaTCAP) exercises have been sponsored by UNDP since the mid 1980s. By 1990, NaTCAP exercises had commenced in 35 countries (of which only Haiti is not in Africa).

The key features of NaTCAP are:

- a review of a country's experience with technical assistance in order to assess the lessons of the past;
- on the basis of national development objectives, priorities and strategies, an analysis of the adequacy of existing human skills and institutional capacities to implement its economic strategy and an identification of areas which critically require strengthening;
- a systematic assessment of priority technical cooperation needs for immediate operations and for longer-term capacity building, and the extent to which current technical cooperation (TC) activities are meeting these needs;
- a phased programme of TC activities and programmes, in skill and capacity building measures, which will ensure that the national development strategy can be met; and
- actions to strengthen the capacity for management of technical cooperation.

The intention is thus that NaTCAP should define Technical Cooperation priorities and requirements, both to fill immediate operational gaps and to build longer-term national capacity, thus providing a framework for donors to programme their aid and for recipient governments to coordinate it.

NaTCAP objectives are very ambitious and no country has fully realized all the elements of the exercise. Early NaTCAP exercises relied too much on teams of external consultants: the emphasis now is on establishing a national coordinating system for the exercise from the beginning.

Generally, the tasks of reviewing TC experiences and establishing a policy framework for TC have proved less difficult than the later stages of defining and programming TC requirements in detail (Guinea is one of only a handful of countries which have carried the process as far as the preparation of a TC programme). Often information systems for monitoring existing TC programmes are very weak; improving these is a pre-condition for effective programming of TC requirements.

Clearly, the long-run effectiveness of NaTCAP will depend on the review and programming of technical assistance requirements being dovetailed with planning and coordination of other resource flows. Many donor agencies in the field remain sceptical about the ability of the NaTCAP exercise to accomplish the detailed planning and coordination of technical assistance. A UNDP evaluation in 1991 concluded that "the results of NaTCAP have been strong in assessment but weak in progress for mastery of programming techniques." (Williams, Maurice, Evaluation of National Technical Cooperation Assessment and Programmes (NaTCAP) for The UNDP Regional Bureau for Africa, UNDP, February 1991).

Special interest in the coordination of technical assistance is justified not only by the number of agencies providing such assistance (usually a much larger group than those providing significant amounts of project or programme aid) and by the volume of resources involved (about one fifth of total net ODA flows to the LDCs),¹²⁹ but also by the links between technical assistance and the policy and institutional issues on which the adjustment dialogue often focuses. UNDP has been developing a methodology for the review and programming of technical

¹²⁹ UNDP, Technical cooperation in the development of the least developed countries, paper prepared for the Second United Nations Conference on the Least Developed Countries, 21 February 1990.

assistance requirements, through its NaTCAP³³⁰ exercises (see Box 3). Such exercises have been launched in numerous LDCs (although not so far taken up by Asian LDCs); as the exercise has evolved there has been increasing emphasis on indigenizing the review process and on building up a national capacity to review and plan for technical assistance requirements.

7.3.5 Donor and recipient perspectives on aid coordination mechanisms

Donors and recipients tend to react in different ways to the increasingly formal aid coordination mechanisms that have developed. Recipients have often been drawn into CG processes reluctantly, adopting structural adjustment programmes under the pressure of extreme economic crises. The initial tendency was to see the exercise primarily as a means of generating additional aid - and very often the participants have been justifiably disappointed at the levels of additional support achieved. Amongst donors, some have been much more diffident than others about appearing to "gang up" in pressing reforms. Differences in donor attitudes have probably not lessened, but there has been increasing recognition of the CG process as a fact of life. Donors who are concerned to put a more "human face" on adjustment have participated in a high-level dialogue about adjustment policy as well as in the country-level coordination processes. The urge to resist being tightly disciplined by a CG process is not always grounded in policy concerns: donors continue to have their own institutional, political or commercial interests which limit the degree of formal collusion that they accept in practice. Donors on the ground are often torn between a formal commitment to coordination and the practical concern to keep their programmes moving and meet their own organizational imperatives.

Economic crisis in LDCs has led to significant changes in the terms of the aid relationship "on the ground": the dearth of basic resources (transport, salaries, etc.) at the disposal of LDC government officials puts them at a disadvantage in dealings with aid agencies and can threaten the integrity of the aid relationship. Various forms of aid may be sought for their incidental benefits, rather than on an overall evaluation of costs and benefits to the recipient. For example, training and scholarships may be seen mainly as forms of income-supplement; technical assistance projects may be valued much more for the vehicles they provide than for the experts which account for most of the budget. It is difficult for aid coordination systems to be viewed as a partnership of equals when government's aid coordination agency constantly has to beg aid agencies for the resources it needs in order to conduct its day-to-day business.

Despite rhetoric to the contrary, the increasing donor role has detracted from recipients' responsibilities. "Far from strengthening LDC capacities for coordination and management of resources, the reality has been that donors have been playing increasingly prominent roles in the coordination of aid - both directly and through the Bank/Fund policy framework - and that the role of LDC Governments has been relatively diminished in the process".³³¹ In a number of LDCs, a two-track planning and resource-management system has been developed. On one track the LDC continues formally to prepare a national development plan at intervals, often focusing in the traditional way on capital project requirements. In practice, though, this exercise is academic, as the resources are simply not available that such a plan would require. On another track, a small group of senior LDC officials works with the World Bank and the IMF to prepare a Policy Framework Paper and Consultative Group documents which are much more effective in determining macroeconomic policy and resource allocations, but which are not part

³³⁰ That is, National Technical Cooperation Assessment and Programming.

³³¹ Pandey, D., and Williams, M., op. cit., p. 120.

of the LDC's acknowledged planning system and which are often not seen by those most affected. Matching the rhetoric of recipient responsibility for planning and aid coordination to reality will require a convergence between the parallel planning procedures.³³²

7.3.6 Likely trends in aid coordination for LDCs

The tendency for aid coordination to be formalized around CG and RT meetings is likely to continue. The diffidence of some donors about the whole concept of such coordination has largely disappeared. Reactions against too narrow and short term a focus of structural adjustment programmes have been allied to broader "conditionality", related for example to human development criteria. The debate has focused on what strategies LDCs should be helped to follow, not on the basic issue of whether donors and recipient should collectively discuss such strategy in the first place. At the same time there is growing recognition of the danger that more energetic approach to aid coordination emanating from donors can undermine the recipient's own capacity for planning and coordination.

This concern is reflected in the improvements to CG/RT processes that various reviews³³³ have recommended. The main proposed improvements would involve:

- reinforcing the link between aid coordination and national development planning and resource programming;
- clearer definition and allocation of aid and planning responsibilities within LDC governments;
- more systematic monitoring and follow-up of CGs/RTs between formal meetings as well as improved preparatory work;
- supplementing macroeconomic overviews with sector and sub-sector strategies so as to provide an appropriate context for sectoral projects and technical assistance;
- continued and improved liaison between the World Bank and UNDP in their role as convenors of the country-level aid coordination groups; and
- more explicit efforts to address LDC coordination capacity and to engage LDC governments in review of governance issues including:

³³² In some countries this is happening. Procedures for compiling a prioritized Public Investment Programme that were developed for CG documentation by Uganda have been incorporated in the regular planning cycle of Uganda's Ministry of Planning and Economic Development. In preparing for a Round Table in 1992, Bhutan intends to use its own Seventh Plan as the primary documentation.

³³³ See Diallo et al., *Capacity building for aid coordination in the least developed countries: An evaluation Report on UNDP's role in capacity building for the management of development resources*, UNDP, February 1991 (draft); Pandey, D. and Williams, M., *op. cit.*; and World Bank, *Sub-Saharan Africa: From Crisis to Sustainable Development*, 1989, chapter 8.

- * particular efforts to review and improve the effectiveness of technical assistance, especially in LDC capacity building;
- * more involvement of NGOs in the coordination process; and,
- * better coordination and programming amongst the various UN agencies.

Efforts to achieve a "high-level" consensus on development strategy and resource requirements for LDCs will also continue, and, to the extent that they are successful, will facilitate coordination amongst donors at country level. The Global Coalition for Africa proposed in the World Bank's long term perspective study for sub-Saharan Africa, represents a deliberate attempt to maximize consensus on development strategy: the approach was endorsed by the Africa Conference at Maastricht in July 1990. The DAC offers a mechanism for seeking further harmonization of aid agency procedures and raising the quality of aid, and so forth.

7.4 Aid coordination for industrial development

7.4.1 Special features of industrial aid for LDCs

A number of trends that affect the role of aid for industrial development in LDCs were identified in section 8.2 above. A further point worth noting is that aid for the industry sector is probably more affected than other sectors by the special interests of bilateral donors. It therefore warrants particularly careful review and evaluation by recipients.³³⁴ One likely effect of self-interest on the part of donors is to reduce the share of LDCs in aid for industrial development, since the LDCs represent a less promising set of commercial opportunities for the donor countries. This consideration may also affect aid from multilateral agencies such as UNIDO, since a proportion of their activity is based on project-specific funding from bilaterals.

The rest of this section spells out some of the main challenges for aid to LDC industrialization that arise from the previous discussion.

7.4.2 Importance of macroeconomic and sector policy framework

Efforts to build international consensus on development strategy can help in better aid deployment. During the 1980s, the concern to cope with immediate crises often led to short-term adjustment approaches which were not based on a sufficiently broad or long-term perspective. Such deficiencies are now being rectified, but, in adopting longer-term perspectives, it is also important that strategies do not lose touch with present realities.

The need to base industrial development on a sound macroeconomic framework is widely accepted. As Consultative Groups and Round Tables develop, they would complement macroeconomic perspectives with sector and sub-sector strategies, including strategies for industrialization. These strategies must, however, be attuned to the interrelationships between industrial development and other sectors. Aid agencies can assist in developing LDCs' capacity

³³⁴ See Pandey and Williams, *op. cit.*, p. 27: "The country review process should aim to prevent the commercial interests of donors influencing project selection as much as it should be alert to malpractices within the recipient country, since both contribute to inefficiency and cost escalation in projects, among other things."

for broad-based industrial policy analysis, and in helping developing countries to learn from each other's experiences.

Policy analysis and planning for industry needs to draw on improved statistics and understanding of LDCs' industrial sectors (formal and informal, large and small scale). Aid agencies can play an important role in rehabilitating and/or improving industrial statistics. Not only do certain international agencies have relevant expertise, they may also be able to take a longer view of the importance of relevant data bases than LDC governments which are inevitably pre-occupied with short-term crisis management.

Assistance to strengthen LDC capacity for industrial policy analysis and planning should not be directed only at the sector specialists in Ministries of Industry, but should also encompass the macroeconomic agencies of government and draw in other opinion formers, such as the LDCs' academic institutions and of course industry itself.

An accent on policy formulation may have to be accompanied by reduced emphasis on projects as the mode of aid, both generally and as regards technical assistance. The Nordic study of the UN's role in development has advocated "a redefinition of the role of the specialized agencies in the provision of technical cooperation, reducing their role in the execution of projects, in particular at the national level, and increasing their role in upstream activities such as sectoral analysis and advice."³³⁵ Although not framed with special reference to industrial technical cooperation, the recommendation is clearly relevant.

Cross-sectoral approaches should be stressed, in examining the inter-relationships between agriculture and industry, for example, and in identifying the educational implications of economic and industrial change. When cross-sectoral studies are undertaken, it is important that they are genuinely joint undertakings of the LDC agencies involved (Ministries of Industry need not independently commission a review of agro-industrial issues, for example; such an undertaking would involve the Ministries of Agriculture as an equal partner from the outset).

7.4.3 Making aid relevant to private sector development

One consequence of the neglect of the private sector under the old industrial development paradigm is that comparatively little is known about the existing private sector in many LDCs, particularly about small- and medium-scale enterprises (SMEs).³³⁶ As noted earlier, improved understanding of the sector must be the basis for future interventions.

As pointed out in section 8.2 and chapter 2, the new industrial development paradigm implies a less obvious and direct role for LDC governments in promoting industry. Since aid is usually channelled to, or at least through, governments, the role of aid is also less straightforward. However, aid may be useful in supporting industrial development strategies in a variety of ways that fall short of financing direct public sector investment, for example:

³³⁵ The United Nations in Development, final report of the Nordic UN Project, 1991.

³³⁶ "Economic policy reform programmes tend to focus on the impact on larger firms, mainly because of lack of information concerning microenterprises and their specific needs; these should be taken into consideration more fully."; see Dressing, Maryke, Support for Microenterprises: Lessons for Sub-Saharan Africa, World Bank Technical Paper Number 122, July 1990.

- in promoting foreign direct investment - through guarantee schemes, by promoting contact between LDC and developed country private sectors, and so forth;
- in export promotion (although much experience with export promotion agencies has been disappointing);³⁷⁷
- in assisting industrial extension and support services; (such services are likely to move away from the "captive" industrial estate model, and may increasingly be provided by private sector institutions); and
- in supporting the development of financial institutions within LDCs.

Development of the financial sector in LDCs is important as a means of decentralizing resource allocation through markets. The more that investment is directed to SMEs, the less practical is it for external aid agencies to be involved in venting individual investment decisions. Many LDC development finance corporations have suffered from the management and other weaknesses common amongst public sector enterprises; the lessons from these experiences need to be applied in designing future aid. In many cases the restructuring of existing institutions is a prerequisite.

Project preparation may be a particular weakness affecting LDC private enterprises. Initiatives such as the African Project Development Facility of the IFC may address this. A key aim must be to provide aid in forms that do not encourage enterprises that are economically inappropriate or insulate enterprises from the consequences of inefficiency.

Private sector representatives need to be drawn into industrial policy making within LDCs. Governments may have to encourage and work with representative organizations such as employers' federations and chambers of commerce, while recognizing that these are special interest groups, whose views the government has to balance against national considerations.

Education and training is an area in which government/private sector cooperation is especially important. As the main education "producers" governments are likely to give undue weight to public sector education requirements, and this bias is also likely to be reflected in aid that is negotiated by governments. Consultative machinery needs to be developed which involves industry in determining course and curriculum priorities, encourages relevant vocational training and apprenticeship schemes and, where administrative allocation of trainees takes place, provides for allocations to the private sector.

There seems to be an increasing need for concessional aid in LDCs, but where such aid is channelled to commercial enterprises (whether in the public or the private sector) it is important to avoid distorting effects. This needs to be taken into account in determining who should receive the direct benefits of aid concessionality.

³⁷⁷ See Keesing, D. B. and Singer, A., *Development Assistance Gone Wrong: Why Support Services Have Failed to Expand Exports*, World Bank Working Paper WPS 543, November 1990.

7.4.4 Privatization and managing/reforming existing public sector enterprises

Although new industry establishments may continue to attract larger portion of aid, more efforts would have to be made to channel aid (direct and indirect) to existing troubled enterprises. This is an area where coordination is particularly important, since the individual instincts and interests of various donors are unlikely to add up to a coherent industrial rehabilitation strategy. Moreover, plant- and enterprise-level rehabilitation efforts are likely to be futile if they are not accompanied by macroeconomic and sector strategies that deal with fundamental constraints. Often a basic obstacle to successful restructuring is a government's refusal to countenance liquidation of enterprises whose economic liabilities outweigh by far the benefits. A simplistic objective of increasing capacity utilization in such enterprises is no substitute for careful economic appraisal of enterprises' potential viability.

For their part, aid agencies need not be dogmatic about forms of ownership. Rather the aim may be to promote efficient, competitive enterprises: private ownership may be part of the framework, but need not necessarily be so.

7.4.5 NGOs and industrial development in LDCs

The role of Non-Governmental Organizations (NGOs) in promoting development has become more prominent in recent years (partly as a result of their own achievements, but partly also in reaction to the shortcomings of governments). The Paris Programme of Action declares that: "The role of NGOs in development assistance is recognized and they can play a useful role in extending assistance to and within the LDCs in close coordination with the national authorities." Accordingly, "Concerned non-governmental organizations, including particularly indigenous NGOs, are also requested to participate in the Programme of Action for the development of the LDCs."

However, much of the discussion of NGOs is focused on a particular variety of NGOs which are specialized in promoting participatory development at the grass roots level. NGOs of this type rarely have industrial development as their primary focus, although they frequently become involved in the promotion of small-scale industrial activities. From the point of view of industrial development it makes sense to adopt a broader view of NGOs, to include not only the local level participatory organizations but also other non-government bodies such as educational trusts, industry associations such as chambers of commerce, not-for-profit organizations, including technology development groups, and so forth.

It is difficult to generalize about such diverse groups, but the following points may be relevant to industry sector planning and coordination:

- The strengths of NGOs often lie in their heterogeneity; detailed direction and control need not be attempted. On the other hand, clear government policies and objectives can provide a framework in which NGO efforts can be more effective.
- An open style of policy formulation and planning can give NGOs and others a chance to contribute from their perspectives. Involvement of representatives of various interest groups could be sought in planning for industrial development as in other sectors.

- NGOs may be valuable pioneers in developing new approaches to development. Governments (and aid agencies) should be prepared to support their experiments and learn from their experiences, but should be wary of destroying their voluntarist character by providing too much support.
- NGOs may suffer from the same weaknesses as governments when they become involved in competitive commercial activities; such activities by NGOs should be dispassionately evaluated.
- NGOs may have particular roles to play in promotion and support of small-scale industry,³³⁸ and in human resources development for industry.

7.4.6 Regional cooperation and coordination

LDCs belong to a wide variety of regional organizations with overlapping memberships, which almost invariably include non-LDCs. The costs of servicing such organizations (for example, the travel costs and the commitment of scarce senior personnel) are disproportionately high for small LDCs. Some of the incentives for continuing to do so are perverse (as when international travel is an important supplement to inadequate official salaries). Nevertheless, most LDCs are such small players in the international economic arena that regional cooperation and coordination has strong attractions in principle.

However, the predominant benefits for industrial development from regional cooperation amongst LDCs may well be indirect ones. Efforts at direct regional cooperation in industry (such as large cement or fertilizer plants to serve several countries) have a very poor record, while the regional groupings that have been most successful (such as SADCC) have not focused initially on industrial cooperation. Assertion of national interests in the location of industries has undermined several attempts at regional cooperation, and direct cooperation may be inherently more practical in activities that are ancillary to industry, notably international transport corridors, communications, agricultural research, and training. Successful cooperation in such activities can have important benefits to industrial development.

Regional groupings do provide a useful point of contact between developing and donor countries, and provision of some facilities at an international level may be the only practical means of ensuring LDC access to them (the African Project Development Facility and the African Enterprise Fund are examples).

UNIDO is through its Industrial Development Decade for Africa (IDDA) programme considering a regional or sub-regional approach to the provision of its investment advisory services in coordinating and monitoring of projects. It is in this regard that UNIDO is deliberating convening regular meetings, for example every two years for governments,

³³⁸ Dressing, M., op. cit., p. iv, observes that: "The task of reaching micro-enterprises requires small, flexible and responsive organizations, with sufficient autonomy to make ad hoc decisions yet with adequate coordination at the national level. Therefore a main device for reaching microenterprises is to institute a two-tier arrangement with specialized resource institutions ... Such organizations include PVOs, NGOs, cooperatives, banks, business associations, churches and women's groups. In this respect, cooperation with NGOs could be greatly facilitated through longer term commitments by donors, clearly defined appraisal criteria, and early reconciliation of the social objectives of NGOs and the assistance program's requirements for economic efficiency."

coordinating agencies and aid donors to review, adjust and monitor industrial projects and programmes in the Southern and Eastern African region. The main aim will be to promote industrial cooperation through coordination and harmonization of projects. IDDA II plans to launch UNIDO into the realms of both industrial promotion and coordination to the benefit of both private and public industry in the African subregion.

7.4.7 Coordination amongst aid agencies

Country-level coordination systems (see section 8.3 above) can be very useful in strengthening planning and aid coordination, but there are aspects of coordination amongst donor agencies that need to be further addressed. For example, it has been recognized that there are particular problems of coordination amongst the various UN agencies. Attempts to give the UNDP resident representatives a stronger role as Resident Coordinators for the UN agencies have had only limited success (indeed, one of the benefits of a Round Table exercise may be to strengthen the Resident Representative's position vis-a-vis the specialist agencies).

Recipient attitudes to informal collaboration amongst aid agencies are ambivalent. Any appearance of "ganging up" is resented, but so is the inefficiency that results when two sets of donors conduct essentially the same studies independently of each other. Cooperation between aid agencies should be transparent, but so long as LDCs are not excluded from the process, they should welcome and encourage inter-agency cooperation.

The administrative burden of aid management can be reduced by forms of co-financing, in industry as in other sectors. However, the benefits of co-financing depend very much on the form it takes. If more than one agency insists on undertaking its own feasibility studies, supervision, etc, the project is likely to become more unwieldy. Genuine benefits occur when one donor is prepared to let another take full responsibility for preparation and management.

It may also be appropriate to look for ways in which different agencies can offset each other's disadvantages. For example, because bilateral agencies are often non-altruistic in the commercial aid they offer, LDCs may benefit from disinterested multilateral advice when negotiating industrial assistance or in the management of projects funded by bilaterals.

Nomination of lead donors for particular projects or activities is often proposed and sometimes practiced. As far as the industrial sector is concerned, multilaterals may be better placed than bilaterals to take such a lead, for the reasons already noted. On the other hand, this is a sector where many agencies may be reluctant to exert self-discipline: ultimately it is up to the recipient to be disciplined in rejecting offers that are inappropriate for technical or policy reasons.

7.4.8 Role of UNIDO in aid coordination

It appears from the above discussions that UNIDO in the past has not fully played its envisaged role in aid coordination. UNIDO after all is the executing arm of the United Nations for industry-related technical assistance³⁹⁹ and has built up major professional competence in this field.

³⁹⁹ See Articles 1 and 2 of UNIDO constitution. The primary objective is defined as "the promotion and acceleration of industrial development in the developing countries ... (and the promotion of)... industrial development and co-operation on global, regional and national, as well as on sectoral levels".

UNIDO has, so far, been highly dependent on UNDP-financed projects. Such UNDP funding seems, however, to be declining. Moreover, there is increasingly strong competition in project execution from UNDP itself, the World Bank, regional development banks and bilateral agencies. This calls for a reassessment of UNIDO's own role as well as its enhanced interest in effectively coordinating the industry-related activities of the entire donor community in the LDCs. The extent to which opportunities are seized to strengthen UNIDO's coordinating role depends largely on the dynamism and competence of the field representation of UNIDO in the LDCs.

The highly specialized services of UNIDO issuing from various activities such as the **Programme Approach**, the **Industrial Development Decade for Africa (IDDA)** for national, sub-regional and regional projects, and the **Special Programmes for Asian LDCs**, should enable UNIDO to play an active role in aid coordination for industry in the LDCs.

Though the programme approach,³⁴⁰ UNIDO country directors in LDCs are capable of giving valuable services to the NaTCAPS (in 1990 alone 23 NaTCAPS were undertaken in sub-Saharan Africa). **UNIDO's programme approach could be a useful tool for the preparation of the NaTCAPS.** UNIDO could provide sector and sub-sector surveys and analyses as a tool for such programmes. Also UNIDO's current industrial rehabilitation programmes in developing countries may serve as a useful tool for international coordination. These programmes could effectively help in the design of coherent rehabilitation strategies that consider not only macroeconomic aspects, but also sectoral strategies for the elimination of constraints to the operation of the industrial system and concomitantly the rehabilitation of individual industrial plants. Instead of pursuing isolated technical assistance projects, UNIDO services could thus be used to formulate a comprehensive, multidisciplinary programmes for the individual countries. Such programmes could then include one group of key actors which is in most cases neglected - the private industry. A potential investor looking for business opportunities in a specific LDC would be a case in point. In LDCs and developing countries, the traditional clients of international assistance have been government ministries in charge of industrial development and related promotional institutions. But given the current emphasis on the promotion of private industries and privatization of public enterprises in LDCs, this traditional orientation to technical services will present only limited opportunities in the near future. An important partner will be private industry. Since there is an ever increasing tendency for NGOs and other private donor institutions to finance private industry. UNIDO could be used to support the programming and coordination of projects of various donors and LDC governments themselves in the field of industry.

7.4.9 Aid modalities

"Obvious" (but not easy) ways in which any given level of aid could be made more effective (in terms of benefits to the recipient) are by simplifying procedures and by untying aid. Benefits for industrial development could be direct or indirect: direct benefits would accrue, as for other sectors, from measures by donors to make their procedures simpler, to harmonize with

³⁴⁰ The programme approach was developed at UNIDO in response to the widely perceived need for increased impact of technical assistance projects in industrial development of developing countries. It can be applied at three levels: (a) **Indicative programmes:** represent a cost-effective programming method through the preparation of sectoral typologies to be used by Governments, development assistance organizations, bilateral aid donors and potential investors; (b) **Country sectoral programmes:** can be prepared independently of the foregoing programming activities, or can be undertaken as a follow-up to a sectoral typology and/or an indicative programming exercise, and can be prepared at various levels; and (c) **Integrated sectoral programme:** provides a package of related technical assistance projects, as well as investment needs and policy recommendations for the development of an industrial system in one country.

each other, and to make their procedures more compatible with those of the recipient. (This is a two-way street, recipients may also need to strengthen their administration so as to satisfy legitimate donor concerns).

Ways in which aid for other projects could indirectly benefit industrial development in the LDCs are discussed in chapter 6. Since aid is such a substantial resource flow to LDCs, its potential for stimulating industrial development cannot be overlooked.

7.5 Conclusions and policy proposals

The unfavourable nature of national and international economic environment facing LDCs creates a greater need for increased ODA - both in volume and quality - and more importantly effective aid coordination for industrial development. Aid coordination on the national and supranational levels should help avoid duplication of efforts at operational level or common administrative/technical problems and facilitate thereby better use of scarce resources.

There seems to be a declining trend of ODA flow for economic development in LDCs. The scarcity of resource flows is likely to make competition for aid fiercer among economic sectors and agencies of LDC governments. In fact, aid for industry is more adversely affected than any other economic sector of LDCs. Industry receives only a minuscule share of resources. As a reaction to this shortcoming, it makes sense to adopt an effective coordination strategy to utilize wisely the scarce resources available for industrial development in LDCs.

Proposals for improvement in aid coordination for industrial development in LDCs relate to some aspects of country/regional-level and donor agencies coordination systems. These may include the following:

Coordination among donor agencies:

- continued and improved liaison between the World Bank, IMF and UNDP in their role as convenors of country or regional-level aid coordination;
- better coordination and programming amongst the various United Nations agencies - UNIDO, FAO, UNICEF, ILO, World Bank, UNDP etc.; and
- more systematic monitoring and follow-up of CGs/RTs between formal meetings as well as preparatory work, UNIDO's expertise services in industry-related fields need to be fully utilized;

Country/regional-level coordination:

- clearer definition of aid coordination and allocation of and planning responsibilities with LDC government;
- better harmonization of aid and debt relief policies;
- reinforcing the links between aid coordination, national development planning and resource programming;

- supplementing macroeconomic overviews with sector and sub-sector strategies so as to provide an appropriate context for sectoral projects and technical assistance, UNIDO's services may be found very useful;
- more explicit efforts in collaboration with aid donors to address LDC coordination capacity and to engage LDC government in review of governance issues;
- particular efforts to review and improve the effectiveness of technical assistance, especially in capacity building;
- more involvement of NGOs in aid coordination process, they may include not only identifiable local-level participatory organizations, but also non-government bodies such as educational trusts, industry associations like the chamber of commerce, technical development groups and research institutions; and
- more government/private cooperation in aid coordination process so as to create a favourable environment for the flow of resources into the private sector. Given the current emphasis on the promotion of private enterprises and privatization of public enterprises in LDCs, the traditional orientation to technical assistance will present limited opportunities in the near future, and the important partner will be private industry. Though privatization is important, the channelling of aid - for example, on highly concessional terms - into commercial enterprises needs to be coordinated so as to avoid distorting effects.

Any viable aid coordination mechanism for industrial development will depend to a larger extent on the harmonization of interests and activities of both the donor or donors and the recipient LDC(s).

8. INTERNATIONAL SUPPORT FOR INDUSTRY IN THE LDCs

Another key issue of international importance relates to the problem of limited awareness of the general public in donor countries and development partners (and within LDCs themselves) about the plight and potential of industry in LDCs. Public perception and awareness of industrialization in LDCs currently do not figure prominently in international media where the problems of the developing countries in general and of LDCs in particular are often projected with widespread "disaster fatigue". The international agenda for media exposure often changes its priority according to current thinking on emerging issues and trends on a wide range of topics.

This chapter discusses the possible effective means of enhancing public awareness about the role of industry in development. It identifies relevant specific goals set to reach target groups and media and other information channels that could facilitate the augmentation of public support for industry in LDCs. The primary objective would be to inform partners in development, bilateral donors and non-governmental organizations, and to ensure that not only is there a political understanding of the role of industry, but also a technical, professional know-how in implementing projects and programmes of industrialization.

8.1 The need to mobilize public support for industry in LDCs

A substantial part of international development assistance today is channelled through multilateral agencies and organizations - through the United Nations and its specialized agencies and funds, or through development banks or other financial institutions. Experience from information on development assistance, and results from an international survey on public knowledge about the UN carried out in 1990, indicates that information on multilateral assistance is not fulfilling expectations. The multilateral system and its mechanisms are more complex, more difficult to understand in general terms, than bilateral assistance, or the work of the non-governmental organizations. Part of the explanation may be a tendency for public information, often taken care of under the auspices of the foreign ministries within donor countries, to focus more on the bilateral part than on the multilateral component - indicating that the United Nations and the multilateral organizations themselves have to, increasingly, take over the reins in order to develop basic knowledge and understanding for their activities.

Public support for development assistance may be on the decline in the North, partly as a result of mounting economic and social problems at home, and the dramatic political changes in the North, Eastern Europe and other crisis areas. In addition, a fatigue towards calamities and disasters have developed, resulting in less ready responses to appeals for help from disaster-ridden countries of the South. The fatigue has been nourished by a notion that international assistance has proven inadequate to significantly change the situation of the developing countries.

Facing the challenges of the 1990s, the LDCs need concerted attention and assistance in several areas, including industrial development. The Paris Conference on LDCs, held in

September 1990, recommended development partners to extend help through technical assistance in export development, promotion and diversification, including help to LDCs to participate in trade fairs, and through establishments of import promotion facilities. Exports could further be promoted through the improvement of the quality of packaging of products, using appropriate advertising techniques and with improved management and export marketing information network.

From studies made on the public knowledge and perception of issues related to development affairs, it is reasonable to assume a lack of public comprehension of the complexity of launching the industrialization drive from the scratch.

Clearly, within an information strategy on industry in LDCs, one has to look carefully at goals and means, and keep the generally limited basic knowledge of development issues in mind when directing information at target groups. There is a general need for information on international topics related to the development of LDCs as well as the United Nations work on LDCs, a question that should be raised in an overall context and which UNIDO could follow up with its specialized information on industry. In this context UNIDO could draw up an information strategy to draw public attention to the question of industrialization in the LDCs; based on a formulation of goals and means, and a careful analysis of the possible cooperation partners and target groups.

Despite the limited attention given to industrialization as a key element in development strategies during recent years, there is still considerable amount of assistance that has been, and is, rendered to this sector, albeit not to the same extent in the LDCs. A change of policy orientation, favouring the development of the productive sector, may place industrialization on the international development agenda with prominence - not only in bilateral and multilateral organizations, but also in the ever-increasing group of non-governmental organizations in order to strengthen the public perception of industry and to translate aspirations into deeds.

8.2 Industry in public perception

Industrialization is one of many components of a continuous socio-economic development process. In the developing world, and even more so in LDCs, this sector still has serious shortcomings, albeit still being recognized as a key element to long-term, sustainable development in the South. UNIDO, in its Global Report 1990/91, *Industry and Development*, underlines the importance of industrialization in overall development planning: "To a developing country, industrialization means more than a simple improvement in income and output. It is a way of modernizing its primitive production structure and transforming the entire socio-economic tradition associated with it. In this context, it is important to measure industrialization in its full scope; that is, in its extensiveness as well as in its intensiveness".³⁴¹

Industrialization as a major force in development strategies does not feature as prominently as a decade ago. Other priorities have become fashionable, and consequently, increasingly so also in international development assistance. Policy changes in development strategy orientation do not seem to be easily reflected in the dissemination of information on development processes and the global situation, and consequently industry, a low-key priority

³⁴¹ UNIDO, *Industry and Development - Global Report 1990/91*, Sales No.: E.90.111.E.12, Vienna, 1990, p. 26.

even by the donors, can not be expected to play a prominent role in public perception and awareness.

A general trend in the late 1980s and early 1990s appears to be a greater concentration of focus from the media's side on a limited number of major international issues, where commercial considerations overshadows other criteria for the selection of news and priorities. General development issues are not among the topics given priority, nor do many of the social and economic disasters of the South receive attention. There reigns, as Newsweek points out in a cover story in May 1991, a fatigue towards disasters - which not at least tend to hit the developing countries, and among them several of the weakest, and least developed, such as Bangladesh, Ethiopia, Mozambique, and the Sudan.

International, as well as national, media seldom focuses on industrial affairs in connection with development and "Third World"-reporting. In the general public, it is hard to believe it is possible to identify any specific perception of industry as a strategic sector in international development at all. In the specialized groups, in the donor community or the business sector, one must, however hope that the role of industry is well considered or has the potential to become appreciated.

8.2.1 The place of industry in the international development dialogue

In recognition of the pivotal role which industrialization could play in the economic development of the African countries, the Heads of State and Government, when elaborating the African Strategy for the Third United Nations Development Decade, ranked industrialization second among their priorities, first priority being accorded to self-sufficiency in food production.

The high priority accorded to industrial development is fully reflected in the **Lagos Plan of Action (1980)**, which in paragraph 56 asserts that "the industrialization of Africa in general, and of each individual Member State in particular, constitutes a fundamental option in the total range of activities aimed at freeing Africa from underdevelopment and economic dependence."⁴²

Thus the Lagos Plan of Action was adopted by the Organization of African Unity (OAU) in 1980: it emphasises the importance of industrial development as a driving force for economic growth and overall development. The effective implementation of the Plan hinges, to a large extent, on industry, both as a supplier of essential inputs to all sectors and as a user or processor of the outputs of those sectors. The Lagos Plan of Action calls for self-sustainment and self-reliance, entailing a pattern of economic development and growth consistent with the natural resources and human needs of the region, as well as with its socio-economic and socio-cultural potential. Self-reliant industrial development presupposes indigenous industrialization whereby industrial production is adjusted to the needs of the population. This contrasts sharply with the existing international division of labour which has led to the promotion of the production of raw materials for export, and the light assembly industry oriented towards consumption patterns in the developed countries. A strategy of self-reliance also entails the joint planning, financing and location of major educational institutions in countries in the same economic grouping so as to provide for the education and training of engineers, scientists, technologists and other skilled workers on the basis of comparative advantage.

⁴² See UNIDO, *Development of Human Resources for Industrialization in Africa*, ODG.4(SPEC.), Vienna, 27 April 1988, p. iii.

In order to accelerate the achievement of these objectives, the Lagos Economic Summit adopted the years 1980-1990 as the **Industrial Development Decade for Africa**, which was later reinforced and adopted by the General Assembly of the United Nations.³⁴³ The Second Industrial Development Decade for Africa (IDDA II) was launched in 1990.³⁴⁴

Arguments for the importance of industry in development assistance can be found in several prominent policy documents on international development issues: the report of the Independent Commission on International Development Issues (the Brandt Commission) - "North-South: A Programme for Survival" (1980);³⁴⁵ and its follow-up report "Common Crisis: Cooperation for World Recovery" (1983); the report of the World Commission on Environment and Development (the Brundtland Commission) - "Our Common Future"³⁴⁶ (1987); the report of the South Commission - "The Challenge to the South"³⁴⁷ (1990) - as well as major policy documents from various UN Organizations and the international development banks. Together, these reports constitute a politically most influential set of analyses, comments and recommendations towards the global problems of the world today.

The Brandt Commission emphasises global interdependence and the mutual interests of the rich and the poor countries as a fundamental element in international relations of our times. Its report recommends an action programme to assist LDCs, including support for industrialization, transport and other infrastructural investment. "Most official aid has gone to such purposes as agriculture and infrastructure, and industry has not received adequate support", the Commission notes. It is particularly concerned with protectionist terms-of-trade as the major obstacle to development in the South. The Commission recommends that the North should reverse the present trend towards protecting its industries against competition and promote instead, a process of positive, anticipatory restructuring.

The Brundtland Commission published its report at a time of growing concern for the damages to the environment, and consequently the report accuses the Brandt Commission of sinking "below the short-term horizon of the international agenda". The report focuses on global interdependence in terms of the environment. It concludes that industry is central to the economies of modern societies and an indispensable motor of growth. To achieve sustainable development, rich and poor countries need to cooperate, and the developing countries will need all the assistance - technical, financial, and institutional - that the international community can muster.

The Brandt Commission's focus on the strategy of "trade, not aid", the Brundtland Commission's concern for "sustainable development", and the South Commission's emphasis on the need for industrialization as "a motor for development" and "improvement of the living

³⁴³ UNIDO, *A Programme for the Industrial Development Decade for Africa*, New York, 1982.

³⁴⁴ UNIDO, *Report on the Independent Evaluation of the Industrial Development Decade for Africa (IDDA) and the Proclamation of the Second IDDA*, CAMI.9/20/Add.1, ICE/1989/20/Add.1, 12 April 1989; and *A Programme for the Second Industrial Development Decade for Africa (IDDA) - 1991-2000, Part I and II*, CAMI.10/6/Vol.2, ICE/1991/6.

³⁴⁵ *North-South, A Programme for Survival: The Report of the Independent Commission on International Development Issues*, London, 1980.

³⁴⁶ *Our Common Future, The Report of the World Commission on Environment and Development*, London, 1987.

³⁴⁷ *The Challenge to the South: The Report of the South Commission*, Oxford, 1990.

conditions". In combination they reflect the fundamental concerns of both the donor and the recipient societies.

The international donor community, both on a bilateral and multilateral basis, has paid considerable attention to the role of industry in development. In its first report on Sub-Saharan Africa at the start of the 1980s, the World Bank - a key actor among the policy-setters in international development - proposed an agriculturally oriented strategy with industry in a supporting role, underlining that "the pace of industrialization should not be forced". More recently, in their joint 1989 publication, "Africa's Adjustment and Growth in the 1980s", the World Bank and the United Nations Development Programme (UNDP) hardly give industry a mention. In its report "Sub-Saharan Africa: From Crisis to Sustainable Growth"³⁴⁸ (1989), the World Bank lists six key strategies for the 1990s - industry not being one of these.³⁴⁹

However, the Organization of African Unity (OAU) and the Economic Commission for Africa (ECA) have both been actively involved in formulating development strategies with a prominent role for industry for the least developed continent, Africa, in the 1970s and 1980s. In their declaration officially known as "The Monrovia Strategy for the Development of Africa", the OAU Assembly of Heads of State and Government, proposed what the United Nations endorsed as the African Industrial Development Decade "for the purpose of focusing greater attention and evoking greater political commitment and financial and technical support, at the national, regional and international levels for the industrialization of Africa. This was prolonged with the proclamation of the 1990s as the Second Industrial Development Decade for Africa.

The South Commission's report (1990) entitled "The challenge to the South" pays much more attention to the importance of industrialization and stresses the need to promote industrialization in the developing countries: "Only rapid industrial development can create the resources to satisfy the basic requirements of their populations for food, health, education, and shelter, and to provide jobs for their growing labour force".

8.2.2 United Nations conferences on LDCs

The First UN Conference on LDCs, 1981:

Recognizing the desperate situation of the LDCs, the First United Nations Conference on the Least Developed Countries held in 1981, adopted a programme which was to constitute the blueprint for LDC development in the 1980s: "The Substantial New Programme of Action (SNPA)". Its objectives was to promote the structural change deemed necessary to overcome the extreme economic difficulties of LDCs; to provide adequate, and internationally accepted, minimum standards for the poor; to identify and support major investment opportunities and priorities; and to mitigate as far as possible the adverse effects of disasters.

Five specific targets were set for the 1980s; amongst them a 7.2 per cent annual GDP growth rate; at least 4 per cent annual average growth rate in agricultural production; and a 9 per cent annual growth rate in manufacturing value added. Of the international measures recommended, the most important commitments were to opt for a transfer of 0.15 per cent of

³⁴⁸ World Bank, *Sub-Saharan Africa: From Crisis to Sustainable Development*, op. cit., 1989.

³⁴⁹ Riddell, R. C., *A Forgotten Dimension: The Manufacturing Sector in African Development*, *Development Policy Review*, 1990.

donor GDP to LDCs, and to stimulate economic growth by offering LDCs better access to the world market for their products.

For LDCs, the past decade has in many ways been disastrous: they faced severe economic as well as social crises. The average growth rate of LDCs was only 2.2 per cent during 1980-1987, far from the 7.2 per cent target of the SNPA -and with negative growth rates in some countries. Manufacturing output increased by only 2.6 per cent a year, in contrast to the SNPA annual growth target of 9 per cent. The ODA/GDP target of 0.15 per cent set in the SNPA, has only been fulfilled by a few donors and the total remains at 0.08 per cent, according to OECD figures. Adding to this, population growth is higher than production, and the burden of external debt has become massive.

The Second UN Conference on LDCs, 1990:

The assessment of the socio-economic situation presented to the Second United Nations Conference on LDCs at Paris in September 1990 pointed out that the marginalization of the LDC group in the world economy has become more accentuated, with their share in world exports amounting to merely 0.3 per cent in 1988, as compared to 1.4 per cent in 1960.³⁵⁰

The Second United Nations Conference on the Least Developed Countries was held with the intention of establishing a **Substantive New Programme of Action (SNPA II)** for the 1990s. The conference called for effective macro-economic policies aimed at long-term growth and development, and donors were urged to concentrate on rural development strategies and improving the environment for a diversified productive sector based on private initiative. Special attention was to be given to investing in people, by offering support for education, health, and family planning. Donors were also under pressure from LDCs to articulate more ambitious funding targets.

8.2.3 Limited development assistance to industry

OECD/DAC statistics on total development assistance by major purposes, show little emphasis on industry:³⁵¹ according to 1989 statistics, industry, mining and construction receives an average of 5.5 per cent of the total DAC assistance. The United States channels only 0.3 per cent of its assistance to this sector; and the EC only 1.4 per cent. Education, health, transport and communication, agriculture and food aid have all higher priority.

The limited role given to industry in international development assistance is mirrored in aid priorities. For example, foreign assistance to industry in LDCs today constitutes, according to UNIDO estimates, not more than 2 per cent of total aid disbursements. However, there are important possibilities for stimulating local manufacturing in LDCs through the implementation of development projects in other sectors which use locally manufactured inputs. Examples of this include large-scale agriculture, health, education, and infrastructure projects. These form the bulk of the ODA targets within LDCs. Neither has industry been regarded as a first priority for technical cooperation activities in most LDCs, but there may be considerable scope for using some of the technical cooperation activities to stimulate local industry.

³⁵⁰ UN, Paris Declaration and Programme of Action of the Second United Nations Conference on the Least Developed Countries, A/CONF.147/Misc.9, GE.90-52264/2611B. See also de Silva, L., The Second United Nations Conference on the Least Developed Countries, Briefing Papers no. 1, 2 and 3, Paris, 1990.

³⁵¹ OECD, Development Cooperation: Efforts and Policies of the Members of the Development Assistance Committee, Paris, 1990.

The structural adjustment programmes (SAPs) advocated by the World Bank and the International Monetary Fund - and implemented by a number of developing countries - have featured prominently in international development debates during recent years. A key element in these strategies is the strong emphasis on an export-led growth through the export of raw materials and to some extent industrialization based on these commodities. Critiques of the SAPs have noted that competitive, export-oriented industries are likely to benefit from structural adjustment programmes, but because industries in LDCs tend not to be very efficient and competitive, they will rather suffer from such processes, hence contributing to already high unemployment rates and social problems.

One objective of IDDA II is to reorient manufacturing industries towards serving the needs of the three-quarters of Africa's population found in agriculture. Past industrialization based on import substitution has fostered large enterprises catering to urban demand, with little regard for cost. The rural population has a relatively high propensity to spend increased income on simple, inexpensive products of local, small enterprises.

In several LDCs, not the least in Africa, industrial growth will depend heavily on the success of raising agricultural output and incomes. Rising agricultural incomes would mean a growing demand for manufacturers, and the availability of affordable consumer goods would give farmers an incentive to expand production. Industry can process surplus agricultural output and provide farmers with the inputs and equipment to raise productivity. Savings generated by agriculture can be used to finance industry. Agricultural exports will still be needed to pay for industry's growing import requirements while industry itself gradually generates more foreign exchange.

The justification for greater importance in development assistance depends upon an integrated economic development strategy where industrialization would have to generate as much employment as possible and contribute to the satisfaction of the basic needs of the population. To this end priority should be given to the transformation of local products and to stimulating linkages between the different sectors of the economy as discussed in chapter 3.

8.2.4 The role of industry in the New Programme of Action

In its Programme of Action, the Second United Nations Conference on Least Developed Countries stated that "In this increasingly interdependent world, we all share a joint responsibility for creating favourable international economic conditions and in strengthening international cooperation which will help create an environment for sustained economic growth and development The LDCs have structural problems which are unique in their nature and degree: they therefore deserve special international support".³⁵²

The main challenges facing LDCs and their development partners are spelt out in UNCTAD's 1989 report on LDCs: improving growth performance and economic efficiency; strengthening the productive base; improving the management of the natural environment; promoting human resource development and considerably strengthening international support measures.

International development assistance (mainly OECD/DAC) to LDCs has never come close to the 0.15 per cent of GDP target, basically due to the meagre efforts of two of the world's major donors: Japan (0.06 per cent; according to OECD figures) and the United States

³⁵² UN, The Second United Nations Conference on the Least Developed Countries, *op. cit.*, 1990, p. 10.

(0.02 per cent). Still - many LDCs depend heavily on foreign assistance. Nearly half of the 47 countries grouped as LDCs receive an amount of assistance equal to more than 20 per cent of their GNP.

LDCs need infrastructural facilities. Transport and energy are vital sectors in which major investments are required. Most of the investment resources in these sectors have to come through external financing, mainly in the form of development assistance. The countries themselves can only mobilize a small proportion of these resources. A study by UNCTAD estimates that external assistance must be doubled and should reach a level of US\$ 36 billion (in 1988 dollars) by the year 2000, implying an ODA target of 0.20 per cent of donor GNP.

The Programme of Action of the Paris Conference on LDCs, advises the international community to assist the LDCs by "Extending support to sectoral policies and programmes designed and implemented for strengthening and diversification of the LDC economies, in particular through expansion and modernization of their productive base."

Furthermore, the Programme states with respect to development of industrial service, scientific and technological base, that the emphasis of public and private initiative of the least developed countries with regard to non-agricultural sectors should focus on three major objectives: rehabilitation, maintenance and upgrading of existing production facilities; expansion of the productive potential in line with dynamic comparative advantages, available resources and internal and external market prospects; and the diversification of their productive base.

All major documents on strategies of development point out the need for diversification of LDCs' economic base, away from the excessive dependency on imports and the predominance of primary commodities in their exports, and in these efforts they will need assistance from the international community. However, donors provide assistance for a variety of reasons: political, strategic, economic and humanitarian. Multilateral agencies generally lend more weight to criteria of long-term development. Non-governmental organizations (NGOs), dependent on raising support and funds, focus on the humanitarian needs. As for bilateral agencies, the rationality differ widely; reducing poverty is but one motive, and often far from the most important.

LDCs have little leverage on the commercial, economic - and even political - criteria. They are not likely to become profitable trade partners, they are generally not important in the overall picture of the world economy, their locations are generally not of strategic significance, and they are too poor to have strategic economic importance. This may contribute to an understanding of why LDCs receive relatively small bilateral contributions (measured as percentage of donors' GNP) from countries such as Japan, United States, Australia, Canada and most members of the European Community. This may also explain why, according to the World Bank, approximately 41 per cent of all external assistance from the OECD countries in 1988 was directed towards middle- and high-income developing countries.

LDCs score heavily on the humanitarian criteria for development assistance. The number of LDCs increased from 24 in 1971 to 31 in 1981, 42 in 1991, and to 47 in 1992. These distinctive under-privileged group of countries - weak in terms of economic, institutional and human resources - deserve a better treatment from the international community in order to fulfil their socio-economic aspirations. A better public perception of industry in LDCs is needed to alleviate poverty and other fundamental socio-economic problems with an industrial perspective. In order to enhance the public awareness of the crucial role of industry in LDCs detailed targets

will need to be set to reach specific target groups who could comprehend and effectively participate in the industrial transition of LDCs.

8.3 Targets and target groups

8.3.1 Setting targets

According to UNIDO statistics, the developing countries' share of world manufactured value added accounted 13.8 per cent in 1990, increasing to 14 per cent in 1991. This is just above the average over the past 15 years since the Lima Declaration and Plan of Action, adopted by the Second General Conference of UNIDO; lagging far behind a goal that developing countries should produce 25 per cent of total world industrial output by the year 2000. It is considerably below the approximately 0.5 percentage point yearly gain over 25 years that would be required in order to achieve the 25 per cent goal.

LDCs in particular have lagged behind also in global technological and industrial development. Targets set have not been fulfilled. UNIDO's main task and challenge is to assist in bridging the increasing gap and to promote an industrial development in the South, keeping a special focus on LDCs. Drawing up a strategy for the promotion of industrial development in LDCs, it is necessary to identify the different groups, institutions and organizations involved.

Industrialization in LDCs requires a wide range of development components:

- development assistance;
- loans and credits;
- private financial investments; and
- export opportunities.

The different aspects of the development process involve different individuals and organizations. By taking a closer look at each of the components, the most important target groups to be included in the strategy can be identified:

Development assistance:

Governments of the donor countries both bilaterally or multilaterally (OECD/DAC countries or others) are heavily involved in defining aid strategies. Governments are in turn influenced by politicians and political parties (the political sphere); government officials of the "development assistance bureaucracy"; the grass-root organizations and interest groups; the mass media; and the general public.

Bilateral assistance can consist of government-to-government programmes, but also assistance channelled through non-governmental organizations (NGOs) of the donor or recipient country. The NGOs are not the least important due to their links with political parties or other pressure groups such as trade unions, church organizations and environmentalist groups. These are valuable in creating international understanding and generating a favourable environment for development assistance.

The multilateral institutions of the United Nations system constitute the other most important channel for development assistance. Within this system, the United Nations Development Programme (UNDP) - as the central funding and coordinating mechanism for

technical cooperation - plays an important role in creating the basis for industrial development. Whereas industry plays a minor role in bilateral development assistance of most countries, assistance channelled through multilateral institutions can more easily be directed towards long-term programmes attacking the roots of poverty through industrialization.

Loans and credits:

A large part of the funds for industrial development will have to be borrowed. Credits and loans can be obtained from: private banks and credit institutions; official export credit programmes; or through international financial institutions. A large share of international development assistance, furthermore, come in the form of soft-term loans.

Many developing countries have financed industrial investments through export credits from the industrialized countries or by borrowing on the open market. The poorest countries, however, have very limited access to private funds, principally because they can not afford credit on normal commercial terms. Consequently, LDCs depend primarily on concessional assistance from multilateral sources, the World Bank group being the leading development lending institution.

Private financial investments:

Direct foreign investments are important in meeting the capital requirements of industrial development, but very few LDCs receive large-scale direct investment by multinational corporations or foreign commercial companies.

A strategy for promoting the understanding of the importance of industrial development in LDCs must include contacts with the private sector in order to stimulate and facilitate investments. An important initiative in this connection is the Investor's Forums organized by UNIDO and UNDP, where national managers get an opportunity to discuss investment projects with interested investors. The identification of business opportunities in each individual LDC by UNIDO is of crucial importance in the strategic contacts with the private sector.

For a developing country to attract foreign private investments, it is essential to create an attractive business environment. The main problem facing LDCs in attracting investments, is that they generally lack all the fundamental requirements for a market-led growth: basic skills, education and training; physical and financial infrastructure; entrepreneurial skills and traditions; and national policies that are compatible with a business environment.

Export opportunities:

The industrialization of LDCs is not only a matter of development assistance, loans and commercial investments. These countries also require access to international markets. The General Agreement on Tariffs and Trade (GATT) and the United Nations Conference of Trade and Development (UNCTAD) are among the institutions involved in establishing international terms of trade that are more favourable to the developing world than today's trade regimes. This, again, involves the political decision-makers.

Specialized departments within bilateral donor agencies are working with the promotion of imports from developing countries, and may likewise play an important role in a strategy to improve export opportunities for LDCs.

8.3.2 Identifying target groups

As noted above, the question of industrialization in the LDCs is an extremely complex one, not at least considering the many obstacles and limitations connected to the process. Accordingly, a strategy for promoting industrial development - and addressing the problem of lacking public interest and knowledge on the issue - will have to include the paving of the ground in different quarters. It is necessary to identify a number of specific target groups, at both the national and the international level; including:

- the political decision-makers;
- the terms-of-reference suppliers;
- the business community;
- voluntary organizations; and
- the media.

The political decision-makers:

Industrial development needs to be put on the international agenda of the political decision-makers worldwide: the ministers and parliamentarians of each individual donor country. The politicians, being responsible not only for the development cooperation strategy of their own government, but also setting the terms for multilateral assistance through international fora where they are represented, must be considered as important target group in connection with the attempt to reach a wider appreciation of the problems of industrialization in the least developed countries.

A study of the determinants of political decisions related to development cooperation with LDCs is necessary as a basis for a promotion strategy directed towards political decision-makers. One of the determinants will be the general tendency towards allocating tax-payers money to identifiable projects whose successful completion can be monitored and the benefits clearly discerned and understood.

LDCs have high leverage on the humanitarian criteria for international development assistance. The natural and human disasters of many LDCs are frequently covered by the media, often resulting in public demand for quick government response. This political reality results in a tendency towards increased use of official development assistance for crisis-management. Promoting industrial development in the political environment will have to be supplemented by a strategy to counter-balance the media-defined public perception of the problems of LDCs as being of a strictly humanitarian nature.

Target groups at the national level of the donor countries are:

- ministers and junior ministers of foreign affairs and development; and
- parliamentarians of the foreign affairs committees and other relevant committees.

Target groups at the international level are:

- members of the European parliament involved in relevant committees and working groups;
- members of the Inter-Parliamentary Union; and
- members of intergovernmental groups, councils and committees.

The terms-of-reference suppliers:

Top-ranking politicians are not likely to operate completely on their own. Their decisions are heavily influenced by people behind the scene: the party officials and political advisors; and the public officials of the national and multilateral institutions, often referred to as the "development assistance bureaucracy". The officials provide the political decision-makers with the information and propositions necessary to formulate policies. In this process, the terms-of-reference inputs from the "development assistance bureaucracy" are of great significance to the policy outputs.

A study of the officials involved in development cooperation and in what ways they differ from the politicians' priorities is necessary in order to formulate a more specific promotion strategy directed towards this group.

The officials operate in an intellectual environment with close links to universities and research institutions, and usually have an approach to the development process which is more scientific than political. An information and promotion strategy directed towards the terms-of-reference suppliers will have to include the full width of this intellectual environment. It must be aimed at stimulating intellectual interests for the industrialization process as a motor for economic growth and social development in LDCs.

Target group at the national level:

- public officials of the government institutions involved in development cooperation.

Target group at the international level:

- senior and junior officials, resident representatives and field workers of the multilateral institutions involved in relevant development cooperation, such as the UNDP.

The business sector:

Private enterprise is one of the important element in the development process in the LDCs. Many of the LDCs have a dedicated interest in expanding the role of the private sector. A number of OECD development assistance agencies are providing financial support to local enterprises through development banks or other institutions that provide financial services to small and medium-sized enterprises. Donor programmes for investment and assistance to local enterprises are often parts of the development strategies.

The United Nations Development Programme (UNDP), the World Bank and other institutions are helping the developing countries foster the right environment for economic growth through structural adjustment programmes and by devising policies that will stimulate private enterprise. As a result, many LDCs are developing market-oriented mechanisms and promoting competition, but the domestic financial and human resources are too scarce to achieve the desired results. Foreign direct investment can bring capital, management expertise and technology if other supporting policies are in place. The development potential of private investment is to a certain degree recognized by donors.

The idea of combating poverty in LDCs is rarely sufficient to create incentives for private investment. The determinants of business decisions are usually strictly based on cost/benefit analysis. When it comes to LDCs, good investment possibilities should be identified and made known to potential investors, if necessary with the support of financial incentives from national and transnational development institutions. This is done through investment guarantee schemes to protect investors against non-commercial risks, and incentives for the establishment of joint ventures. Such mechanisms are, however, worthless, if a distinctive business opportunity on commercial terms is not to be found. The donor institutions can also provide technical, managerial and marketing skills, finance feasibility studies and market surveys and assist LDC-enterprises to design investment promotion strategies and negotiate agreements with foreign investors.

Attracting foreign private investments in LDCs is a complex matter which includes facilitating LDC exports of manufactured products, promoting profitable investment possibilities, and making private investments more attractive by establishing joint development assistance/commercial arrangements.

Target groups at the national level include:

- national export councils;
- commercial associations;
- national banks and financial institutions; and
- government institutions.

Target groups at the international level include:

- international commercial associations;
- transnational companies;
- development banks, financial and development institutions; and
- EC institutions.

Voluntary organizations (NGOs and INGOs):

The sphere of voluntary (humanitarian) organizations involved in development cooperation is important not only because the organizations themselves are formulating strategies for development and carrying out projects of their own. Most non-governmental organizations maintain close links with interest-groups and organizations in the donor countries; such as trade unions, church groups, cooperative movements, political movements, organizations for the disabled, solidarity groups, or environmentalist and feminist organizations.

To a large extent the organizational links of each NGO define the characteristics of the organization's development strategy. Most NGOs, however, advocate a "help-to-selfhelp" strategy. Their activities are based on idealism and a commitment to long-term grass-root development. The dependency upon public funding and private donations obliges the NGOs to keep a high profile, with extensive public information activities and contacts with political decision-makers. Because of the organizations' extensive information activities and their close links with grass-root movements and the political sphere, their strategies tend to be trend-setting.

Due to their characteristics of independence and flexibility, the NGOs can rapidly redefine their strategy, move into new areas and play the role of pioneers. Their ability for

quick reorientation together with their trend-setting qualities justifies giving NGOs high priority in a strategy to promote industrial development in the developing countries, including LDCs.

Many NGOs, particularly those with close links to trade unions and co-operative movements in donor countries, are particularly involved in establishing productive co-operatives, already promoting the idea of (small-scale/cottage) industries. It should also be noted that a number of NGOs have more or less specialized themselves in supporting and promoting the productive sector.

The relevant media:

In this era of modern mass-communication, the media have decisive influence on attitudes of the people as to what is important and what is not. To influence the above-identified target groups - the politicians, the government officials, the company managers and the researchers in addition to the general public - media coverage is essential, if not entirely decisive.

There are a number of different media today, and different media reach different groups. As to the general public in the North, television and newspapers, radio and magazines - in that order - provide the majority of the population with their information. According to a survey conducted by the Norwegian College of Journalism in 1987, 97 per cent of the respondents indicated that they had received information on development issues through television; 93 per cent from newspapers and 85 per cent from radio broadcasts.³⁵³ On the other hand, no more than 34 per cent answered that such information was gathered from reading books; 67 per cent had read brochures. For those responding that they had received "a lot" of information, television and newspapers were clearly the most favoured media - in a country where the general information on development issues probably is more readily available than in most other countries of the North.

Attitudes are probably a combination of influences from a variety of media that mutually reinforce each other, but television and newspapers are the most important factors in influencing public opinion. Coverage by the major television networks, such as the BBC, NBC or CNN, or by the most important international news agencies, such as Reuters, Associated Press, Agence France Press, or more specialized agencies such as Inter Press Service and global feature agencies, as the Third World Network and Gemini -is particularly important. Media visibility is important not only as a means of disseminating information on industrialization, but also serving as a constant reminder of UNIDO's mandate and image.

Selected target groups - including politicians, company managers, civil servants and researchers - are likely also to be found among the consumers of specialist periodicals and magazines, such as Far Eastern Economic Review, Africa Business, Latin America Monitor, and the promotion strategy would have to include obtaining coverage in the specialized publications most essential to reach the defined target groups, as well as coverage in publications such as Time, L'Express or the Economist which will also reach several of the target groups. Coverage of LDC investment opportunities in papers such as the Financial Times or the Wall Street Journal can have positive effects on the business community.

³⁵³ Statens offentlige utredninger/Utrikesdepartementet: U-lands- och biståndsinformation, Stockholm, 1988.

The influence of modern media on public perception makes the media gate-keepers (editors and sub-editors) themselves an important target group. The editors set the priorities and decide what to be featured prominently or less prominently - or not at all. One of the general trends among the gate-keepers of Northern mass media is the tendency to concentrate on spectacular, often violent, events. The coverage related to LDCs often feature the human disasters; the misery of man-made and natural disasters is transferred directly into peoples' living-rooms and - as a result - generating a public understanding of LDC problems as immediate. Public opinion in turn influences political decisions, and the tendency towards increased use of ODA for crisis management with a short-term perspective can thus be seen as a direct consequence of the gate-keepers priorities.

A considerable amount of money is spent every year by governments and voluntary organizations trying to mobilize public support in favour of their long-term development assistance programmes. National donor agencies, multilateral donor institutions and NGOs can all be important partners in the effort of spreading information on industrialization in LDCs. Most NGOs carry out extensive information campaigns, including, in many cases, the publication of periodicals and magazines, pamphlets, books and the distribution of photographic material and videos -directed towards their members and supporters, as well as the educational systems and the general public. Some NGOs have specialized in information activities, both in the North and the South. Likewise, in some countries, national United Nations Associations and UNIDO National Committees could play important roles informing the general public on the multilateral part of development assistance, and on development issues in general. Equally, these may be considered relevant as a target group or cooperation partner in an information strategy.

Target groups at the national level include:

- UNIDO National Committees;
- UN Associations;
- journalists and editors (gate-keepers);
- journalistic associations and training institutions;
- news agencies;
- photo agencies;
- radio and television networks/stations;
- newspapers and magazines;
- information officers of organizations involved in development information; and
- publishing houses.

Target groups at the international level include:

- journalistic associations;
- news agencies;
- photo agencies;
- feature agencies;
- television networks;
- international broadcasters;
- magazines;
- publishing houses; and
- information officers of international organizations.

8.4 Outlining a strategy for media exposure of LDC industrial potential

The viability of the strategy for media exposure of the potential contribution of industry in the overall development of LDCs will to a great extent depend on financial support from external development partners. Specific suggestions listed below could be treated as activities to be co-funded by voluntary contributions from special donor agencies.

8.4.1 Creating a coherent UNIDO profile

A coherent information profile is a basic foundation for any organization's public appearance and image. A programme of this kind involves identifying the basic mandate of UNIDO, and presenting its values through a set of information initiatives, with the ultimate goal of enhancing the public perception of the Organization and its activities. Within the various fields of information and publicity activities, UNIDO could develop a programme that would enable it to present itself to the public in an easily recognizable way.

To the extent UNIDO decides to launch a special campaign in order to instill the importance of industrialization in the LDCs, involving a number of publications and special activities as suggested below, a special symbol and design could be made for this purpose; derived from the main graphic design drawn up for UNIDO. The specially designed symbol and layout for the purpose of an LDC campaign would increase the identity of the effort to draw attention to the importance of industrialization in this group of countries. Thus the information profile with a distinction, justifying the industrial perspective of economic development in LDCs, should put LDCs on the global industrial map.

8.4.2 Publication and dissemination of UNIDO printed material

In a general development perspective and pointing out the particular problems these countries face, it is advisable to produce a fairly concise booklet/pamphlet on LDCs as a group, including basic statistics and characteristics - with photos, charts and maps.

A very basic booklet/pamphlet containing general information on LDCs, with a specific focus on the role of industry could be distributed as widely as possible, including to the general public. The booklet/pamphlet could be made on a consultancy basis by a professional journalist. For more specialized target groups, it could be supplemented by other kinds of reports and material. Based on these UNIDO publications, national donor agencies could be urged to publish their own material on industry and LDCs or simply translate UNIDO's material into local languages and publish them.

8.4.3 Compilation of fact-kits

For general information as well as for more specialized target groups, it would be advisable to compile fact-kits to comprising a set of printed material presenting UNIDO, the industrial potential of LDCs based on the printed material suggested above. In addition, selected technical papers and studies on countries and promising ventures could be added where available and appropriate.

8.4.4 Production and dissemination of UNIDO audiovisual material

A comprehensive video film on the industrial potential of LDCs could be made for screening as an introduction to industrialization in LDCs for the benefit of participants at

seminars and symposia. The film could focus on success stories in industrial ventures and personal interviews with industrial entrepreneurs. At the same time, a television version of the production could be made, and offered to television stations around the world for public transmission.

8.4.5 Collection and dissemination of photographic/film material

To a large extent, photographic material presented from the Third World tend to concentrate on rural areas and rural development. Much less attention has been paid to the urban areas, and to industrial settings. Not only does this contribute to a distorted image of the developing countries, it adds to the prevailing picture of destitution, poverty and haplessness - to the fatigue that endangers further interest and involvement in the industrial development of the LDCs. A focus on stemming the roots of poverty by enhancing the industrial production and potential could project a distinct picture of LDCs in general and facilitate greater understanding of the plight and potential of industry in LDCs.

UNIDO could aim at collecting more and better photographic material for use in its own publications as well as by other users. Clearly, a photo can be much more than a mere decoration; it has an information value of its own, if used in a proper way. A photo conveys a message, as well as detailed information. To some extent, photographic agencies seem to possess a rather limited stock of industrial photos from LDCs, increasing the tendency to portray them as a rural communities. A systematic build up of better photographic library would enable UNIDO to provide high quality photos on all phases and dimensions of industrial production and development - for its own publications as well as for other users by others - contributing thereby to an increasing awareness of the industrial dimension in development.

Rather than collecting photos randomly, from project personnel and others, it would be highly advisable, subject to resources availability, to hire a few photographers who have proven their capability of shooting industrial documentation, to travel to designated places in order to provide the desired material. In addition, one could survey the market for existing photos of the right kind, and acquire them for UNIDO's archives.

An international photographic contest, if planned carefully and advertised properly, could increase the photographic profession's awareness of industry in LDCs, and at the same time add to the UNIDO photo archive. For a contest to be worthwhile, one should primarily aim at the professional photographers. The contest could be held annually or biannually and be limited to selected themes which vary from year to year.

The best photos nominated by a jury of professionals from the media, photographic profession and UNIDO Public Relations and Information Section, would have to be awarded attractive prizes; possibly through a sponsoring agreement with the private sector. UNIDO would have to reserve its option to acquire any desired entry for free use thereafter. UNIDO could choose to present the best photographs submitted: through a publication/book to be sold internationally or through an international exhibition, both would contribute to the understanding of and interest in industry's role in development.

8.4.6 Seminars and workshops

Seminars and workshops contribution to build up a reservoir of knowledge within different target groups. A high level seminar for the media on the potential for industrial development in LDCs, may be considered possibly in connection with the launching of UNIDO's

Plan of Action for LDCs. Specialized representatives of the media could be briefed by key UNIDO personnel and prominent development economists - both from the United Nations and/or the international development banks, independent and academic institutions of LDCs - and invited to contribute to **open-minded discussions on industrialization as a main strategy towards economic and social transformation.**

The high-level seminar could be followed by a series of **regional workshops** aimed at journalists who are dealing with issues of development and international economy, but not necessarily on a specialized basis. The goal would be the same, to put the question of industrialization in a development context, and industry's relevance for economic development in the LDCs, on the agenda. The regional workshops would particularly try to combine two objectives: to inform, educate and engage the attending journalists, and to provide information that may result in actual reporting - from the workshop or based on information disseminated at the workshop.

The basic concept of seminars focusing on industrialization in LDCs can also, if funding is made available, be applied to groups other than journalists; e.g. decision-makers and officials within governmental as well as non-governmental organizations.

8.4.7 Expanding the media contact

The global tendency in the mass media is a shift from control towards more freedom for the press, and an emergence of a multi-faceted institution through which information is disseminated to all levels of society. The character and position of the media - the press, the broadcasting sector, film and photography, publishing - differ greatly from region to region, sometimes from one country to another within a region or sub-region.

The media, nationally, regionally and globally, obviously is of paramount importance to a UNIDO strategy for mobilizing public awareness of and support for industrialization in LDCs, as the case would be with any other campaign UNIDO would want to embark upon. Whatever the purpose of the campaign, the differentiation of and the approach towards the media would be more or less the same. Fundamentally, it is necessary to categorize the media organizations, and to differentiate the role the various parts of the media may be expected to play; subsequently they have to be identified and approached. Journalistic traditions as well as the freedom of the media differs considerably, as is the case with the way newspapers, magazines and radio/television programmes are made - with purely commercial considerations in mind, or with a philosophy of public information reigning paramount. The latter differentiation is decisive of what approach to take and the realistic chances of breaking through with any information or message.

For any information purpose, the compilation of a register of international media - institutions as well as individual journalists and editors - would be of great help. A continuously updated mailing list would be invaluable in reaching the right persons with press releases, briefing material, reports etc. UNIDO has already embarked upon such a task, and this work could be expanded in view of a public awareness campaign. The expansion of such a list/data base could be undertaken with the assistance of regional international development assistance organizations as well as press organizations.

Having identified journalists who have specialized or taken a particular interest in international development affairs or the industrial perspective of poverty alleviation in LDCs, they should be provided with the information kit and other material produced by UNIDO in

connection with the campaign to raise awareness of the special problems of LDCs. Furthermore, the same group of journalists should be kept regularly updated on UNIDO's work.

On a limited scale, a free feature service may be of interest to some newspapers and magazines, especially for less resourceful ones in the South. Objectively written articles, or subjective comments, preferably accompanied by graphic material and photos, could be sent to a selected number of papers and magazines on regular basis. Some articles dealing with UNIDO affairs and statistical material could be produced. However, the chance of having feature success stories and comments printed, would increase if written on an independent basis, by acknowledged reporters.

In connection with any launch of a campaign to promote interest in and knowledge about industry in the LDCs, a special dossier-kit could be prepared and provided free of charge to newspapers and magazines. Composed of a set of feature articles and factual success stories, together with appropriate graphs, charts, and photos, the collection could be used as a special dossier on industrialization in LDCs - or constitute a basis on which the papers and magazines could prepare their own material.

8.4.8 Media field trips

Field trips for media representatives could be considered with a view to complementing information presented through reports and press releases. A field trip gives a crucial added dimension, and contributes to arouse further interest in the topic as well furthering practical knowledge. This could also serve as an important psychological incentive for journalists working with a topic that might otherwise appear difficult to work with, particularly in view of the fact that it is seldom given high priority within a media organization.

Field trips can involve either the mere facilitating of a press tour, or it may also include full or partial financing from the organizer's side. Possibly, both models could be used recognizing the fact that quite a number of news organizations, both in the North and the South, are often operating on very restricted budgets.

Apart from a limited number of resourceful media organizations in the North, who will not need -nor accept - financial support to carry out their work, for a great number of other papers, magazines, agencies and broadcasters, sponsored field mission may be the only option to make a field visit come true. However, interest might be attracted from donors for such a project - having individual journalists from different countries sponsored by their respective donor agencies, leaving UNIDO to facilitate and organize the trips.

Such media field trips organized by UNIDO, facilitated through the cooperation of UNIDO field representatives and in liaison with local authorities, could be a follow-up to some of the seminars arranged for media representatives, in order to supplement the information and broaden the scope of the debate from the workshops. For financial and practical reasons it might be preferable to choose a region where two or more LDCs can easily be reached on one trip of approximately ten days duration.

A field trip would include briefings from and discussions with representatives of UNIDO and other United Nations representatives in each country, as well as with representatives from development banks and institutions, and local authorities: leading politicians and economic planners and analysts, local banks personnel, as well as social scientists. Visits to industrial plants and UNIDO sponsored projects would form a prominent part of the visit, combined with

discussions with local and expatriate industrialists and other members of the business community, including the export sector.

The group of touring journalists would have to be kept rather limited, and should not exceed 10 people. It would be advisable to compose the groups from different media, including newspapers, magazines and agencies, and radio; television requirements are too different from the others to be included in a general trip. For a general mission, there should be only one journalist from each participating country, and it would be expected that a trip like this would generate some coverage.

The severely limited possibilities for travelling is even more the reality for media organizations of the South, not least in the least developed countries. Hence, one should include media representatives of LDCs, and other developing countries, in some - if not all - of the groups visiting the field. These should be sponsored by UNIDO, or by a donor agency working in the concerned country.

A valuable experience, provided external funding could be found, would be to compose a group of journalists from, for example, three industrialized countries in the North and three least developed countries of the South - for a two-way field trip; the journalists from the South accompanying the visiting colleagues from the North in the field visit in LDCs, and returning with them to their home countries for a reverse visit, reporting on the industrial experience in the North, and the possibilities for industrial cooperation between the two countries.

8.4.9 Scholarships and awards for research and documentation

In order to attract attention to economic and social research in the industrial sector, and with a focus on industrialization in the least developed countries, it would be worthwhile providing a number of research grants to facilitate a limited number of research projects. Scholars and students might be invited to apply for a grant, based on a detailed terms of reference. Such grants could also be co-sponsored by donor agencies and industry itself.

An international contest for university students, principally aimed at students of economics and social sciences, with a stipulated topic, could increase awareness of the least developed countries. The competition could be organized with the cooperation and support of other United Nations agencies, e.g. UNDP, UNESCO and the United Nations University, as well as independent institutions. Invitations might be issued with the assistance of donor agencies and educational institutions throughout the world, and could be organized at national, regional and global levels, with juries and awards on each of the three levels. Essays/papers qualifying for the final round, would be judged by a jury consisting of an official from UNIDO as well as from independent institutions, and prizes awarded to the best.

The prize-winning papers, or a selection of them, could be collected and published, as one of several publications on industrialization in LDCs. These could be published and sold by UNIDO, or be co-published and marketed by commercial publishers.

8.4.10 Financial incentives for publishing

A technical and financial support mechanism could initiate and encourage the publishing of books on industrialization in the least developed countries, corresponding to the cooperation with commercial publishers on the "Industrial Development Review Series" covering country by

country surveys of industrial development. The technical and financial support for such activities could recoup the limited sales potential of publications on LDCs.

Also on more general studies on industrialization and development, focusing on LDCs, financial incentives - possibly in cooperation with national donor agencies - would make publishing of such books more attractive and practicable.

8.4.11 A UNIDO award for journalism

In order to attract interest in industrial journalism an award could be instituted; either as a one-time appearance, or on a regular basis. Journalists could be invited to participate according to a prepared set of criteria. The announcement of the competition would have to be done with the assistance of donor agencies and media organizations. The winner would be awarded a cash prize and a diploma, and the best entries could possibly be offered as a package of articles, a dossier; or they could be printed and presented as a special feature magazine put out by UNIDO in connection with its special Plan of Action on LDCs. Special care would have to be taken to accommodate freelance journalists in such a scheme.

8.4.12 Cooperation with other organizations

The success of any specialized information campaign, depends on the groundwork done before the actual campaign itself. As the general knowledge of development issues are limited among the general public, and in more specific target groups, it is clearly appropriate to consider joint information efforts with other organizations, within and outside the United Nations system, with whom UNIDO has an established framework for cooperation.

The most obvious partner for cooperation within the UN, would be UNCTAD, the United Nations Development Programme (UNDP) and UNESCO, but others could be considered, the International Labour Organization (ILO) and the International Fund for Agricultural Development (IFAD) - all preoccupied with income generation and employment creation at different levels.

Outside the United Nations, cooperation could be considered with national donor agencies taking an interest in the least developed countries and in industrialization. The same would be the case with non-governmental organizations, both in the North and in the South. All actors in the development sphere tend to be, at some stage or another, involved in awareness-raising through information, and might prove important channels for UNIDO material as well as possible cooperation partners in producing information material.

As noted earlier, the non-governmental organizations constitute an important group in the field of development assistance; because an increasing amount of funds tend to be channelled through NGOs, and because they play an important role in the debate on strategies for development and as testers of new models of assistance in the field. Furthermore, NGOs are increasingly seen to influence development policies of governmental agencies, and must, therefore, be considered an important target in UNIDO's endeavour to involve more partners in the industrialization process. Also, one should take into account that a number of NGOs are working in LDCs, in some cases in close cooperation with the governments as well as the local communities, subsequently being in a physical as well as political position to implement new ideas and project models. Even within the NGO community there is a tendency to give higher priority to the productive sector, and NGOs seem likely partners in the strive for developing small-scale and cottage industries in LDCs.

Consequently, NGOs could be included in plans for a concerted round of national, sub-regional or regional workshops on industrialization and development in the least developed countries. Such workshops might be arranged for the echelon of programme officers in NGOs, with a limited number of participants.

PART II.

The previous part of this report dealt with the background papers and studies of the Workshop on Industrial Development in the Least Developed Countries: Toward an Industrial Action Plan (Vienna, 19 -23 August 1991)³⁵⁴. As already mentioned, these studies deal with a range of significant issues of industrialization in LDCs and make a number of specific industrial policy/strategy proposals. These policy and strategy proposals guided the formulation of both the Industrial Action Plan and Programme for LDCs in the 1990s.

Thus this part of the report embodies the two main chapters:

- *the Industrial Action Plan for the Least Developed Countries,³⁵⁵ and*
- *the Industrial Action Programme for the Least Developed Countries.³⁵⁶*

The Industrial Action Plan and Programme for the least developed countries are a set of actions to be taken by UNIDO, other development partners and the LDCs for the regeneration of industry in order to boost overall socio-economic development in the LDCs.

A summary of UNIDO's activities pertaining to industrialization in LDCs particularly since the third General Conference is also provided.

³⁵⁴ For a summary of the report on the Workshop as well as a list of the participants, see UNIDO document ID/WG.515/10(SPEC.), op. cit., 1991.

³⁵⁵ Reproduced in UNIDO documents ID/WG.515/10(SPEC.), 13 September, pp. 12-43; and GC.4/40, 27 September 1991.

³⁵⁶ See UNIDO documents Symposium on the Industrialization of the Least Developed Countries, ID/WG.521/3(SPEC.), Vienna Austria, 7 November 1991, GC.4/38, 25 September 1991, and GC.4/Res.10.

9. INDUSTRIAL ACTION PLAN FOR THE LEAST DEVELOPED COUNTRIES IN THE 1990s

This chapter presents the document Industrial Action Plan adopted by the experts from LDC member states and international agencies in August 1991 (see Annex II), and subsequently by the General Conference of UNIDO. The Plan highlights the central issues of industrial development, the required set of actions and the initiatives to be taken by UNIDO, LDCs and other development partners in adopting at the country, regional, subregional and global levels the identified actions for industrial recovery in the LDCs.

The Industrial Action Plan includes a set of actions to be taken for: appropriate macroeconomic framework for industrial development at both the global and country levels; increased private sector participation in industry; modernization and expansion of industry; industrial human resource development; environmentally safe and low-cost production; increased technical cooperation among developing countries; and effective implementation and monitoring of the industrial action plan. Below is a reproduction of the document:

INDUSTRIAL ACTION PLAN FOR THE LEAST DEVELOPED COUNTRIES³⁶⁷

**Recommended by the Workshop on Industrial Development
in the Least Developed Countries held in
Vienna, 19-23 August 1991³⁶⁸**

Introduction

1. The growth of global interdependency makes both possible and necessary concerted efforts to reverse the decline in socio-economic development experienced by many LDCs in the 1980s. The Substantive New Programme of Action (SNPA), adopted in 1981 at the First Conference on Least Developed Countries set a target for the annual manufacturing value added (MVA) growth rate in LDCs of 9 per cent. The actual performance attained in the 1980s was an average of just 2 per cent. This was significantly less than the target rate, less than half the growth rate reached during the 1970s, less than the average population growth rate in LDCs, and also less than the average annual GDP growth rate. The LDCs have structural problems which are unique in their nature and degree and they therefore deserve special international support in their industrialization and development endeavours.

³⁶⁷ Presented to the fourth session of the General Conference for the development of a special strategy for the industrialization of the least developed countries in the 1990s, as called for by the third General Conference in resolution GC.3/Res.11 and Industrial Development Board decision IDB.7/Dec.15.

³⁶⁸ The report of the Workshop, containing a summary of the discussion as well as a list of the participants, has been issued as a UNIDO document ID/WG.515/10(SPEC.), September 1991.

2. Although LDCs are numerous, geographically varied, and differing in population size, manufacturing in LDCs does exhibit a number of problems that are almost uniformly present and for which a set of solutions can be proposed. All LDCs have small manufacturing sectors and their industrialization prospects rest on the creation of new industries, and in a number of cases, on the rehabilitation of existing industries also. The establishment of new industries means that the supporting environment in terms of policy framework, industrial supplies and services, infrastructure and market access all have to be greatly improved. However, this is also true of the prospects for successful rehabilitation of existing industries, since many of their problems also arise from the policy framework in which they operate.

3. With respect to the policy framework, industrialization must have a central place in the policy debate. The involvement of the private sector, whether already active or still in an initial stage of development, will be crucial for the creation of an industrial structure that is diversified and flexible enough to meet the rapid changes under way in the socio-economic structures of LDCs and in the world economy as a whole.

4. Although the rudimentary stage of industry in most LDCs does provide a degree of commonality, there are significant differences between them at a more detailed level of size and geographical characteristics. In population terms, LDCs may be divided into large, medium, and small. In geographical terms, they may be divided into island States, land-locked States and coastline States. Both types of characteristic affect the possibilities for industrial growth and diversification. Land-locked and island States in general face additional obstacles because of increased freight charges. These mean that their exports are less competitive and their imports more expensive. But it also means that because of their remoteness the level of technological complexity they have attained is notably lower than for the coastline States. This is probably a consequence not only of the costs of embodied technology but of access to information sources and to market contacts in general.

5. Taken on its own, geographical type would indicate that extra efforts were needed in the areas of export diversification, communications and technological development, although a small population size does not necessarily mean that there are conclusive obstacles to a diversified industrial structure, or to a diversified institutional framework for the support of industrial growth.

6. Given the limited degree to which efficient markets have developed in most LDCs, and the pressing nature of the economic problems with which they are faced, there will remain for the foreseeable future a wide scope for government initiative in new industrial development. This will include the promotion of investment projects at the national and subregional level, as well as the rehabilitation of existing state industries, where appropriate. It will also include, however, a considered set of actions at the national level that encourage the growth of the private sector, especially small and medium industry. This can be both to encourage the involvement of the emerging industrial entrepreneurs and also to provide reassurance to potential foreign investors. There will be a greater emphasis on the overall industrial configuration that is being sought, rather than on individual major projects. An important obstacle to small and medium industry development, the administrative complexities of establishment and operation, will be significantly eased by a reduction in government controls and simplified procedures. This will in turn free human resources in the government sector for more strategic analysis and monitoring of industrial development.

7. With respect to subsectoral priorities, there has to be a special concentration on agro-related industries. Food processing is the only branch of industry which is significant in

every type of LDC, although textiles, wood processing, leather and clothing are usually also important, even if they are not necessarily part of the formal sector. On the input side, agro-related metalworking is also significant. Thus agro-related industries, including metalworking, and also fertilizers, pesticides and fisheries, will need particular emphasis. This will include the preparation of indicative programmes, country sectoral programmes, and integrated sectoral programmes.

8. In support of industry, a major concentration of public policy should be in terms of supplying the appropriate transport, communications, energy, services and information facilities needed by the manufacturing sector. The needs of human resource development for industry imply extensive activity in institutional development for the specific skill requirements of modern industry. New methods of training will need to be applied. Other advisory and support services for industry will also be needed. In general there will be the need for a concentration on supplying these through dispersed and local-level advisory services, especially involving manufacturers associations and chambers of industry.

9. Technological development in LDCs will be conditioned by the major development priorities and industrial emphases chosen, and should therefore concentrate on the agro-industrial complex as well as electrical power generation and distribution, communications and information technologies, and transport system. Institutional development in this connection will need to concentrate on assisting the diffusion of existing technology rather than a large-scale search for new solutions.

10. Although official development assistance is of enormous economic significance for LDCs, only a very small amount has been directed to the manufacturing sector. Consideration should be given by the donor community to means by which this could be increased. This would be especially necessary in terms of attention to priority areas of industrial growth and their contribution to the satisfaction of basic human needs and overall economic development. Considerable scope exists for involvement of local industry in development projects undertaken in other sectors of LDCs. This can be achieved through the development of better information systems as to the capabilities of local industry as well as through the explicit consideration, at the national and international level, of such possibilities.

11. Given the importance of many international services, such as air transport, shipping, banking services, media and telecommunications, for the industrialization prospects of LDCs, more explicit consideration of these questions would be desirable, especially through the furtherance of dialogue between the different interests involved. In many cases international companies involved could, perhaps in a dialogue with donor Governments, be encouraged to contribute to a reduction in the comparative isolation of LDCs from the international economic system.

12. The basic objective for the LDCs for this decade is to contribute to halting any further deterioration in their socio-economic situation, and to establish a basis for sustainable industrial growth and development to meet the needs of LDC populations, especially the rural and urban poor. The second part of this paper contains an industrial action plan for the LDCs which provides a set of concerted actions to be taken by the LDCs and others to accelerate their industrialization in pursuit of this overall objective.

13. It must be stressed that the industrial action plan is proposed in the context of the Paris Declaration and Programme of Action of the Second United Nations Conference on the Least Developed Countries. The commitments and measures contained therein and the consensus

achieved by the international community on the steps to be taken for overall socio-economic development of the LDCs are taken as a basis for it. These include commitments and measures related to external resources, international trade, debt, commodities and the full range of issues of all aspects in LDCs development. The present Industrial Action Plan therefore concentrates on measures specific to industrial development, or measures where the situation with respect to industry is especially relevant. Thus, it should be stressed that discussion of related areas in such fields as trade, finance and macroeconomic policy is undertaken because action in these fields are seen as essential concomitants of, or necessary preconditions for, successful action in the field of industry. Although such points are considered and agreed in more detail in the Paris Declaration and Programme of Action they are re-emphasized here because they emerge from existing UNIDO analysis and experience as of an essential character. It is of course recognized that these subjects are not directly within UNIDO's mandate but those of other agencies of the United Nations system, in particular UNCTAD which serves as focal point for the follow-up review and appraisal of the Programme of Action at the global level, and, further, that there are other fora more appropriate for their examination. However, UNIDO is concerned to emphasize the actions needed outside the sphere of industry if industrialization of LDCs is to succeed. Through the established procedures for inter-agency cooperation and system-wide coordination, the special conditions for industrialization of LDCs will have to be addressed. With respect to African LDCs, it should be noted that the Second Industrial Development Decade for Africa (IDDA) endorsed by the Conference of African Ministers of Industry in Dakar in August 1991 will provide the basic framework for the implementation of the industrial action plan. The proposals contained herein are based on a series of studies carried out by UNIDO and on the conclusions and recommendations of a Workshop on Industrial Development Strategies for the LDCs held in Vienna, 19-23 August 1991.

14. The basic principles underlying the Paris Declaration and Programme of Action may also be taken as an essential precondition of the success of the industrial action plan. They are as follows:

- (a) Success depends on a shared responsibility and a strengthened partnership for the growth and development of the LDCs.
- (b) The least developed countries have the primary responsibility for the formulation and effective implementation of appropriate policies and priorities for their growth and development.
- (c) The strengthened partnership for development necessitates adequate external support from the LDCs' development partners.
- (d) Commitments undertaken should be measurable and sufficiently transparent to enable monitoring and assessment of the Industrial Plan of Action for the 1990s.

15. In the Plan which follows, problem areas are discussed, an objective is outlined for each, and a set of actions is then presented to achieve this objective. There is also an indication of the major actors likely to be involved. It should be emphasized that, where action on the part of UNIDO is indicated, it should be understood as taking place only within its existing mandates as the lead agency for industrialization.

ACTION PLAN

1. GLOBAL FRAMEWORK

1.1 Macroeconomic conditions

Rigidities in LDC economies, fiscal imbalances, monetary (and in some cases political) instability, pricing policies, and insufficient attention to individual enterprises are some of the causes identified for the lack of success seen by LDCs in their growth and development strategies. The industrialist making an investment decision needs a stable legislative, institutional and macroeconomic environment to provide the necessary confidence, and needs also an efficient market system to provide the price signals necessary for strategy formulation. Steps to achieve this include steps towards reducing price distortions, including those caused by inappropriate exchange rates. For industry, it is essential that a flexible macroeconomic framework be established, in which decisions in monetary and fiscal policy take due account of the existing needs of the industrial sector and its potential contribution to overall development, especially in poverty alleviation.

Objective: An appropriate and flexible legislative and macroeconomic policy framework as an enabling environment for industrialization.

Action: Identification of economic linkages and interface between macroeconomic goals and sectoral/subsectoral restructuring;

Reduction of price distortions and changes in public expenditure patterns, including in some cases reductions in their overall magnitude;

Special measures to prevent further consequential increases in balance of payments disequilibria and to provide protection for the poorest sections of society;

Determination of expected future requirements of manufactured goods (including final consumption by households) to take account of changing patterns of imports and domestic production needs;

Development of the necessary information base for effective consultation with all economic agents, including domestic and foreign private investors;

Identification of key priority industrial sectors, subsectors and enterprises for development;

Reduction of administrative controls, including authorizations, barriers, licences, etc. that inhibit the establishment of industries;

Establish regular channels for full representation of views of the industrial sector;

Re-alignment of exchange rates after analysis of their impact on industrial competitiveness;

Capacity building in Ministries of Industry to allow effective liaison with ministries dealing with planning and macroeconomic policy;

Adequate provision in structural adjustment programmes for industrial development.

Initiative: LDC Governments with the assistance of UNIDO.

1.2 Finance

1.2.1 Domestic resources

Although a few LDCs have managed to increase gross domestic savings rates above 10 per cent, the consumption requirements of often rapidly growing populations mean that the scope for mobilization of financial resources for industrialization will be limited. This being said, however, there is a need to maximize possibilities in this regard. The general promotion of domestic savings will have to be accompanied by suitable institutional development, including at a local level to allow decentralized access to commercial investment capital by small-scale and rural industrial enterprises. Similarly, savings can also be mobilized at this level through the promotion of savings and loan associations and group savings associations, and their encouragement to become more involved in loans for manufacturing purposes.

Objective: Mobilizing domestic resources for investment in industry.

Action: Provision of easy access to loan funds and credit guarantees, especially for rural small-scale industrial enterprises;

Restructuring of the financial sector and establishing of capital markets;

Strengthening and restructuring domestic finance institutions and banking sector;

Promotion of savings and loans associations to provide small loans to rural small-scale industrial enterprises;

Decentralized, low-level institutions to reduce administrative costs of small loans;

Favourable legal and institutional framework to promote and increase local savings for industrial development;

Concentration on incentives to encourage investment that do not require specific approval and award in each case but are automatic in effect, such as differential tax rates and social security contributions;

Establishment of trade financing schemes for the provision of pre- and post-shipment financing, export credit guarantees and insurance, etc.

Initiative: LDC Governments. International organizations, including UNIDO.

1.2.2 External resources

Given that LDCs in general have limited capacity to generate investible surpluses for investment in industry, there is a need for foreign direct investment (FDI) both in terms of new investment and investment related to rehabilitation of existing production capacities. Most LDCs may need to continue their efforts to attract increased FDI flows in the hope of obtaining not only investment capital but also new technologies, managerial expertise and access to export markets. In this connection, appropriate financing mechanisms, including the use of trust funds, may be explored. However, many LDCs have insufficient domestic market possibilities, and subregional cooperation offers wider scope for market expansion, as well as the exploitation of complementarities.

Objective: Mobilization of increased FDI resources including, where necessary, encouragement of local participation in FDI by way of partnerships, to ensure continuity of industries.

Action: Formulation of favourable policies at both the national and subregional level;
Re-design of investment codes and provision of greater guarantees;
Simplification of legislative instruments to attract FDI;
Consideration of tariff protection as a possible incentive;
Consideration of debt-equity swaps, with technical intermediation by international agencies;
Encouragement of local participation in FDI by way of partnerships to ensure continuity of industries;
Creation of funds for pre-feasibility studies in connection with industrial investment projects.

Initiative: LDC Governments, LDC industry. UNIDO to provide support through policy advisory services, pre-investment studies, and investment promotion.

1.3 External trade

1.3.1 Diversification

Progress in LDCs towards a more diversified manufacturing base has not been great. Manufacturing activities concentrated in a few subsectors. Typically, food processing amounts to more than 50 per cent of manufacturing activity. Again, there is a small number of enterprises, adding to the vulnerability of the industrial system. This implies the need for more emphasis on small and medium industry, but also on export diversification, since this is capable of strengthening the domestic economy and providing greater stability and predictability in export earnings.

Objective: Diversification of products and identification and development of new export markets.

- Action:** Analysis and identification of products representing potential export opportunities, in particular vis-à-vis subregional and regional markets;
- Development and provision of exports support services;
- Establishment and improvement of quality control and standardization services and packaging and transport services;
- Development of appropriate advertising and media support;
- Establishment of regional and subregional mechanisms for assuring raw materials supplies;
- Improved management and export marketing techniques;
- Holding of trade fairs at the national and subregional level;
- Participation of LDCs in international trade fairs;
- Training of LDCs industrialists in export marketing and promotion, acquiring and utilizing market intelligence, conducting market surveys and contracts negotiation techniques;
- Establishment of trade information networks at national and subregional levels;
- Promotion of export-oriented joint ventures;
- Identification of resource endowment for industrial development.
- Initiative:** LDC Governments, LDC industry and trade representative organizations, international organizations, including UNIDO and International Trade Centre UNCTAD/GATT.

1.3.2 Access to markets

Developing countries, and LDCs in particular, are on the periphery of the world economy, as evidenced by their role in international trade. LDCs' share in world exports amounted to only 0.3 per cent in 1988. New tendencies in the international structure of production, such as the development of strategic industrial partnerships and agreements across national borders and the building of new regional trading blocs, make the international market even more inaccessible to LDC manufactures. The geographic isolation of some LDCs is reflected in very high transport and communication costs, and associated service costs, such as banking, can also be expensive. Greater efforts are therefore needed to make international markets accessible to LDCs' industrial exports.

Objective: Increased access to markets for industrial exports of LDCs.

Action: Cooperation among LDCs and other developing countries at the regional and subregional levels to help provide enlarged markets for manufactured products;

Intensified market liberalization negotiations commenced by the Uruguay Round of GATT to provide market access for products originating from the LDCs;

Improvement of the General System of Preferences scheme to ensure duty-free treatment of LDCs' exports and help exempt them from quotas and ceilings placed on their exports in the international markets, especially in the advanced market economies;

Further development and implementation of the Generalized System of Trade Preferences among developing countries;

Detailed analysis of the impact of non-tariff barriers in other countries on industrial production in LDCs;

Review of the impact of freight rates, communication costs, and transaction costs on LDCs industrial competitiveness in world markets, and discussions with the actors involved on measures for their alleviation;

Institute and develop suitable support measures to enable LDC exporters to take full advantage of existing preferential trade schemes, and other improved international market access arrangements.

Initiative: International community, LDC Governments, international organizations, including UNCTAD, ITC and UNIDO.

2. ENTERPRISE DEVELOPMENT AND THE ROLE OF THE STATE

2.1 Public industrial enterprises

The past emphasis in most LDCs on public sector enterprises in a broad range of manufacturing areas has run into operational and financial constraints and led to an inefficient allocation of economic resources. What is needed is a redefinition of the role of the State with reference to public enterprises, and practical measures to make any public enterprise contribute positively to industrial development in LDCs. This can be achieved by increasing their responsiveness to market signals, but these in turn can only come from an appropriate macroeconomic framework.

Objective: To increase the supportive role of viable public industrial enterprises by raising the efficiency, productivity and competitiveness of suitable public enterprises and where necessary to rehabilitate, privatize and/or dissolve them.

Action: Adoption of necessary and appropriate measures to evaluate their performance and viability on a case-by-case basis;

Establish efficient accounting procedures;

Enforce financial and managerial discipline, including full autonomy and accountability of managers;

Create adequate incentive and career structures to attract, train and retain qualified personnel;

Privatization of selected public enterprises to stimulate and accelerate industrialization;

Implement restructuring options as appropriate, which may include consolidation rehabilitation and privatization/dissolution, to stimulate and accelerate industrialization.

Initiative: LDC Governments. National initiatives could be supported by technical and industrial service assistance from UNIDO, and other development partners.

2.2 Promoting private industry

In many LDCs there has been a long history of public sector dominance in industry and a narrow base of domestic private entrepreneurship. Privatization programmes are expected to dynamize production and bring improved economic efficiency in industry. Such programmes, however, will need an appropriate enabling economic environment in order to become workable. The major impetus for industrial growth will have to come through the private sector, including the promotion of private small- and medium-scale enterprises. This will be essential to achieve diversification of industrial structures, increased employment opportunities and poverty alleviation, and the growth of dynamic linkages with the economy. While export development and diversification are important considerations, the domestic market will be an initial focus of many new and existing enterprises, and measures to strengthen this market must be a major priority.

Objective: Creation of a favourable and enabling economic environment for rehabilitation, local entrepreneurship and private sector initiatives.

Action: As part of a programme of rehabilitation, carry out analyses of plant-level and sectoral and macroeconomic conditions for enhanced performance;

Creation of secure and predictable legal and institutional framework for activities of private enterprises;

Simplification of administrative regulations that affect the operations of private industry, and transparency in their operation;

Appropriate fiscal policies, including careful assessment of the relevance of existing tax bases and rates;

Financial and credit policies including those related to structural adjustment programmes that takes special account of the characteristics of industrial enterprises, and their special requirements for foreign exchange;

Provision of incentives, including appropriate imports allocations or tax concessions to potential buyers of ailing public industrial enterprises;

Promote the formation of broad-based institutions at local and national level which represent the interests of the private sector, such as chambers of commerce, manufacturers' associations, and chambers of industry;

Extensive human resources development programmes for the private and informal sectors, especially through the direct involvement of chambers of industry in training schemes;

Effective policies to attract foreign companies to invest in industry and related services sectors;

Promotion of management training, small-scale ventures, usually based on local/regional resources, and micro-industrial enterprises;

Supplementing existing skills by special programmes of computerization for standard management applications;

The creation of industrial development zones and export processing zones where the appropriate preconditions for success (including geographic characteristics and human, technological and infrastructural supporting network) are present;

Encouragement of entrepreneurship by promotional measures and programmes of education and training that foster self-employment as well as the release of entrepreneurial talents.

Initiative: LDC Governments, LDC industry, international organizations, including UNIDO.

2.3 Non-governmental organizations (NGOs)

The role of NGOs, including development associations, cooperatives, credit unions, business associations, churches and women's groups in promoting development has become more prominent in recent years in both developed and developing countries. NGOs may have particular roles to play in promoting and supporting especially small-scale industry, and in human resource development for industry. Rural credit entrepreneurship development and training are some of the successful areas. Their capacities for organization and development at the local level can in many cases be used for the encouragement of industrialization initiatives in LDCs. There is a need, however, for increased international coordination to this end.

Objective: Enhancement of participation of developed country and LDC NGOs in LDC industrial development.

Action: Identification of NGOs in the fields of industry and industry-related services in developed countries that could participate in cooperation programmes with LDC industry;

Development of programmes of cooperation with LDCs by appropriate NGOs in developed countries, especially in such fields of organizational development, management skills development, quality control, marketing, repair and maintenance, and environmental protection;

Selection of counterparts in LDCs, especially nascent NGOs in comparable industrial branches, but also including governmental and parastatal involvement to assist in clearing administrative obstacles to direct cooperation;

Assist NGOs to offer management training and skills especially in rural areas on a basis to enhance development and interaction between entrepreneurs.

Initiative: LDC NGOs with assistance of developed country NGOs. UNIDO to provide assistance in programme development and coordination including employers organizations and trade unions.

3. MODERNIZATION AND EXPANSION OF THE INDUSTRIAL BASE

3.1 Rural industrial development

In many LDCs, modern small-scale industry is as yet of minor importance in rural areas, it is therefore important to enhance their contribution to industrial development in rural areas so as to better the living conditions of their population. To do this, measures are needed that include a suitable macroeconomic framework, as well as demand and supply-side measures. Since linkages tend to be particularly weak in LDCs, close attention has to be paid to the relations between different rural activities, as well as to clusters of urban small industries with rural links. Given that the industrial strengths of LDCs are to be found mainly in the natural and human resources available to them, it is clear that agro-based industries (including those based on forestry and fisheries) will be the principal basis of industrial growth, and that industrialization will include the development and extension of supply and demand relationships between agriculture and industry, including the supply of inputs to agriculture.

Objective A: To combat poverty and make better use of natural resources based on ecologically sustainable rural industrial development, through the development and promotion of rural small-scale industrial enterprises;

Action: Suitable macroeconomic policy and institutional framework, especially through the simplification of bureaucratic procedures and controls and the removal of pricing distortions unfavourable to rural small-scale industrial enterprises;

Measures that avoid promoting commercial farming at the expense of, rather than in addition to, subsistence agriculture;

General measures for rural development that encourage rural small-scale industrial enterprises, including price preferences, the development of rural credit schemes, and land reform;

Improved skill training and education, especially through extension programmes and support for community-level and private initiatives;

Public investment programmes that take account of the transport and energy requirements of existing and projected rural small-scale industrial enterprises;

Promotion of agro-based and other resource-based small-scale industries, closely limited to domestic and regional market demands;

Special measures for the promotion of women entrepreneurs;

Assistance in identifying niches for craft products from micro- enterprises in international markets;

Initiate and strengthen effective measures for the conservation and development of water supplies in rural areas;

Concentration and coordination of specialized support service agencies for rural small-scale industrial enterprises;

Improvement and expansion of subcontracting arrangements for rural small-scale industrial enterprises for efficient rural, urban and export market outlets;

Within the context of an overall review of tariff and tax structures, including those carried out in the context of structural adjustment programmes, selective reduction of duties on inputs to the agricultural machinery industry, together with tax concessions on sale of the products.

Initiative: LDC Governments, regional and subregional organizations, institutions, international community and local NGOs, international organizations, including UNIDO. Technical assistance from UNIDO in development and rehabilitation of rural industries in LDCs.

Objective B: Development of agro-related industries.

Action: Survey of industries such as agricultural machinery, fertilizers, and pesticides industries and requirements at national, sub-regional and regional level, to identify patterns of development levels, potential demand and supply characteristics; and

Preparation of integrated industrial sectoral programmes for development of these branches in LDCs;

Close dialogue between LDC Governments, LDC industry, rural development organizations and other interested parties on the selection and implementation of projects for investment and for technical cooperation.

Initiative: LDC Governments, UNIDO, international community.

3.2 Industrial services and technology development

A major weakness of industrial development in LDCs is the absence of supporting industries, particularly services. This lack of supporting industries, services and institutions has been identified as a major obstacle to industrial development (including the attraction of FDI flows). Industrial support services and technology need to be systematically built up. At present, there is a shortage of finance, banking, credit, insurance, repair and maintenance, skill management and training, accountancy, engineering design and consultancy as well as R&D

services for manufacturing, together with wholesale and retail trade. In some cases, the informal sector provides some of these services to manufacturing in LDCs, but there is considerable scope for further expansion and development. Technological development in LDCs, while necessarily limited in its scope by the progress achieved in industrialization, is nevertheless of critical significance for industrial diversification, increased competitiveness and the conservation of resources. Adaptation of existing technologies offers many possibilities, especially in the exchange of experience with other developing countries, but is only possible if special measures are undertaken to overcome the geographic and institutional isolation of many LDCs and if the general economic framework is supportive.

Objective A: Increased support for industrial growth through the creation of new industry-related services and institutions as well as strengthening existing ones.

Action: National plans, programmes and strategies for the development of the services industries that take explicit account of the contribution that can be made to them by manufacturing and, in addition, the assistance given to industrial growth by the availability of suitable services;

Analysis of availability and requirements for industrial services, and assessment of contribution of existing institutions;

Planning the development of systematic institutional support for industry, especially in the fields of industrial standards, testing, supporting exports, quality assurance, packaging, design, training, purchasing, technology acquisition, adaptation and adoption, and legal advisory services;

Establishment and expansion of institutions for policy development and research in specific fields of industry-related services, and in cooperation with LDC industry, coordination of advisory and extension services;

Setting up and expansion of institutions for advisory services for small and medium industry development, especially through LDC industry organizations and institutions at the local level, including the provision of support for ongoing enterprises in the field of marketing, cost control, and finance (accounting); (low cost) market research, etc.;

Encouragement of initiatives at industry and local level for repair and maintenance services for industry;

Assistance to local and industry initiatives in the provision of access to credit lines and business advice;

Technology acquisition policies based on proven and well-tested technology adapted to local conditions.

Initiative: LDC Governments. LDC industry, international organizations, including UNIDO, international community, developed countries, NGOs.

Objective B: Increasing technological capabilities for industrial diversification.

Action: Improvement of access in LDCs to basic information sources (news media, technical and trade journals, etc.);

Institutional development, especially networking for technology information exchange, with subregional and regional cooperation playing an increasing role;

Re-assessment of tariff structures in the light of requirements for technological development;

Improved access to more advanced industrial technologies especially in the context of increased export orientation;

Training for more efficient use of existing technologies;

Establishing appropriate legal and regulatory framework in LDCs for technology development and protection of intellectual property rights.

Initiative: LDC Governments, international community, UNIDO.

3.3 *Efficient energy use*

Inadequate and unreliable energy supplies have contributed to slow industrial growth in many LDCs, and the need to import energy sources has imposed balance-of-payments difficulties. Unequal distribution of resource endowments, large transmission distances, and the size of markets impose limits on the supply development. LDCs need to create the environment to develop and enhance economic energy supplies needed to sustain industrial growth and development. Infrastructural development to include extension of the national grid will be important for many industrial enterprises, actual and potential. However, there is also considerable scope for improving the quality of power supplies, as well as the introduction of a range of energy conservation measures.

Objective: Increased energy-efficiency in industry that also includes use of alternative energy sources.

Action: Increase energy national/regional resource capacity based on development of viable conventional and alternative energy sources, including hydropower, geothermal, bio-gas, solar, wind and other forms of energy;

Intensify campaigns on modalities and benefits of low-cost energy conservation in industry and industry-related pollution problems;

Carrying out of energy audits in industrial plants;

Subsidization of energy conservation processing techniques in industry;

Award programmes for efficient energy users and promotion of simple but efficient energy technology systems for industry;

Special measures for small and medium industry and rural small-scale industrial enterprises to encourage more energy efficient production methods, including

diffusion of information on efficient energy technologies, and promotion of expansion of the national grid as appropriate;

Increase afforestation and reforestation programmes to improve renewable energy sources such as wood and forest products.

Initiative: LDC Governments, LDC industry, NGOs, local initiatives, international organizations, including UNIDO.

4. HUMAN RESOURCE DEVELOPMENT

4.1 Improving the human resource base

Generally, LDCs face a severe shortage of the skills necessary for industrial development. The reported lack of quality labour covering the whole spectrum from top- to middle-level management, engineering and technical skills in quality control and maintenance, and skilled and semi-skilled labour in production calls for intensified efforts to improve the human resource base for industrial development in LDCs. Training and education, especially higher education, is often too theoretical, more geared to meeting the requirements of the public sector than the needs of industry. This includes rural small-scale industry, for which improvement of the human resource base is also necessary.

Objective: Improve the quality of manpower, including top-, middle- and lower-level managers, engineers and technicians, and skilled and semi-skilled labour in production.

Action: Involvement of government and industry in a dialogue for a better definition of human resource development priorities and problems;

Streamlining of government administrative machinery in order to allow effective and quick response to the changing industrial situation, increasingly based on market signals;

Provision of adequate incentives to attract and retrain trained personnel in public service and other institutions including universities and research;

Establishment of legal and social security frameworks that encourage worker mobility and thus skill diffusion and new skill acquisition and that give stability and security in employment;

Development of informal apprenticeship schemes where existing;

Assessment of science and technology trends and their implications for human resource requirements in industry;

Gearing higher education in LDCs to meet the needs of industry, especially in the development of skills and professional training needed by an expanding private sector;

Analysis of trends in advanced technologies and development of appropriate training in response;

Provision of larger amounts of corporate and national budgets for training of trainers and development of training materials for industry;

Provision of adequate resources for development and support of the training infrastructure;

Adoption of measures and provision of incentives for the development of private training institutions;

Prepare programmes for the full participation of women in industry, especially in the private small-scale and informal sector, especially through making the education, information and decision-making processes accessible to them, including the design and evaluation of projects;

Establish within public administration and industrial enterprises a scheme of recognized responsibilities for all levels in order to encourage personal responsibility and identification with organizational objectives.

Initiative: LDC Governments, LDC industrial associations, LDC industry. Assistance of UNIDO, UNESCO, ILO, in the field of technical services. NGOs and private local corporate bodies may be important actors in institutional capacity building.

4.2 Industrial management skill training

Limitations with respect to education and training of human resources for industry are prevalent at virtually all levels of production activities in LDCs. This limitation including the quality of human resources applies to the company level where there is a lack of sufficient trained personnel. These limitations have adverse effects on the acquisition and efficient operation of new production techniques. Increased competition internationally calls for a continual upgrading of skills in the field of industry. Again, the adoption of strategies of industrialization based on development of the private sector, and especially small and medium industry, calls for a rapid increase in training for management skills development.

Objective: Improved quality of technical and management training to meet the needs of industry.

Action: Incentives for increased school attendance by disadvantaged children to provide a basis for accelerated human capital formation in LDCs;

Incentives to increase enrolment for training in subjects critical for industry, including management skills, engineering, natural sciences and technical occupation;

Increase of training of trainers for industrial managers;

National management development in association with industrial policy, especially in relation to partial privatization of some enterprises or restructuring of development cooperation;

Effective design and implementation of national and regional management development programmes and building up of local training capacity for industrial managers;

National and regional coordination of management development programme institutions and universities;

Intensification of national and regional exchange programmes and visit for LDC managers;

Development of cognitive and collective behaviour skills of both male and female managers;

Integration of appropriate entrepreneurship and small-scale management training into school, university and apprenticeship programmes to ensure participation of women in management;

Strategies to capitalize on the latent dynamism of local entrepreneurs, including initiatives that can be easily understood and assimilated by the local population;

Development of quality control throughout organizations and training of specialist in quality control and quality management, standardization and metrology.

Initiative: LDC Governments, national and regional institutions, and international organizations, including UNIDO.

5. TRANSPORT AND COMMUNICATIONS

The severe difficulties and handicaps which many LDCs face arising from landlockedness and geographical isolation create an urgent need for the improvement and development of both national and regional transport and communications for industrial development. The difficulties are especially in the areas of delays and unreliability of supplies and in reaching export markets, together with associated high transport costs of goods. In the longer term these difficulties have fundamental negative consequences for development of technology and market structures.

Objective: Improved national and regional transport and communications infrastructure to meet the needs of industry.

Action: Development, maintenance and rehabilitation of ports, waterways, roads and rail networks, taking into account the specific needs of industry for access to supplies and to markets;

Training of indigenous manpower to service transport and communication equipment and systems;

Special measures to link remote rural enterprises to market centres;

Expand and improve transit-transport and port facilities, including appropriate duty and legal arrangements, to facilitate transport to and from land-locked countries;

Incorporation of provision for tele-communication facilities as a major support service in all industrial projects;

Develop and promote use of telecommunication systems and other requisite infrastructure for industrial development, including satellite and other computer-aided communication technologies for industry and enterprises;

Assess feasibility, especially at a regional and subregional level, of production of low cost transport equipment.

Initiative: LDC Governments, regional and subregional organizations, international organizations, including UNIDO.

6. *INDUSTRY AND ENVIRONMENT*

Industrialization is aimed at increasing the welfare of the population of LDCs over time, but at the same time it has been associated with industry-related environmental problems. Although LDC industries are small, they will have to adopt patterns of industrialization which minimize pollution through cleaner production.

Objective: Integration of environment and development imperatives into national and regional industrial policies to achieve environmentally sustainable industrial development (ESID).

Action: Awareness campaigns and incorporation of environmental concerns in education curricula;

Promotion of product stewardship and enterprise responsibility for industrial products;

Development of ecologically sustainable industrial development-related structural adjustment programmes where environmental problems in a country's industry are of sufficient magnitude;

Assistance to industry in adherence to code of conduct for production, especially including support to industry associations in this regard;

Increased integration of environmental responsibility into all management levels, introduction of environmental auditing and resource accounting, together with associated training programmes;

Assistance to industry in identifying and meeting new product technical requirements and opportunities for international trade.

Initiative: LDC Governments, international community, regional and subregional organizations, UNIDO, UNEP and other agencies.

7. INTERNATIONAL COOPERATION

7.1 Economic and technical cooperation among developing countries

The small size of domestic markets for manufactures in most LDCs, limited resources for industrial investment, physical inaccessibility due to landlockedness and insularity of some island LDCs pose major hindrances to industrial development. Increased economic and technical cooperation between LDCs and other developing countries at the regional and subregional levels can play an important role in industrial development of LDCs. While industrial resources are limited, there will still be certain complementarities in economic structure and possibilities for exchange of experience and expertise.

Objective: Development of regional and subregional markets for trade in manufactures and exchange of technical services in industry among LDCs and other developing countries, particularly those in the same subregion.

Action: Simplified procedures for importing LDCs' manufactured products, as part of the development of free trade areas and economic unions;

The development and strengthening of clearing houses for facilitating trade in manufactures in local currency;

Promotion of pilot industrial projects for subregional cooperation;

Undertake supply and demand surveys to identify products representing particular opportunities to be encouraged on regional and subregional markets;

Encouragement of the establishment of multinational industrial enterprises among LDCs and other developing countries.

Development of clearing houses for exchange of technical expertise among LDCs, and between LDCs and other developing countries;

Enhancing exchange of information and know-how in the manufacturing sector, including through buyer seller-meetings, subcontracting exchanges, and networks of information exchange on technology negotiation and acquisition;

Facilitating the flow of goods in transit, especially for land-locked LDCs, again through simplified procedures and through international support for infrastructural development.

Initiative: LDC Governments, subregional and regional organizations, international organizations, including UNIDO, international community, ITC.

7.2. Cooperation with developed countries

7.2.1 Coordination and harmonization of aid policies and measures

Although industry in LDCs receives a small share of the total official development assistance (ODA) that flows to LDCs, this total is in many cases significant in proportion to total external resource flows. In many cases there may be opportunities for the local

manufacturing sector in LDCs to participate in development aid projects dealing with other sectors, such as health, agriculture, infrastructure, etc. Again, the process of development aid coordination may have insufficiently considered the potential importance of industry in the development of the LDC in question.

Objective: Better aid coordination and targeting to make maximum use of ODA for industry;

Since industry in LDCs receives a minuscule share of ODA, it is pertinent to adopt an effective coordination strategy to utilize wisely the scarce resources available for industry.

Action: Consideration of increased resources for industrial development from the international community, or consideration of an increase in the share of existing funding channelled to the industrial sector;

Careful monitoring of aid and service inputs to ensure, as far as possible, use of products, expertise and services available in the recipient LDC or another LDC or for which an appropriate local substitute exists;

Expanded commodity aid funds in order to provide imported inputs;

Additional resources, including technical cooperation staff and NGO and industry initiatives in developed countries, to help bridge the gap in the training of indigenous management and technical skills for industry;

Preparation of databases and/or directories containing information on potential LDC suppliers to development aid projects and on their products and/or services.

Initiative: International community, LDC Governments and international organizations, including UNIDO.

7.2.2 Better harmonization of aid and debt relief strategy

The burden of debt, including bilateral concessional debt, with which many LDCs are faced, continues to be a major hindrance to industrial growth and to realization of development plans, making economic adjustment with sustained growth very difficult as was recognized at the Second United Nations Conference on the Least Developed Countries. The ODA required to meet these growth targets will depend on such variables as debt-relief programmes, non-concessional capital inflows from private and public sources, and reserve requirements, all of which are subject to great uncertainties. The effectiveness of increased ODA for LDC industrialization will thus depend to a large extent on better harmonization between the debt-relief mechanisms and ODA programmes.

Objective: Better harmonization of aid and debt-relief policies and actions; progressive debt-relief strategy to meet development needs of LDCs.

Action: Special consideration of debt and debt-relief policies for the industrial sector, especially considering the recurrent need of an expanding industry for foreign exchange;

Establishment of export revolving funds for foreign exchange requirements of exporting industries in LDCs.

Initiative: International community, and international organizations, including UNIDO.

7.2.3 Better understanding in the international community

Public awareness of the plight and potential of industry in LDCs has hitherto remained limited. In the international information setting the development problems of LDCs are often presented only in relation to very large scale national or human disasters. It is therefore necessary that intensive information campaigns for a wider appreciation of the problems and potential of industrialization in LDCs are made to attract greater support and greater private sector participation in the industrial transformation of LDCs.

Objective: Better understanding in the international community of the potential for enhanced socio-economic development of the LDCs through their industrialization.

Action: Development of public information strategy for UNIDO aimed at specific target groups at national, regional and international level, including decision makers, the private sector, NGOs and the media.

Initiative: UNIDO, international community, LDC Governments.

8. IMPLEMENTATION AND REVIEW

8.1 Industrial data

The state of data and information on the manufacturing industry and other sectors of the economy in LDCs is poor. Data gaps affect every sector including industry. If strategies for industrialization and sustainable growth with equity are to be developed in the LDCs, the industrial information system must be developed and improved, as a matter of urgency.

Objective: Improved information on manufacturing industry and economic sectors at national and regional levels.

Action: Improve perception of industry in the development process and emphasize the need for sectoral, branch, sub-branch and enterprise information;

Analysis of information requirements of Government and the private sector, and re-definition and harmonization of information collected to meet real needs of decision makers;

Close cooperation between public authorities and industrialists in the collection of data and the establishment and strengthening of efficient networks for the periodic collection of data;

Development of mechanisms to facilitate quick and easy access to local and international data by users;

Training of statisticians and data base managers.

Initiative: LDC Governments, LDC industrialists, and international organizations, including UNIDO.

8.2 Implementation arrangements, follow-up, monitoring and review of action plan

8.2.1 Sectoral level

Objective: To translate the components of the industrial action plan into specific steps at the subsectoral and institutional level.

Action: Preparation of operational programmes of technical cooperation for groups of LDCs, including specific analysis of requirements and supply possibilities for technical cooperation in various fields including:

- Agro-food processing
- Fish processing
- Textiles
- Clothing
- Leather and leather products
- Construction materials
- Chemical industries
- Metalworking (including agro-related, repair and maintenance)
- Wood products
- Telecommunications

At the policy and institutional level, programmes will be developed in:

- Industrial rehabilitation
- Rural industrialization
- Small- and medium-scale industry and entrepreneurship development
- Industry-related services.

Initiative: LDC Governments, UNIDO.

8.2.2 National level

All analysis of the complex difficulties of socio-economic development in LDCs indicates that the problems of one sector cannot be solved in isolation, that due account has to be taken of the linkages between actions at the sectoral, national, subregional and international levels. Although manufacturing is small in LDCs, it is the focus of development aspirations and a potential source of dynamic growth. The special characteristic requirements and possibilities have to be taken into account in reviewing the socio-economic development of LDCs and the measures taken to achieve this. At the same time it is recognized that the wide range of products and processes encompassed by manufacturing makes this a difficult task, for which detailed and frequently updated technical analysis will be a continuing requirement.

Objective: Industrial policy dialogue on progress and problems in reaching agreed objectives and the creation of conditions for implementation of this Plan.

Action: Increase national administrative capacity for necessary policy development, coordination, and review;

Preparation of national industrial plans and policy analyses that take full account of LDC objectives and the contribution of the international community, including the identification of resource gaps. This should include the development of integrated sectoral programmes at the national and, where appropriate, subregional and regional levels, and form a basic reference document for discussion of implementation of the industrial action plan, for round tables and for consultative groups.

Intensify UNDP round tables and World Bank Consultative Group meetings and National Technical Cooperation Assessment and Programming (NATCAP) exercises organized by LDCs with the support of relevant institutions to implement the principles and commitments of the industrial action plan;

Effective aid coordination to maximize efficiency of external support under the leadership of the LDC Government to avoid parallel systems of industry targeting, programming and allocation of scarce resources;

More consultation between the Government, NGOs and the private sector in the country review process;

Harmonization of the role of ministries of industry, finance and national planning agencies, so that their activities can be coordinated to benefit industry.

Initiative: LDC Governments, international community, international organizations, including UNIDO.

8.2.3 Regional and subregional level

Objective: Policies and measures to promote, monitor and coordinate industrial cooperation between LDCs and other developing countries in similar economic regions.

Action: Appropriate harmonization and coordination of industrial development plans and objectives in a regional or subregional context;

Critical analysis of existing regional and subregional structures and coordination schemes and mechanisms;

Continuous collection, up-dating, analysis and dissemination of industrial development strategies and policies and associated information, in order to ensure that LDC Governments and industry undertake programmes and investments and make policy decisions in full knowledge of developments and intentions under way in other relevant countries.

Initiative: LDC Governments, regional and subregional organizations, international organizations, including UNIDO.

8.2.4 Global level

Objective: To establish an effective overview and consensus at the global level on progress in implementation of this Plan.

Action: Analysis and comparison of status, experiences and lessons of development and industrial policy framework plans in LDCs;

Regular assessment of economic and social progress including industrial performance of LDCs within the context of international economic environment and domestic factors;

Review ODA and other assistance to development and industry in particular in relation to needs and circumstances of industry;

Monitor involvement of women in industrial development;

Regular industrial sector appraisal by national and international agencies.

Initiative: International organizations, including UNIDO, international community.

10. INDUSTRIAL ACTION PROGRAMME FOR THE LEAST DEVELOPED COUNTRIES IN THE 1990s

This supplementary chapter concerns the Industrial Action Programme, a set of actions to be taken by both UNIDO and the LDCs for industrial recovery in the LDCs. It features mainly actions and initiatives designed to develop the human resource potential for industry, rural industrial development, creation of better environment for mobilization of financial resources for industry, the development of support services, scientific and technological base for industry, the integration of women in industry, effective system of consultations for industrial development, etc. Presented below is the Industrial Action Programme for the LDCs in the 1990s:³⁹⁹

INDUSTRIAL ACTION PROGRAMME

A. Human resources development for the industrialization of the least developed countries

The mobilization and development of human resources in the least developed countries is a crucial factor in promoting sustained and increasingly self-reliant socio-economic development.

Action by UNIDO

The role of UNIDO may be defined as follows:

- (a) To assist in the establishment of policies and strategies and in planning related to human resource development at the national, regional and enterprise levels, taking into full consideration the development plans and identified needs of the least developed countries;
- (b) To strengthen information systems, training institutions, and training research and development centres;
- (c) To develop training approaches and methodology, produce training materials, and evaluate activities related to human resource development;
- (d) To establish a network system of training institutions in least developed and developing countries (through expert group meetings, workshops etc.);

³⁹⁹ The General Conference adopted at its eleventh plenary meeting the programme as the basis for development and implementation of technical cooperation projects and programmes between UNIDO and the LDCs in the 1990s. Its implementation is to be carried out within the programme and budgets, and medium-term plan adopted by the General Conference and within the financial resources made available to UNIDO, as well as in close cooperation with other relevant organizations and institutions both inside and outside the United Nations system; see UNIDO, General Conference (GC.4/INF.4), 27 November 1991, pp. 11-12.

- (e) To foster cooperation between least developed countries in human resource development and promote regional and interregional training activities;
- (f) To develop national training for senior and middle-level staff to upgrade technical and managerial skills;
- (g) To provide training in design and manufacturing at the level of small-scale industrial enterprises and to introduce training programmes for small-scale entrepreneurs;
- (h) To train and upgrade industrial personnel in scientific and technological fields (maintenance and repair, production of spare parts etc.);
- (i) To encourage the establishment of information systems, to monitor the skills required and to keep under constant review the interlinkages between education, research, training and industry;
- (j) To create and foster training systems for the development of indigenous consultancy capabilities to assist industry in its operational as well as training activities;
- (k) To upgrade scientific know-how by providing training opportunities for activities related to industrial research;
- (l) To monitor and assess the capacity of training and research institutes to meet the needs of industry including a strengthening of the links between universities and industry;
- (m) To assist in improving the effectiveness of activities related to the accelerated development of human resources;
- (n) To provide training for trainers and managers in all sectors of industrial development;
- (o) To give special attention to new communication techniques and computers and to optimize related training systems;
- (p) To increase productivity and the organizational effectiveness of industrial enterprises, and update and improve skills required in business organization and management, basic skills required in practically all the different branches of industry, and skills specific to the equipment or technological process;
- (q) To organize and upgrade the knowledge of decision makers involved in the negotiation and acquisition of technology, and examine the skills and know-how that need to be developed for the effective transfer of technology;
- (r) To develop the training capabilities of individual industries to conduct their in-service training programmes, including the training of managers and trainers and the development of training materials and software.

Action by least developed countries

The task of the least developed countries may be described as follows:

- (a) To develop and improve institutional capabilities and efficiency in public administration, ensuring an optimal balance between the public and private sectors (enterprises, cooperative sector, informal sector) in order to foster productive activities;
- (b) To build and maintain technological and management training institutions at national and subregional levels;
- (c) To provide adequate incentives to attract and retain trained personnel for industrial services and development institutions;

(d) To develop indigenous consultancy capabilities to assist in industrial operations and training by setting up teams of prominent national experts from industry, universities, national training institutes and other key institutions working in the field of human resources development or with the potential for providing a range of such consultancy services;

(e) To promote the development of entrepreneurship through training policies aimed at creating a more favourable economic environment for local private-sector initiatives, which might include fiscal, financial and credit incentives, as well as legal provisions fostering and protecting private investment;

(f) To identify, formulate and implement specific programmes for private enterprise development which, in order to ensure a positive contribution to the industrial development of the least developed countries, should foster domestic and foreign direct investment, management training, entrepreneurial skills, non-traditional exports, small-scale ventures and microenterprises, including those within the informal sector, and small-scale industrial enterprises based on local raw materials.

B. Industrial development in rural areas

A majority of the population, particularly of the poor, lives in rural areas in the least developed countries, where agriculture, the dominant productive sector, continues to rank high among development priorities. An essential component of any rural development strategy consists in the establishment of forward and backward linkages between industry and the rural economy, as well as the promotion of non-agricultural and off-farm employment and income generation opportunities through small-scale and microindustries in rural areas.

Action by UNIDO

UNIDO action should be designed for the following ends:

(a) To carry out international surveys of industrialization and rural development, to analyse the lessons learned, and to disseminate the results and information of national interest;

(b) To provide support to the Governments of least developed countries in the formulation of national industrial development plans, with particular emphasis on the establishment of a coherent and effective framework for balanced development between the urban and rural economies;

(c) To provide technical assistance aimed at strengthening national capabilities to monitor and analyse the impact of industrialization on the rural environment, and to design and implement appropriate measures;

(d) To promote rural industrial initiatives and self-help efforts in the private sector, such as industrial associations, community development groups and cooperatives;

(e) To assist in the development of off-farm industrial employment opportunities at the grass-roots level;

(f) To assist in formulating and applying rural industrial development strategies that create a business environment favourable to the emergence of competitive industries based on local resources;

(g) To assist in carrying out studies on the transfer of appropriate technologies for infrastructure development and for conservation, processing and quality control of industrial products.

Action by least developed countries

Least developed countries should seek the following:

- (a) To establish facilities for teaching basic business skills and providing practical technical training focused on productive utilization of local natural resources and human resource development in rural areas;
- (b) To support research into, and the adaptation and application of, new appropriate technologies of strategic importance for the development process;
- (c) To channel public investment into infrastructure development in rural areas;
- (d) To ensure that laws governing land and other forms of property ownership facilitate modern business transactions and are promotional rather than regulatory and controlling in nature;
- (e) To undertake land policy consolidation wherever feasible and desirable;
- (f) To reform farming and land tenure systems, where appropriate, so as to ensure productive and non-speculative investment in land;
- (g) To create a fiscal and legal framework that will give equal opportunities to rural and urban-based economic activities, to small agricultural holders, and to small-scale industrial entrepreneurs;
- (h) To adopt appropriate agricultural pricing and credit policies;
- (i) To introduce simple technical and managerial training programmes at primary and secondary education levels in rural areas;
- (j) To apply the results of agricultural research and the technical skills and experience of farmers in the development of rural small-scale industries through flexible and decentralized agricultural extension services;
- (k) To strengthen agricultural support services, in particular agricultural credit systems, storage facilities and other relevant arrangements to minimize pre-harvest and post-harvest losses.

C. Macroeconomic conditions and mobilization of financial resources for industrial development

The principal objective of macroeconomic policy is to create a favourable environment and a basis for sustained growth and long-term development of the economy. The macroeconomic policy framework should provide a basis for overcoming the structural bottlenecks confronting the least developed countries, leading ultimately to their industrial transformation and contributing to the eradication of poverty.

Action by UNIDO

UNIDO should undertake the following:

- (a) To assist in the identification of priority industrial sectors, subsectors and enterprises for development;
- (b) To strengthen the operational capabilities of ministries of industry and to facilitate their effective liaison with ministries dealing with planning and macroeconomic policy;
- (c) To formulate industrial master plans and policies for industrial investment, rehabilitation and transfer of technology;
- (d) To train officials in the identification, screening and promotion of specific industrial projects;

(e) To assist in development of the necessary data banks and information base for effective consultation with all economic agents, including domestic and foreign private investors;

(f) To assist in identification of the economic linkages and the interface between macroeconomic goals and sectoral restructuring;

(g) To provide timely assistance in the formulation of national industrial investment policies and programmes, the identification of investment opportunities and the preparation of pre-investment and feasibility studies;

(h) To assist in the identification of domestic (private or institutional) sponsors and potential (domestic and foreign) partners providing finance, technology and management for investment projects, and to strengthen local investment project development and promotion facilities and capabilities;

(i) To assist in increasing the flow of resources to productive investment projects by identifying, appraising, promoting and supporting industrial investment and rehabilitation opportunities, and by promoting enterprise-to-enterprise cooperation involving direct foreign investment and technical cooperation agreements;

(j) To provide selected business agents with direct promotional assistance, public or private, geared to reducing major information and transaction costs;

(k) To attract the support of suitable financial partners in industrial development by establishing closer contacts with national, regional and international development finance institutions and with bilateral development agencies along the lines of the joint business programme with the International Finance Corporation;

(l) To develop further relations with multilateral development financing institutions such as the African Development Bank, the Asian Development Bank, the Inter-American Development Bank and the World Bank, so as to secure the increased involvement of UNIDO in technical cooperation activities financed by those organizations;

(m) To organize promotional events such as investment forums to allow local sponsors to discuss individual investment opportunities with overseas investors;

(n) To establish or strengthen investment promotion services in developed countries with a specific focus on least developed countries.

Action by least developed countries

The least developed countries should take steps designed for the following purposes:

(a) To introduce special measures to prevent heavy price distortions and further consequential increases in balance-of-payments disequilibria and to provide protection for the poorest sections of society;

(b) To determine expected future requirements of manufactured goods (including final consumption by households) in the light of changing import patterns and domestic production needs;

(c) To establish regular channels for a full discussion of matters relating to the industrial sector;

(d) To establish, through specific investment legislation, a favourable legal and institutional framework for the promotion and growth of local and foreign savings for industrial development;

(e) To concentrate on investment incentives that do not require specific approval and award in each case but are automatic in effect, such as differential tax rates and social security contributions;

(f) To establish sound banking and other facilities (viable investment institutions through which normal investment proposals can be exchanged);

(g) To reform and modernize the systems of central and regional investment banks and establish trade financing schemes for the provision of pre- and post-shipment financing, export credit guarantees and insurance;

(h) To ensure cooperation among least developed and other developing countries at the regional and subregional levels in order to provide enlarged markets for manufactured products within the framework of the generalized system of trade preferences among developing countries;

(i) To provide easy access to loan funds and credit guarantees, especially for rural small-scale industrial enterprises, and promote savings and loan associations that grant small loans to such enterprises;

(j) To build up the financial sector and establish capital markets, strengthening and restructuring domestic financial institutions and banking;

(k) To create a network of offices of regional and national development banks in rural areas, and decentralize the loan approval process.

D. Development of the industrial, service, scientific and technological base

Public and private initiative in non-agricultural sectors in the least developed countries should focus on the following three major objectives: rehabilitation, maintenance and upgrading of existing production facilities; expansion of productive potential in line with dynamic comparative advantage; and availability of resources and internal and external market prospects.

1. Industrial rehabilitation

Action by UNIDO

UNIDO should focus on the following objectives:

(a) Providing assistance, at the enterprise and plant level, in diagnostic activities relating to technical, economic, management, organizational, institutional and policy aspects of the plants, leading up to comprehensive rehabilitation projects and examination of their feasibility;

(b) Providing assistance, at the industrial subsector level, including technical support infrastructures, in the development of programmes for institutional support, structural rationalization and the creation of rational and cohesive production structures;

(c) Providing assistance, at the industrial policy level, in dealing with the policy implications of efforts undertaken at the two above-mentioned levels and in the promotion of appropriate measures to remove major obstacles to the viable development of industry, keeping in view the relevant socio-economic factors;

(d) Assisting in the improvement of productivity and production processes so as to ensure an optimum product mix, enhance quality and facilitate adaptation to new market segments, as well as to upgrade organizational, operational and managerial capabilities to deal with continuously changing external conditions;

(e) Assisting, at the request of least developed countries, in:

(i) Policy and survey studies;

(ii) Feasibility studies;

- (iii) Formulation and promotion of action programmes;
- (iv) Technical cooperation at national and regional levels;
- (v) Investment promotion in order to secure financial resources and technical partners for the intended rehabilitation;
- (vi) Monitoring and evaluation of programmes;
- (vii) Policy dialogues, in particular Consultations Meetings, in which diagnosis of sector-specific problems and rehabilitation project experience provide a basis for improving the industrial policy environment and exploring mechanisms and arrangements for international cooperation;

Action by least developed countries

In connection with the above-mentioned action by UNIDO, the least developed countries should cooperate with UNIDO in:

- (a) Undertaking diagnostic studies to gain basic information and to alert relevant parties to the nature and scope of the problem;
- (b) Drawing up an improvement plan for public enterprises that are salvageable or that must be rehabilitated;
- (c) Drawing up a contract-plan or some similar mechanism specifying the obligations and expectations of the Government and the enterprise;
- (d) Preparing national reviews establishing:
 - (i) The extent to which the enterprises are subject to financial discipline;
 - (ii) The importance of financial objectives, including payment of dividends;
 - (iii) The clarity of social objectives;
 - (iv) The degree of restriction on access to State subsidies;
 - (v) Access to markets (national, subregional and international).

2. Privatization

The UNIDO privatization programme was established to assist Governments in the planning of comprehensive long-term strategies and to further the process of divestment of public assets in industrial enterprises, thereby creating favourable conditions for the development of entrepreneurship and private initiatives, especially in the small- and medium-scale industries sector.

Action by UNIDO

UNIDO efforts should include the following:

- (a) Designing and adapting conceptual frameworks (policy directives, legal instruments, investment and financial incentives);
- (b) Assistance in formulating appropriate strategies and valuation methodologies;
- (c) Assistance in identifying and training potential local managerial resources to facilitate the process of privatization;

- (d) Devising or adapting transfer models and variations of privatization options and contractual schemes prior to full divestment;
- (e) Identifying local investors and employees with entrepreneurial skills as well as interested foreign parties;
- (f) Undertaking activities, including seminars and workshops, to gather and share information on the experience of various countries and the lessons learned therefrom.

Action by least developed countries

The least developed countries should concentrate on the following:

- (a) Demonstrating government commitment to the programme by ensuring that the requisite political will and at least a minimum of resources are applied in support of the above-mentioned technical assistance activities;
- (b) Creating a favourable environment for privatization transactions and the provision of UNIDO assistance;
- (c) Undertaking national campaigns highlighting the transparency of the programme in order to win the support not only of Governments and private institutions but especially of the public;
- (d) Undertaking and making available studies and documentary information to facilitate the provision of technical assistance and similar interventions;
- (e) Mobilizing resources for technical assistance to the greatest possible extent through bilateral and multilateral cooperation and international financial institutions.

3. Small- and medium-scale industries

In the least developed and other developing countries, the formal small- and medium-scale industry sector contributes between 10 and 20 per cent to industrial output, absorbs 40 to 60 per cent of industrial employment, and represents approximately 90 per cent of existing enterprises. The huge potential offered by these industries, especially in terms of their contribution to a broader and more resilient base for industrialization, is a challenge in itself, since great difficulties have to be overcome in fostering and accelerating their development. This challenge assumes a note of urgency in many debt-ridden least developed countries, given the fragility of import-substitution industries which are dependent on foreign equipment and managerial resources and imported raw materials.

Action by UNIDO

The role of UNIDO should be to support least developed countries in the following:

- (a) Developing an economic environment conducive to sustained growth of small- and medium-scale industrial enterprises;
- (b) Adopting and implementing policies and strategies to ensure that financial and technical resources are mobilized to meet the development needs of small- and medium-scale enterprises, as well as encouraging and assisting in efforts to modernize such enterprises and improve their output and product quality;
- (c) Mobilizing financial resources for small- and medium-scale enterprises;
- (d) Expanding productive and technological links between small independent firms and large-scale industries in least developed countries at national or international level.

Action by least developed countries

Least developed countries should aim at the following:

- (a) Adopting macroeconomic, fiscal and other policies with incentive measures for small- and medium-scale enterprises;
- (b) Assisting in the modernization of small- and medium-scale enterprises, and encouraging entrepreneurship with a view to improving productivity and quality;
- (c) Improving local technological capabilities and establishing financial mechanisms to channel financial resources and support labour-intensive industrial ventures;
- (d) Developing joint maintenance and repair mechanisms, quality assurance, instrumentation and standardization, testing and market research for export-oriented industries at national, subregional and regional levels;
- (e) Creating or strengthening a network of focal points for investment in small-scale projects promotion;
- (f) Supporting and promoting enterprise-to-enterprise and association-to-association cooperation of small-scale entrepreneurs at national and subregional levels.

4. Transfer of technology

The technology transfer and development programme has to be designed to expand and diversify the industrial base of least developed countries through a process of technological transformation. The programme should include a mix of elements addressing the issues of domestic technological infrastructure, acquisition of foreign technology and technological information capability at the levels of policy, institutions and human resource development.

Action by UNIDO

At the request of governments of least developed countries, UNIDO action should consist in the following:

- (a) Assisting least developed countries in the establishment or strengthening of their domestic technological infrastructure by addressing issues of appropriate technology, technology management and links between research and industry;
- (b) Assistance in building up awareness and capabilities of least developed countries in matters relating to technology acquisition and development at the levels of policy, institutions and human resource development;
- (c) Assisting in the diversification and expansion of the network for the exchange of technological information to include a wider range of institutions in more developing countries and to increase access to UNIDO assistance in technology acquisition and the negotiation of technology transfers;
- (d) Assisting in the development and expansion of national, subregional, regional and sectoral information networks, including the installation of technological databases and standardized application packages covering areas such as technology opportunities, local production capacities and market information;
- (e) Establishing focal points in least developed countries for interaction between national and international technology suppliers and national technology users, including technology centres where appropriate;

(f) Facilitating the coordinated formulation and implementation of technology plans, policies, laws and regulations, the delivery of technological and industrial information, and the upgrading of technological information capabilities in least developed countries;

(g) Continuing to support programmes for providing least developed countries with technical assistance from other developing countries, in addition to exploring arrangements for least developed countries to benefit from the cooperative exchange of skills among developing countries;

(h) Fostering, through direct technical assistance, the understanding and appreciation of technology in least developed countries, and cooperating in efforts to upgrade technological skills and to develop, adapt and invent local technologies;

(i) Promoting, through, for example, the establishment of industrial incubators, successful inventions, innovations and local technologies available as inputs to production in least developed countries;

(j) Organizing training programmes on technology transfer negotiation for government officials and entrepreneurs needing guidance in their negotiations with foreign investors, joint-venture partners or technology suppliers;

Action by least developed countries

The least developed countries should take action along the following lines:

(a) Planning the development of systematic institutional support for industry, especially in the fields of industrial standards, testing, exports, quality assurance, packaging, design, training, purchasing, technology acquisition and adaptation, and legal advisory services;

(b) Promoting technology acquisition policies based on proven and well-tested technology adapted to local conditions, and encouraging initiatives in maintenance and repair services;

(c) Creating a technical library to improve access in least developed countries to basic information sources (news media, technical and trade journals etc.);

(d) Reassessing tariff structures in the light of requirements for technological development and improved access to more advanced industrial technologies, especially in the context of increased export orientation, and establishing the appropriate legal and institutional framework for technological development in least developed countries;

(e) Promoting institutional development, especially networking for technology information exchange, with subregional and regional cooperation playing an increasing role;

(f) Promoting support for the training process to achieve more efficient use of existing technologies, participating in technological research-and-development programmes in selected areas with the aim of developing indigenous technologies, and promoting, with UNIDO assistance, the adaptation of imported technologies to meet national requirements;

(g) Cooperating with UNIDO to start a process of acquisition of new and emerging technologies, such as biotechnology, of particular importance to food and agriculture and in agro-based industries, as well as telecommunications and information systems.

5. Transport and communications

The severe difficulties and handicaps faced by many least developed countries as a result of their landlocked status and geographical isolation create an urgent need for improving and developing both national and regional transport and communications systems for industrial development. The problems are especially acute because of delays and unreliability in the shipment of supplies, difficult access to export markets, and high transport costs. Over the longer term these difficulties have a profoundly negative impact on the development of technology and market structures.

Action by UNIDO

UNIDO efforts should include the following:

- (a) Assisting in developing, improving, maintaining and managing transport equipment and telecommunication systems, including the use of satellites and other technologies, where appropriate;
- (b) Cooperating with the Economic Commission for Africa and the Economic and Social Commission for Asia and the Pacific in devising special programmes tailored to least developed countries in the context of the implementation of the programmes and projects of the United Nations Transport and Communications Decades for Africa and Asia;
- (c) Supporting and encouraging the implementation of joint transport and communications projects undertaken by two or more least developed countries, particularly within the framework of subregional and regional economic integration;
- (d) Developing and promoting the use of telecommunication systems and other requisite infrastructure for industrial development, including satellite and other computer-aided communication technologies for industry and enterprises;
- (e) Assisting in the implementation of measures to ensure the management and maintenance of transport equipment, and in assessing the feasibility of production, especially at regional and subregional levels, of low-cost transport equipment.

Action by least developed countries

In the 1990s, least developed countries should pursue the following tasks:

- (a) Developing, maintaining or rehabilitating ports, roads, rural tracks and railways;
- (b) Training the human resources required and setting up indigenous training institutions to service transport and communication equipment and systems;
- (c) Creating internal transport facilities, particularly those linking remote areas;
- (d) Expanding and improving transit transport and port facilities in transit countries to facilitate transport to and from landlocked countries;
- (e) Giving appropriate attention to the development of coastal shipping services and of river and lake services;
- (f) Developing, where necessary, joint shipping companies or merchant fleets.

6. *Environment and energy*

Many developing countries, increasingly aware of the hazards of industry, are introducing environmental protection and resource conservation policies and programmes. Industry has also responded by developing new non-polluting technologies and production processes, an endeavour to which biotechnology and genetic engineering can make a major contribution. The very complexity of the causes and effects of pollution requires still more concerted efforts.

Energy policies must take into account the depletion of fossil fuels and environmental concerns. In the short term, efforts must be made to increase the efficiency of energy use and conservation; in the medium term, a shift should be made from the use of coal and oil to gas and hydroelectricity; in the long term, policies must display a greater commitment to the development and utilization of renewable energy resources.

Action by UNIDO

In the wake of the Conference on Ecologically Sustainable Industrial Development, held at Copenhagen from 14 to 18 October 1991, the following specific areas were identified for future UNIDO activities:

- (a) Developing an environmental database containing details of environmental standards and the environmental implications of technologies, as well as monitoring devices for environmental planning;
- (b) Assisting least developed countries, on request, in building the technical and scientific institutional capacity to develop, absorb and diffuse pollution prevention techniques and cleaner production processes essential to ecologically sustainable industrial development;
- (c) Assisting least developed countries in the implementation of international environmental conventions and protocols relating to industrial activities;
- (d) Assisting least developed countries in incorporating measures in agricultural projects to combat drought and foster reforestation programmes, soil conservation and water preservation;
- (e) Assisting least developed countries in determining the environmental soundness of industrial technologies by, *inter alia*, preparing guidelines on environmentally sound industrial practice for selected sectors, and providing assistance in the development of assessment techniques for the identification and measurement of environmental impacts;
- (f) Assisting least developed countries in integrating environmental considerations into their industrial strategies and policies by identifying sectoral and subsectoral priorities for environmentally sound industrial activities;
- (g) Assisting least developed countries in incorporating measures to combat drought and promote reforestation programmes, soil conservation and water preservation;
- (h) Assisting least developed countries in research and development relating to new and renewable sources of energy and associated technologies.

Action by least developed countries

Least developed countries should focus on the following activities:

- (a) Integrating environmental awareness and responsibility at all management levels, on the basis of careful analysis of relative risks, introduction of waste minimization and environmental compliance auditing, and establishment of emergency and risk-and-safety-management systems and training programmes;
- (b) Promoting, in cooperation with UNIDO, substitute materials and product reformulations, process modifications and equipment redesigns, renewable sources of energy and raw materials, recycling and reuse of waste and scrap materials, as well as developing environmentally sound technologies, know-how and skills, and financial and human resources;
- (c) Reviewing the environmental impact of current and planned policies, regulations and institutional infrastructure affecting industry and the environment so as to identify, adopt and enforce appropriate policies and measures conducive to achieving ecologically sustainable industrial development;
- (d) With regard to energy, promoting:
 - (i) Conservation, recovery and recycling of energy and the utilization of renewable sources of energy;
 - (ii) Direct or indirect utilization of wind and solar energy;

- (iii) Utilization of biomass;
- (iv) Use of hydroelectric power;
- (v) Development of appropriate maintenance and repair capabilities for energy-generating facilities;
- (vi) Increasing local production of energy-related capital goods;
- (vii) Adoption of energy-conservation and substitution technologies in the context of rehabilitating, reorienting and expanding existing industries;
- (viii) Applied research and development related to new and renewable sources of energy and associated technologies.

E. Integration of women in industrial development

Given the interrelationship between the improvement of the position of women in the economy and the basic objectives of development policy, providing women with the opportunity to increase and improve their contribution to economic development is an important means of achieving the fulfilment of basic development goals.

Specific measures need to be taken to increase the number of trained and qualified women. Despite certain achievements, serious obstacles such as cultural barriers continue to inhibit the participation of women in decision-making, planning and management in both the public and private sectors.

Action by UNIDO

The UNIDO contribution to the achievement of the desired goals should include the following:

- (a) Ensuring that women are equal beneficiaries in UNIDO projects, especially those related to industrial planning, small-scale enterprises and agro-industries, as well as to the development of appropriate technologies and human resources;
- (b) Continuing special training programmes for women in technological, managerial and entrepreneurial skills;
- (c) Assisting training institutes in least developed countries in the organization of appropriate courses for women;
- (d) Organizing expert group meetings and seminars to discuss specific strategies, refine approaches for the advancement of women in industry, and enhance awareness of these issues among policy-makers;
- (e) Developing a statistical data system related to the participation of women in industrial activities, within the framework of the technical cooperation programme, for use in the collection and dissemination of industrial census data to assist policy-making bodies in least developed countries.

Action by least developed countries

Appropriate measures should be taken fully to mobilize and involve women, as both agents and beneficiaries of the industrial development process, including the following:

- (a) Ratifying and implementing the United Nations Convention on the Elimination of All Forms of Discrimination Against Women;

(b) Greatly enhancing the industrial development prospects of their countries by preparing programmes for the integration of women in industry, by promoting their professional and technical training, and by allowing them better access to knowledge, technology and financial resources;

(c) Promoting the establishment of associations of women entrepreneurs in order for women to become conscious of their rights and assume personal responsibility for defending those rights;

(d) Creating greater awareness among men and associating them with the elaboration and implementation of measures to promote the role of women in industrial development;

(e) Ensuring full participation of women in the decision-making process, particularly in the design and evaluation of industrial projects, and the administration of funds intended to promote the role of women in industrial development.

F. The System of Consultations

The mandate of the System of Consultations is to promote the industrial development of developing countries and increase their share in world industrial output through international cooperation. Consultations, with which least developed countries have been associated, have been held covering agricultural machinery, building materials, capital goods, electronics, fertilizers, fisheries, food-processing with emphasis on sugar cane and fruit and vegetable processing, iron and steel, leather and leather products, non-ferrous metals, petrochemicals, pharmaceuticals, vegetable oil and fats, and wood and wood products. In addition, topics cutting across all sectors have been the subject of Consultations, such as industrial financing, industrial rehabilitation and restructuring, small- and medium-scale enterprises and training of industrial workers.

For the 1990s, the System should specifically support the industrial development policies of least developed countries by the following means:

(a) Conducting follow-up meetings and workshops on topics specifically relevant to least developed countries;

(b) Holding regional Consultations at the request of the countries concerned to foster the dialogue between least developed countries, on the one hand, and other developing and developed countries, on the other, in determining an industrial development strategy for least developed countries;

(c) Organizing country Consultations to support multidisciplinary and multisectoral cooperation of all economic agents required for a balanced industrial development programme;

(d) Conducting workshops and other meetings to elaborate industrial development strategies for least developed countries on the basis of their economic and social structures, with the support of the relevant Governments and in cooperation with various indigenous economic agents.

Within the framework of the Programme of Action of the Second United Nations Conference on the Least Developed Countries, the present Industrial Action Programme and the United Nations Industrial Development Organization Medium-term Plan, the System of Consultations should play an active role in promoting the systematic exchange of experience between policy makers and small-scale entrepreneurs or their representatives from both developed and developing countries. The development of small- and medium-scale industry will demand a more intensified approach to the information and policy aspects of such institutional infrastructure as marketing cooperatives, subcontracting exchanges and equipment hire-purchase programmes.

Efforts should be made to integrate many of the ad hoc expert group meetings convened outside the System of Consultations. The experience of such groups could make a valuable contribution to the formulation of operational policies for UNIDO.

G. International economic cooperation

Strengthened cooperation between least developed countries and other developing countries, as appropriate at regional and subregional levels, can play an important role in the development efforts of the least developed countries during the 1990s. Arrangements in this connection should aim at providing industrial products of least developed countries greater access, on a preferential basis, to regional markets, allowing imports of their products on a long-term secured basis, extending financial and technical assistance for their benefit, enhancing the exchange of information and know-how, increasing collaborative ventures, and, in the case of landlocked least developed countries, facilitating the flow of goods in transit.

Further action along the following lines should also be undertaken:

- (a) Utilizing and strengthening the existing institutional framework at the national, subregional and regional levels, and promoting pilot industrial projects for subregional cooperation;
- (b) Undertaking supply and demand surveys to identify products representing particular opportunities to be encouraged on regional and subregional markets;
- (c) Fostering the establishment of transnational industrial enterprises among least developed countries and other developing countries;
- (d) Developing clearing-houses for the exchange of technical expertise among least developed countries, and between least developed and other developing countries;
- (e) Enhancing the exchange of information and know-how in the manufacturing sector;
- (f) Careful monitoring of aid and service inputs to ensure efficient use of products, expertise and services available in recipient or other least developed countries;
- (g) Preparing industrial databases and directories containing information on potential least-developed-country suppliers to development aid projects and on their products and services;
- (h) Establishing partnership relations and cooperating with local non-governmental organizations, thus influencing policies on major international issues affecting the industrial development of the least developed countries.

H. Arrangements for implementation follow-up, monitoring and review

The development efforts of the least developed countries should be supported by effective follow-up and monitoring mechanisms, which are a key to the successful implementation of the Programme of Action for the 1990s adopted by the Second United Nations Conference on the Least Developed Countries. The leadership of the Governments of least developed countries is central to the implementation of the present Industrial Action Programme, with the assistance of development partners such as UNIDO in strengthening their capacity to fulfil this role.

Action by UNIDO

UNIDO, in accordance with its mandate to coordinate the activities of the United Nations system in the field of industrial development, should endeavour, by the following means, to ensure aid coordination, which is essential to achieve maximum efficiency in the provision of external support to the least developed countries:

- (a) Harmonizing and coordinating industrial development plans and objectives in a regional or subregional context;
- (b) Undertaking critical analysis of existing regional and subregional structures and coordination schemes and mechanisms;

- (c) Monitoring implementation of the commitments and measures, adopted at the Paris Conference, relating to the industrialization of the least developed countries;
- (d) Ensuring that attention be given to the special needs of the group of landlocked and island least developed countries;
- (e) Regular assessment of the industrial performance of the least developed countries, delineating the impact of the international environment and of domestic factors on the results achieved;
- (f) Analysing the experience gained and lessons learned by least developed countries in formulating and implementing their own development policies;
- (g) Assessing and monitoring the efforts of donors and international agencies to direct and adjust their assistance programmes to the special needs and priorities of least developed countries, within the industrial development policy framework established by those countries;
- (h) Monitoring the involvement of women in industrial development;
- (i) Initiating regular industrial sector appraisals by national and international agencies.

In cooperation with other organizations of the United Nations system, UNIDO will serve as focal point for the provision of support to the industrial development programmes of the least developed countries, on the basis of the Paris Declaration and Programme of Action of the Second United Nations Conference on the Least Developed Countries.

Action by least developed countries

The least developed countries should assume the following responsibilities:

- (a) Increasing national administrative capacities for policy development, coordination and review;
- (b) Harmonizing the role of ministries of industry and other relevant ministries, so that their activities can be coordinated to benefit industry;
- (c) Broadening country review groups so as to encompass all the donors concerned, and organizing them on a more systematic basis, with those least developed countries currently without regular country review groups being encouraged to engage in this process;
- (d) Introducing administrative reform as an integral part of the country review process in order to reinforce the responsibility of Governments of least developed countries;
- (e) Improving government institutional capabilities in order to enhance the ability of least developed countries to play a central role in aid coordination and management.

11. UNIDO's SUPPORT FOR INDUSTRIALIZATION IN LDCs

To summarize UNIDO's role in industrial development in LDCs, this chapter contains the 1991 progress report by the Director General on industrialization in the LDCs.

PROGRESS REPORT BY THE DIRECTOR GENERAL³⁰⁰

INDUSTRIALIZATION OF THE LEAST DEVELOPED COUNTRIES

Introduction

1. The present document is prepared in compliance with General Conference resolution GC.3/Res.11 on industrialization of the least developed countries and Industrial Development Board decision IDB.7/Dec.15 on UNIDO assistance to the least developed countries in the context of the medium-term plan.
2. The activities of UNIDO in the least developed countries (LDCs) are in direct response to the various mandates of the General Conference, the Industrial Development Board, and the United Nations General Assembly giving highest priority to LDCs in the technical cooperation and other programmes of the Organization. In order to enhance these activities further, the Director-General established the post of Coordinator for LDCs to serve as the focal point for, among other matters, initiating, developing, monitoring and following up UNIDO activities in LDCs.
3. The United Nations General Assembly, by resolution 45/206 of 21 December 1990, endorsed the Paris Declaration and the Programme of Action for the Least Developed Countries for the 1990s, adopted by the Second United Nations Conference on the Least Developed Countries held in Paris in September 1990, and requested the United Nations Secretary-General to ensure the full mobilization and coordination of all organs, organizations and bodies of the United Nations system, such as UNIDO, in its implementation and follow-up.

I. THE LEAST DEVELOPED COUNTRIES AND THE INDUSTRIAL SECTOR

4. The group of LDCs, which comprise 42 countries [now 47, 1992] with a combined population of nearly 440 million (1990 estimate), constitutes the weakest segment of the international community. The countries are particularly handicapped and ill-equipped to develop their domestic economies and to ensure an adequate standard of living for their

³⁰⁰ UNIDO document GC.4/38, 25 September 1991: reports on activities related to the LDCs since the adoption of the General Conference resolution GC.3/Res.11, in particular UNIDO's contribution and follow-up to the Second United Nations Conference on the Least Developed Countries, including the preparation of a plan of action for the industrialization of those countries in the 1990s.

population. Their economies are also acutely vulnerable to external shocks or natural disasters. The economic and social development of LDCs represents a major challenge for themselves as well as for the international community.

5. Despite national and international efforts, the economic situation of LDCs as a whole worsened during the 1980s: the actual average per capita gross domestic product (GDP) growth rate was only 0.1 per cent, with negative growth in many countries. The marginalization of the LDC group in the world economy became more accentuated, with their share in world exports amounting to merely 0.3 per cent in 1988 (as against 1.4 per cent in 1960). Social conditions in those countries barely, if at all, improved during that period. The generally poor performance of LDCs can be attributed to national problems (such as interaction of population growth, poverty and environmental degradation, problems associated with the design and implementation of structural adjustment programmes, natural disasters) and adverse external conditions (such as depressed commodity prices, difficulty of access to markets, and lower-than-expected aid flows). External debt servicing emerged as a major problem for most LDCs during the 1980s.

6. The manufacturing sector of LDCs still consists predominantly of consumer goods industries, with little capacity for the production of intermediate and capital goods. The lack of linkages between industry and the other sectors of the economy has resulted in a heavy dependence of those countries on imported inputs, hindering the accomplishment of any durable structural changes.

7. Among the factors that were considered a prerequisite for the successful implementation of the Substantial New Programme of Action for the 1980s was a significant increase in financial resources. However, the low domestic savings ratio (in 1987, the average domestic savings rate in sub-Saharan Africa was estimated at 4.9 per cent of GDP) did not permit productive investment in the manufacturing sector. In addition, official development assistance (ODA) to industries in LDCs was relatively small although per capita ODA to LDCs stood at \$30 as compared to \$17 to other developing countries (1988). As indicated in a report: "UNIDO contribution to the Second United Nations Conference on the Least Developed Countries" (A/CONF/147/PC/3/ADD.13, 21 March 1990, Section A: "Review of industrialization trends") 40 per cent of the external financial flows to the industrial sector came in the form of export credits, about 30 per cent from private bank lending and an average of 5 to 10 per cent from non-concessional loans from multilateral development finance institutions, the latter registering a sharp drop compared to the situation in 1980.

8. As for policy constraints in the industrial sector, LDCs as a whole have suffered severely from import strangulation owing to a lack of foreign exchange, over-valued exchange rates and increasing debt burdens. This has been aggravated by the indiscriminate pursuit of inefficient import substitution strategies, involving the shielding of domestic production by high protective barriers and frequently using inappropriate technologies. In many instances extensive reliance on capital-intensive technologies, ill-adapted to domestic skill levels, has discriminated against simpler labour-intensive technologies.

9. Except for food processing, the modern manufacturing sector in LDCs tends to be highly import-intensive. Evidence from a UNIDO survey of industries in the African region reveals that in the brewing industry, for instance, virtually all raw materials except water are imported.³⁶¹ The same applies to practically all other branches of light and intermediate

³⁶¹ Workshop paper: A review of the manufacturing sector in the least developed countries (16 January 1989).

industries such as soft-drink bottling, footwear, leather, apparel and metals. Of the 100 manufactured items produced by the 40 African countries covered in the survey, roughly 55 per cent of the product sample had an import content of close to 100 per cent; only in agro-industries and textiles was the import content under 25 per cent.

10. One consequence of this heavy dependence on imported inputs is a lack of linkages between the industrial sector and the rest of the economy. Once the LDCs started to experience severe balance-of-payment deficits, as they did throughout the 1980s when commodity prices were low, the foreign exchange required to obtain the inputs was not available; this led to a reduction in capacity utilization, if not outright plant closure.

11. Unfavourable trends in cash crop production also give cause for concern in terms of their contribution to manufacturing growth. In a number of LDCs export earnings have declined considerably. Apart from cotton, production of all the other cash crops fell - coffee by 23.7 per cent, cocoa by 15.4 per cent, and ground-nuts products by 23.3 per cent. It will prove difficult to reverse these unfavourable trends in the near future, since they result from a complex set of deep-seated problems, including inadequate production from ageing plantations, and the delayed impact of agricultural rehabilitation programmes.

12. The growing recognition of the seriousness of the industrial development problems of the LDCs has prompted experimentation with and adoption of a wide range of basic economic policies. The strategies applied in the 1980s included those based on some combination of import substitution, export promotion and self-reliance. Emphasis was also placed on increasing investible revenues, enhancing the role of the private sector and introducing structural adjustment.

13. In the 1990s, it appears that industry in LDCs may well face a problem of survival rather than development, given the present macroeconomic environment in most of those countries. As the manufacturing sector has remained very small in most LDCs, it is not possible to rely solely on that sector to transform their economies, at least not in the short term. Nevertheless, in all LDCs the manufacturing sector has an important role to play in providing consumer goods and inputs to agriculture, in processing its outputs and in creating job opportunities.

II. THE SECOND UNITED NATIONS CONFERENCE ON THE LEAST DEVELOPED COUNTRIES

Contribution of UNIDO

14. UNIDO contributed actively both in the preparatory phase of the Paris Conference as well as in the Conference itself (3-14 September 1990). It served to define the role of UNIDO in supporting the Substantial New Programme of Action for the 1980s for the least developed countries (SNPA) adopted at the first Conference, to review overall UNIDO activities in LDCs, and to outline an approach to industrial development issues and an industrial strategy for LDCs. An analysis of the industrial sector in LDCs during the 1980s was presented to the General Assembly in document A/CONF/147/PC/3/Add.13. Moreover, during preparations for the Paris Conference, the prospects for improved industrial performance in the 1990s were considered, and the intention of drawing up an industrial action plan for the least developed countries was announced at the Paris Conference.

15. Under the terms of General Assembly resolution 42/177, the Intergovernmental Group on the Least Developed Countries was designated to serve as the Preparatory Committee for

the Second United Nations Conference on the Least Developed Countries. In the course of its seventh session (Geneva, 26/March - 6 April 1990) the Intergovernmental Group established two working groups to consider specific issues concerning the substantive preparation for the Conference. UNIDO contributed a working paper: "Industrial development of the least developed countries in the 1980s and prospects for the 1990s" (A/CONF.147/PC.3/Add.13 - TD/B/AC.31/Add.13).

16. The Preparatory Committee unanimously agreed that, despite the good intentions of SNPA, the situation of LDCs had deteriorated in the 1980s. It was felt, however, that the lessons learned and experience gained would contribute to the elaboration of a strategy for the 1990s.

17. In addition to the working paper (para. 15), UNIDO was associated with or contributed to other preparatory activities of the Conference such as: the Meeting of Eminent Persons on the Least Developed Countries, convened at The Hague, which focused on the identification of the constraints and bottlenecks that had hindered development efforts during the 1980s and on the national and international policy measures required to accelerate the development process of LDCs in the 1990s; the high-level Experts' Meeting on the Role of Enterprise Sector in the Development of the Least Developed Countries; the high-level Experts' Meeting on the Role of Women in the Development of the Least Developed Countries; and participation, in the context of the preparations for the Paris Conference, in the ninth meeting of the Intergovernmental Committee of Experts of African LDCs as well as in the tenth meeting of the Conference of Ministers of African LDCs, held at Tripoli, Libyan Arab Jamahiriya.

18. The UNIDO delegation to the Paris Conference participated in the work of the plenary as well as its two committees. Committee I dealt with the formulation of the basic principles, the global framework for macroeconomic policies and the arrangements for the implementation and follow-up of the programme of action; and Committee II dealt with sectoral policies and measures, in particular with the mobilization of human capacities in LDCs, and the development and modernization of the economic base, and with the review of progress at the national and international levels since 1981.

The outcome of the Conference

(a) The Programme of Action

19. The Conference adopted a new international 10-year programme of action aimed at accelerating development in LDCs in the 1990s. A highlight of the Programme of Action concerning actions at national level is the need for development to be human-centred and broadly based, enabling all actors in society to participate fully and freely in the development process. The Programme emphasizes that men and women are the essential resource and beneficiaries of the development of LDCs, and that the mobilization and development of these human resources are a crucial factor in promoting sustained and increasingly self-reliant socio-economic development.

20. As regards the industrial development process and the role of enterprises, the Programme of Action recognizes the need for pragmatic approaches to balance public and private-sector involvement in the development of LDCs. Public enterprises will continue to play an important but supportive role. The prime objective of policies affecting the public sector should be a marked increase in the efficiency and productivity of State enterprises. It is stressed that private enterprises, as well as industrial and rural cooperatives, can play a greater role in

transforming the economies of these countries and achieving national development objectives. The development of entrepreneurship should be stimulated and motivated by policies aimed at creating a more favourable economic environment for the local initiatives of the private sector. Specific programmes for private enterprise development should address, *inter alia*, the promotion of domestic and foreign direct investment and of small-scale ventures and micro-enterprises, including those within the informal sector, as well as the development of entrepreneurial skills.

21. The Programme of Action separately addresses the specific measures needed to promote the full participation of women in the development process, and the role of non-governmental organizations (NGOs).

22. In the section dealing with the development of the economic base of LDCs, detailed policy provisions are outlined for such vital areas as rural development, agriculture and food security; development of the industrial, service, scientific and technological base; infrastructure; and environment.

23. The formulation of a target for resource flows commensurate with the required increase in external support was a key issue before the Conference. In this regard, the solution finally adopted was a new "menu of options" approach providing for a set of targets which map out more clearly than before the different undertakings by various groups of donors. This flexible approach recognizes the individual circumstances of donor countries and, consequently, for the first time, all partners in the international community were able to join in a consensus on specific targets for an increase in ODA.

(b) The Paris Declaration

24. By adopting the Paris Declaration [see Box 4], the participants demonstrated their political will to promote accelerated long-term sustained and sustainable development in LDCs. They solemnly committed themselves to implementing the Programme of Action throughout the 1990s, stating that the Programme demonstrates their unanimous determination to promote an ambitious development policy, the success of which rests on the effectiveness of national policies, a favourable international climate, and a strengthened partnership based on mutual commitments by LDCs to define and implement appropriate policies and by their partners to make available adequate resources in support of those policies.

25. The Paris Declaration defines five priority areas in the Programme of Action with a view to inspiring national action by LDCs: (i) to conduct a macroeconomic policy, taking account of market signals and aimed at accelerating long-term growth and development; (ii) to develop human resources; (iii) to reverse the trend towards environmental degradation, to manage the environment with a view to effective and durable utilization of natural resources and to reinforce action to deal with disasters; (iv) to promote an integrated policy of rural development; and (v) to develop a diversified productive sector.

26. To help achieve these priorities, it was agreed that external support measures would be required to reinforce the efforts of LDCs. In particular, the essential role of ODA for LDCs was recognized and the need to increase its support substantially was highlighted. The bulk of the assistance should be provided in the form of grants and it should be managed effectively and with transparency. Participants also affirmed their determination to pursue their efforts in the context of the international debt strategy and to help improve the international economic climate and to assist the integration of LDCs into the international trading system.

**The role of UNIDO in the Programme of Action for
the Least Developed Countries for the 1990s**

27. The UNIDO contribution to the Conference mentioned in paragraph 14 above was taken into consideration when finalizing and adopting the Programme of Action for the Least Developed Countries for the 1990s, and the activities of UNIDO, among others, were noted in the Conference report, under "Global framework" (A/CONF.147/18, para. 26).

28. The role of UNIDO was also highlighted in the Programme under "Development, particularly expansion and modernization of the economic base" (A/CONF.147/18, paras. 84-127).

**III. FOLLOW-UP OF UNIDO TO THE SECOND
UNITED NATIONS CONFERENCE ON THE
LEAST DEVELOPED COUNTRIES**

29. In its resolution 45/206 of 21 December 1990, endorsing the Paris Declaration and the Programme of Action for the Least Developed Countries for the 1990s, the General Assembly made a number of decisions concerning the arrangements for the follow-up, review and monitoring of the implementation of the Programme of Action. As was the case for SNPA, arrangements are built on a three-tier structure of national, regional and global follow-up. Effective follow-up and monitoring mechanisms are seen as the key to the successful implementation of the Programme. In implementing the recommendations of the Paris Conference, an Inter-Agency Consultation on the Follow-up to the Programme of Action for the Least Developed Countries for the 1990s was held in Geneva, 1-2 July 1991. UNIDO contributed to and participated in the discussions concerning: arrangements at the global level for reviewing and monitoring progress in the implementation of the Programme of Action; follow-up at the national level, including the outcome of country review meetings; action by individual organizations in the implementation of the Programme of Action within their fields of competence; and review of the recent development regarding the criteria in selecting LDCs.

30. One year after the adoption of the new Programme of Action, UNIDO is presenting positive accomplishments towards its implementation. The response of UNIDO to the Programme of Action and Paris Declaration is undertaken within the framework of the UNIDO medium-term plan 1990-1995 (document GC.3/17) and its proposed up-date for 1992-1997 (document PBC.7/17). It will also be guided by the proposed industrial action plan for LDCs (see document GC.4/40) once it is approved by the General Conference. Operational programmes for LDCs also benefit from other special programmes and activities of UNIDO which have a major focus on LDCs (see paras. 39-44 below).

The UNIDO medium-term plan

31. While the UNIDO medium-term plan is not specifically designed for a selected group of developing countries such as LDCs, its five target problem areas and three elements not only provide a firm basis for UNIDO to contribute towards implementing the Programme of Action for LDCs but also coincide with the main concerns expressed in that programme.

(a) The human dimensions of development

32. The human dimensions of development is accorded one of the highest priorities in both the medium-term plan and the Programme of Action. The latter addresses the issue under the

major heading of "mobilizing and developing human capacities in the LDCs" stressing the necessity of improving and expanding LDCs' institutional capabilities and efficiency, the role of the public and private enterprise sector, as well as NGOs, and the full participation of women in the development process with emphasis on three areas: population; education and training; health and sanitation. The key issue of the human dimension had also been recognized in the medium-term plan which includes "human resource development" as a priority area and integration of women in the industrial development as one of the three key elements.

33. The rapid rate of progress in the area of science and technology and the growing gap between the industrialized countries and LDCs in high technology as well as at other levels of technology, require LDCs to re-orient their approach to economic development, call for more intensive efforts and urgent action for the speedy development of human resources in those countries. Indeed, the development of the new technologies raises major issues. Greater challenges face the developing countries at large and LDCs in particular in the areas of scientific research, education and training within the framework of self-reliance and self-sustainment.

34. UNIDO is assisting LDCs to focus on the development of planning, strategies and methodologies for human resource development in industry within the context of the development priorities for each country and linking the educational systems to the training needs of the industrial sector. Its efforts also aim at strengthening the existing training centres and institutes by introducing new training techniques and the training of trainers. The following activities are undertaken on a continuous basis:

- (i) **Group training programmes** are carried out by industrial enterprises and/or industrial and service institutions in the form of lectures, exercises, study visits, in-plant training, discussions and other elements. In 1990, of the 1,238 participants in group training programmes 230 came from LDCs.
- (ii) **Fellowships and study tours**, the most traditional training activity of UNIDO, aim to provide training abroad for persons who wish to enhance their skills in a specific field. UNIDO tries to design and implement fellowships and study tours as much as possible according to the individual requests. In 1990, 212 individuals from LDCs benefitted from them.
- (iii) **Training activities in projects**: most technical cooperation projects of UNIDO in LDCs foresee a variety of training activities.
- (iv) **Field projects related to human resource development** normally cover sectoral and subsectoral training needs, assessments and surveys of training capacities, training seminars, and institution-building activities.
- (v) **Meetings and workshops** aim to bring together, for a few days, senior decision makers and experts to discuss specific subjects. They are not training activities *per se*, but provide a training element for the participants and promote further human resource development activities.
- (vi) **Consultation meetings** on human resource development also relate to training. Two such meetings on the training of industrial manpower have been held to date: at Stuttgart, Federal Republic of Germany, in 1982 and in Paris, France, in 1987. The first Consultation dealt with the more general subject of training for industry, while the second concentrated on training for industrial

maintenance. The meetings concluded that UNIDO should concentrate on the manpower requirements of industrial enterprises and the mechanisms for linking these requirements with the output of the educational and institutional training systems.

(b) Development: expansion and modernization of the economic base of LDCs

35. The other major area of the Programme of Action for the 1990s covers *inter alia*: rural development, modernization of agricultural production; development of industrial, service, scientific and technological base, including issues related to energy; and environment. As core mandates of UNIDO, they are further refined in the medium-term plan in four priority areas:

- (i) **The promotion of small- and medium-scale industries** will continue to be one of the major challenges for the UNIDO operational programmes, in particular its technical cooperation and investment promotion activities. This sector contributes 10 to 20 per cent of industrial output, absorbs 40 to 60 per cent of industrial employment in developing countries and also could provide a broader, more resilient base for industrialization. The objectives of the UNIDO small- and medium-scale industry programme in the 1990s, as stated in the medium-term plan, are oriented towards stimulating small business in rural areas, and towards developing relatively skill-intensive small- and medium-scale industries, and aimed at export opportunities through measures such as subcontracting arrangements.
- (ii) **Industrial rehabilitation** and related issues were identified both in the medium-term plan and the Programme of Action as an essential element in the industrial structural adjustment processes in LDCs and a priority area that requires urgent attention. UNIDO will continue to approach industrial rehabilitation at three distinct levels: that of specific enterprises and plants in order to identify and solve critical bottlenecks; that of specific industrial subsectors, including their technical support infrastructures; and at the industrial policy level in order to remove major obstacles to the viable development of industry.
- (iii) **Development and transfer of technology** that would contribute towards the creation of an adequate technological base is viewed as a necessary condition for the medium- and long-term transformation of LDCs. Given the special difficulties of LDCs in acquiring modern technology and in strengthening their technological base - due in part to the lack of domestic research and development capabilities and in part to the changing technological scene and the international economic situation - the Programme of Action for the 1990s calls for special efforts by the international community to accelerate the technological transformation of LDCs. As indicated in the medium-term plan, the development and transfer of technology programme of UNIDO addresses these difficult issues and aims *inter alia* to increase the awareness of the developing countries to the implications of emerging technological changes; to facilitate their access to technology sources, and assist them in strengthening their domestic technological capabilities; and to promote broader participation of developing countries in international technological development.

- (iv) **The environment and energy-related activities of UNIDO** aim at ensuring the environmental sustainability of industrial development and maximizing the beneficial impact of industry on the quality of life by minimizing its adverse environmental effects, while conserving energy through its recovery and recycling as well as through the utilization of renewable sources of energy. The integrated and multi-disciplinary approach advocated in the Programme of Action requires: incentives to motivate better environmental management and to ensure high efficiency of energy use, as well as to discourage environmental degradation; ease of access to and transfer of environmentally sound technology for LDCs; and development of new techniques to rationalize the use of traditional energy resources, and developing low-cost alternative fuel resources.

Preparation of an industrial action plan for the least developed countries

36. As a follow-up to the Paris Declaration and Programme of Action, as well as General Conference resolution GC.3/Res.11, and with financial support from the Government of Italy, activities were undertaken with the aim of formulating an industrial action plan for the least developed countries. A range of studies was carried out in order to analyze key issues of direct concern to the formulation of industrial strategies for industrial development in LDCs and a workshop was then held in Vienna from 19 to 23 August 1991, in order to review the studies and prepare an industrial action plan. The studies focused on a number of topics including: the status of industry in LDCs; the policies for industrialization of LDCs; the stimulation of rural small-scale industry; linkages between manufacturing and other sectors of the economy; the training of industrial managers; aid coordination and industrial development in LDCs; the potential role of the manufacturing sector in LDCs with respect to development assistance projects in other sectors; and the mobilization of public support, especially in developed countries, for the industrialization of LDCs. The workshop was attended by experts from 32 of the 42 LDCs invited, representatives from seven United Nations bodies and specialized agencies, a non-governmental organization, and a representative of the Government of Italy. The participants reviewed the studies prepared for the workshop and finalized the draft industrial action plan contained in document GC.4/40.

Ongoing programmes of UNIDO benefiting the least developed countries

(a) Industrial Development Decade for Africa (IDDA)

37. The Second Industrial Development Decade for Africa (IDDA), 1991-2000, was proclaimed by the United Nations General Assembly at its forty-fourth session in December 1989 and the formalization of the programme for the Second IDDA reached its final stage. The programme covers the 51 countries of sub-Saharan and North Africa. As 29 of these countries are LDCs, IDDA activities are, to a great extent, aimed at benefiting LDCs. In the regular budget for 1990-1991, \$8.6 million were allocated for the IDDA. Twelve of 32 projects approved in 1990 were devoted to individual LDCs and 13 others were regional or interregional projects also benefiting LDCs. In the programme and budget for the 1992-1993 biennium, a similar allocation of \$8.6 million is foreseen. Particular emphasis will be placed on the agro- and agro-related industries, small-scale industries, human resource, private sector participation, and improved industrial policies and strategies. A key activity will be special programme support for LDCs, for which \$500,000 have been earmarked.

(b) Special Programme for the Industrial Development of Asia and the Pacific

38. In accordance with General Conference resolution GC.3/Res.18, UNIDO launched the Special Programme to promote the rapid industrial growth of the developing countries of Asia and Pacific region, with special emphasis on LDCs. That Programme, which benefits the 12 LDCs in the region (Afghanistan, Bangladesh, Bhutan, Kiribati, Lao People's Democratic Republic, Maldives, Myanmar, Nepal, Samoa, Tuvalu, Vanuatu and Yemen), aims at facilitating the development of appropriate indigenous technologies wherever possible, and at assisting, where necessary, in the transfer of technologies for the development of industries in the region.

39. The activities in 1990 focused on the agro-related metalworking industries in LDCs of the region. As a result, a number of regional and country-specific technical assistance and investment project concepts were identified and are being formulated and further elaborated with the Governments, and potential sources of financing will be sought. In 1991-1992, the activities under the Special Programme will consist of follow-up to the work already successfully carried out in agro-related metalworking industries, and, depending on the availability of funds, the launching of a similar process in agro- and food-processing industries, including the preparation of country studies and project identification.

(c) Special Programme for Industrial Development in the Arab Countries

40. The Special Programme was established by the Industrial Development Board in its decision IDB.7/Dec.2. The analysis for the Programme was completed in 1990, in close cooperation with the Arab Industrial Development and Mining Organization (AIDMO). It identified two major types of activities: regional activities devoted to higher industrial cooperation among Arab countries; and activities aimed at meeting the urgent needs of the Arab LDCs.

41. The analysis identified also the following priority areas for the Special Programme: training and development of human resources; standardization and quality control; development of technological functions and capacities; marketing and trade in industrial products; and industrial information.

42. The Special Programme is not bound by any time limitations, but is designed to be a continuous and dynamic process that catalyses and augments all technical cooperation programmes in the Arab region.

(d) Regional workshops for LDCs in relation to technical cooperation projects

43. The objective of these workshops is to introduce managers responsible for industrial development programmes in LDCs to the design, formulation and evaluation of technical cooperation projects in LDCs in Africa, Asia and Latin America. The workshops are also designed to provide training to improve the ability of managers to prepare requests for technical assistance. The regional workshop for English-speaking LDCs in Africa was held at Mangochi, Malawi, in May 1991. It was attended by participants from Botswana, Ethiopia, Gambia, Lesotho, Malawi, Sierra Leone, Sudan, Uganda, the United Republic of Tanzania and the Preferential Trade Area for Eastern and Southern African States (PTA). The participants were introduced to the UNIDO programme development; sources of financing and programme criteria of UNIDO in relation to technical cooperation projects; project development cycle; project logic; design; design criteria; UNDP/UNIDO project design guidelines; UNIDO guidelines for environmental appraisal; project appraisal process and criteria; and project

implementation, monitoring and evaluation. Special attention was paid to the issue of integration of women in project design, management and evaluation.

44. Such workshops are also under preparation for LDCs in Asia, as well as for French-speaking and Portuguese-speaking LDCs. The workshop for LDCs in Asia is scheduled for implementation in October 1991 in Nepal.

(e) LDCs "seed programme": promotion of the traditional textile industry

45. The LDCs "seed programme" has started with a project for the promotion of the traditional textile industry in West Africa financed by the Government of Japan under a trust fund agreement. The objective is to draw up a viable and realistic long-range plan of action on a regional level to catalyze the development of the African traditional textile industry through a pilot project in West Africa. In the least developed countries, the organization of the informal sector, including assistance to an already well-established sector, is the first step towards the development of a healthy industrial base. In that context, the traditional textile small-scale and cottage industries have the potential to develop into a dynamic export-oriented sector, which would create entrepreneurial skills and stimulate the development of the other sectors of the economy.

46. The first phase of the project aims at establishing a plan of action for the promotion of the traditional textile industry in West African LDCs through an assessment in three test countries in terms of: adequacy of support environment including assessment of concrete technical problems, applied indigenous technology and design; assessment of number of producers and entrepreneurs overall and those needing technical assistance; and market research and the development of programmes particularly in regard to finished traditional textile products. In that respect, promotional programmes will be launched in national, regional and international markets for African traditional textile products. Entrepreneurial training programmes will also be organized on quality control, product finishing, marketing management, and development of traditional textile products. The success of the project depends on the recruitment of national experts, in particular women.

(f) LDCs data bank

47. A data bank, initiated in 1990, will be progressively expanded to provide information on the socio-economic indicators for each of the 42 LDCs [1990]. It will include data on respective government strategies, policies and objectives for the 1990s, external debt, structural adjustment programmes, international support measures and priorities related to the Programme of Action. The preliminary phase has been implemented and needs further development. The relevant fields have been identified and collection and screening of information are being undertaken. It is foreseen that in its final stages the data bank will have access to data banks of other cooperating agencies on a complementary basis.

(g) Economic and technical cooperation among developing countries

48. UNIDO carries out promotional activities specially designed for LDCs in the form of solidarity ministerial meetings. Organized for LDCs, the meetings take place in a least developed country which presents industrial projects for cooperation to invitees from other developing countries, representing their Governments, financial institutions and enterprises. The outcome of the meetings is a series of economic and/or technical cooperation agreements among the participants.

(h) **Industrial investment activities**

49. UNIDO is one of the first international organizations to be involved in the promotion of foreign investment for the industrialization of developing countries. While not specifically designed for LDCs, these activities appear to benefit LDCs, particularly at a time when the share of these countries in foreign direct investment as a total of all developing countries remains at half the level of a decade ago (3 per cent in 1980). The activities of UNIDO include assistance in investment project identification and preparation, pre-investment studies, and investment promotion through the organization of investment forums and through the UNIDO network of Investment Promotion Service offices and industrial cooperation centres. For the most part, the clients of UNIDO are medium- to small-sized private enterprises with little international experience, engaged in projects of less than \$5 million investment value.

(i) **Cooperation with industrial enterprises**

50. Efforts have been made to bring about increased interaction and cooperation between enterprises in developed and developing countries, for the benefit of the latter, in areas such as the introduction and transfer of technology, marketing, financing and management techniques. Cooperation with the industrial sector has been greatly enhanced by third-party trust fund and other arrangements to organize joint studies, missions and promotional workshops for participants from developing countries as a whole, and from LDCs in particular.

**IV. OUTLOOK OF UNIDO ACTIVITIES
FOR THE LEAST DEVELOPED COUNTRIES**

51. The Committee for Development Planning reviewed the criteria of classifying LDCs. At its session in April 1991,³⁶² it recommended a revision of criteria for identifying LDCs, to be defined as low-income countries that are suffering from long-term handicaps to growth, in particular, low levels of human resource development and/or severe structural weaknesses (*ibid*, paras. 233-237). It suggested retention of per capita GDP as a measure of relative levels of poverty and the use of two composite indices, one for human resource development and another for economic diversification. In addition, other relevant features of countries were examined on a case-by-case basis. On the basis of these considerations, the Committee formulated rules for including countries in the list, and for graduating them from it. In July 1991 the Economic and Social Council (ECOSOC) examined and confirmed that all countries currently on the list of LDCs should be retained, with the exception of Botswana for which it recommended graduation. The six new countries are: Cambodia, Ghana, Madagascar, Solomon Islands, Zaire and Zambia, bringing the total to 47 countries. The new list would have important implications for the Programme of Action for LDCs in the 1990s in general and for ODA targets agreed therein.

52. In the 1990s, LDCs might face a problem of survival rather than simple development, given the present macroeconomic environment in most of those countries. As the manufacturing sector has remained very small in most LDCs, it is useful to highlight that in all LDCs, that sector has an important role to play in the 1990s in providing consumer goods and inputs to agriculture, in processing its outputs, and in creating job opportunities, thereby linking the unemployment problems faced by many LDCs with questions relating to the promotion of the private sector and the creation and development of small- and medium-scale industries.

³⁶² For the report of the twenty-seventh session of the Committee, see UNIDO document E/1991/32.

53. In an environment of ever increasing interdependence and globalization of world industry, any attempt to stigmatize or segregate LDCs will not contribute towards solving their problems. A global perspective and concerted effort on the part of the world community will be required. However, there is an unbridgeable gap between the vast amount of services which may be required by LDCs from UNIDO and the limited capacity of the Organization in terms of its operational instruments, as well as human and financial resources.

54. Given those limitations, the issue at hand for UNIDO today is to make a renewed effort to find the best way and means of applying its operational instruments in the most effective manner to the benefit of LDCs, and to play a catalytic role in those priority areas identified in the Programme of Action for the Least Developed Countries for the 1990s. The Industrial Action Plan once adopted, would serve as a reference document in identifying the main lines of technical co-operation and promotional activities of UNIDO with respect to LDCs.

V. ACTION REQUIRED OF THE GENERAL CONFERENCE

55. The General Conference may wish to take note of the present report.

Box 4: The Paris Declaration of the Second United Nations Conference on the least developed countries

**Second United Nations Conference on the Least Developed Countries
Paris, 3-14 September 1990**

We, the participants in the Second United Nations Conference on the Least Developed Countries, meeting in Paris from 3 to 14 September 1990, have agreed to concrete measures under a Programme of Action in order to revitalize the development of these countries.

By this Declaration, we solemnly commit ourselves to implementing this Programme throughout the coming decade.

We believe that the deterioration in the economic, social and ecological situation of most of the least developed countries during the 1980s is not irreversible. It can be reversed if these countries and all their partners, taking advantage of the new climate of confidence in international relations, combine their efforts in a spirit of genuine solidarity, particularly through new forms of cooperation, so as once again to give the least developed countries the prospect of sustained and sustainable development within the context of growth in the world economy.

This Programme of Action demonstrates our unanimous determination to promote an ambitious development policy. Its success rests on the effectiveness of national policies, a favourable international economic climate and a strengthened partnership based on mutual commitments:

- By the Governments of the least developed countries, which have primary responsibility for their development, to define and implement appropriate policies ensuring the involvement of populations in the decisions taken, the efforts called for and the results obtained;
- By their partners, to make available adequate resources in support of these policies and efforts, to improve the quality of this assistance and to match it more closely to needs.

In order to inspire national action by the least developed countries in their struggle against poverty, we have defined five priority areas in our Programme of Action:

- To conduct a macroeconomic policy, taking account of market signals and aimed at accelerating long-term growth and development, showing concern for the situation of the most vulnerable groups of the population;
- To develop human resources, by making populations, both men and women, the actors and beneficiaries of development, by respecting human rights and social justice, and by applying effective population, health, education, training and employment policies;
- To reverse the trend towards environmental degradation, to manage the environment with a view to the effective and durable utilization of natural resources and to reinforce action to deal with disasters;
- To promote an integrated policy of rural development aimed at increasing food production, enhancing rural income and expanding the non-agricultural sector;
- To develop a diversified productive sector based on private initiative, efficient public enterprises, regional cooperation, increased access to the international market and international action in the field of commodities.

(Box 4: Continued)

In order to help achieve these priorities, we agree on the need to reinforce the efforts of the least developed countries with external support measures.

Complementing national efforts to mobilize domestic savings and to create a favourable climate for foreign investment, we recognize the essential role of official development assistance for the least developed countries. Its amount should be substantially increased. The bulk of assistance should be provided in the form of grants and it must be managed effectively and with transparency.

We are determined to pursue our efforts to adopt and implement a variety of measures in the context of the international debt strategy in order to ensure that the various activities initiated to revitalize growth in these countries are fully effective.

We are also determined to contribute to the improvement of the international economic climate and to the integration of the least developed countries into the international trading system so as to associate them better with the benefits of trade expansion.

We call upon the competent non-governmental organizations to combine their efforts with those of the Governments of the least developed countries and the international community so as to contribute to the success of the Programme of Action.

In order to monitor the effective implementation of our commitments, we agree on a system of national, regional and global follow-up to ensure the operational, adaptable and evolutive character of the Programme of Action; we intend to associate with it all Governments, international institutions - primarily UNCTAD - regional development organizations and non-governmental organizations.

Refusal to accept the marginalization of the least developed countries is an ethical imperative. It also corresponds to the long-term interests of the international community. In an increasingly interdependent world, the maintenance or deepening of the gap between the rich and poor nations contains serious seeds of tension. Our world will not enjoy lasting peace without respect for the United Nations Charter, international commitments and shared development. These are the objects of our Programme of Action.

Source: United Nations, op. cit., A/CONF.147/Misc.9, GE.90-52264/2411B, pp. 1-3.

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ANNEX I

Table 1. List of the least developed among the developing countries, 1992

Country	Date of inclusion in the list
Afghanistan	1971
Benin	1971
Botswana*	1971
Burkina Faso	1971
Burundi	1971
Chad	1971
Ethiopia	1971
Guinea	1971
Haiti	1971
Lao People's Democratic Republic	1971
Lesotho	1971
Malawi	1971
Maldives	1971
Mali	1971
Nepal	1971
Niger	1971
Rwanda	1971
Samoa	1971
Somalia	1971
Sudan	1971
United Republic of Tanzania	1971
Yemen**	1971
Bangladesh	1975
Central African Republic	1975
Gambia	1977
Cape Verde	1977
Comoros	1981
Guinea-Bissau	1982
Djibouti	1982
Equatorial Guinea	1982
Sao Tome and Principe	1982
Sierra Leone	1982
Togo	1982
Vanuatu	1985
Tuvalu	1986
Kiribati	1986
Mauritania	1986
Myanmar	1987
Mozambique	1988
Liberia	1990
<i>The United Nations Committee for Development Planning recommends that the following countries be included in the list, subject to the approval of the General Assembly:</i>	
Cambodia	
Ghana	
Madagascar	
Solomon Islands	
Zaire	
Zambia	

Source: UN, Economic and Social Council, Report of the Committee for Development Planning, op. cit. 72-72.

Notes: * To be removed from the list, subject to the approval of the General Assembly.

** Yemen Arab Republic, 1971; People's Democratic Republic of Yemen, 1975; the two countries were united in 1990.

ANNEX II

List of participants of Workshop and Symposium on industrial development in the Least Developed Countries, Vienna, Austria, 1991

*Workshop on Industrial Development in the Least Developed Countries:
Towards and Industrial Action Plan
Vienna, 19 - 23 August 1991*

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Vienna, 14 - 22 November 1991*

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ANNEX III

BASIC INDICATORS OF MANUFACTURING

25 SELECTED LDCs

1985 – 1990

Country: AFGHANISTAN

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985	277	28925	30.705		379.169
		1986	333	34328	45.939		438.734
		1987	389	38994	53.260		452.963
		1988	423	37227	55.874		434.525
311/2	Food products	1985	24	5166	5.231		82.945
		1986	27	5276	6.101		91.541
		1987	44	5883	6.917		101.126
		1988	43	5644	7.707		79.427
313	Beverages	1985	2	286	0.463		7.253
		1986	3	280	0.505		8.458
		1987	4	294	0.513		9.624
		1988	5	306	0.564		8.300
314	Tobacco	1985	0	0	0		0
		1986	0	0	0		0
		1987	0	0	0		0
		1988	0	0	0		0
321	Textiles	1985	78	10468	9.164		47.036
		1986	59	11716	13.155		35.336
		1987	71	12060	15.945		50.000
		1988	72	11497	16.269		34.783
322	Wearing apparel	1985	6	30	0.023		0.119
		1986	5	34	0.029		0.198
		1987	9	102	0.095		0.237
		1988	8	86	0.100		1.581
		*1989	8	91	0.188		1.877
		*1990	9	97	0.287		2.960
323	Leather and products	1985	3	174	0.263		11.107
		1986	4	179	0.326		7.095
		1987	5	305	0.650		15.613
		1988	6	319	0.719		52.925
		*1989	6	322	1.329		82.790
		*1990	6	329	2.029		104.003
324	Footwear	1985	10	1000	1.189		12.806
		1986	9	995	1.338		13.241
		1987	14	1299	1.692		14.209
		1988	14	1046	1.661		19.743
		*1989	15	1110	3.127		35.728
		*1990	15	1073	4.775		52.059
331	Wood products	*1985	3	754	0.574		1.399
		*1986	3	766	0.584		1.736
		*1987	3	780	0.788		3.440
		*1988	3	833	1.162		1.959
		*1989					1.964
		1990					
332	Furniture, fixtures	*1985	0	129	0.129		0.182
		*1986	0	136	0.125		0.220
		*1987	0	124	0.158		0.374
		*1988	0	131	0.221		0.215
		*1989					0.210
		1990					
341	Paper and products	1985	9	143	0.167		2.253
		1986	9	121	0.150		2.826
		1987	13	151	0.183		2.391
		1988	13	160	0.189		3.775
		1989		170	0.320		5.923
		1990		180	0.441		7.531

* Estimates

Country: AFGHANISTAN

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
342	Printing, publishing	1985	24	2023	2.595		23.913
		1986	25	1633	2.079		21.443
		1987	24	1550	1.958		17.036
		1988	24	1828	2.855		21.146
		*1989	24	1718	5.344		33.125
		*1990	25	1821	8.155		44.398
351	Industrial chemicals	1985	1	2078	1.922		17.352
		1986	1	1986	2.577		17.431
		1987	1	1963	2.970		17.075
		1988	1	1987	3.165		20.810
		*1989		1924	5.488		32.781
		*1990		1888	7.733		43.791
352	Other chemical prod.	1985	8	2542	2.911		18.320
		1986	8	2187	2.787		17.727
		1987	8	2714	3.309		20.889
		1988	8	2954	3.964		12.490
		*1989	8	3134	7.466		21.201
		*1990	9	3328	11.412		28.037
353	Petroleum refineries	1985	0	0	0		0
		1986	0	0	0		0
		1987	0	0	0		0
		1988	0	0	0		0
		*1989	0	0	0		0
		*1990	0	0	0		0
354	Petroleum, coal prod.	1985	0	0	0		0
		1986	0	0	0		0
		1987	0	0	0		0
		1988	0	0	0		0
		*1989		0	0		0
		*1990		0	0		0
355	Rubber products	1985	0	0	0		0
		1986	0	0	0		0
		1987	0	0	0		0
		1988	0	0	0		0
		1989	0	0	0		0
		1990	0	0	0		0
356	Plastic products	1985	42	526	0.681		5.889
		1986	45	580	0.727		5.751
		1987	65	726	1.037		8.715
		1988	71	669	1.085		8.933
		*1989	75	629	2.042		13.994
		*1990	78	630	3.117		18.859
361	Pottery, china etc.	1985	0	0	0		0
		1986	0	0	0		0
		1987	0	0	0		0
		1988	0	0	0		0
		*1989		0	0		0
		*1990		0	0		0
362	Glass and products	1985	0	0	0		0
		1986	0	0	0		0
		1987	0	0	0		0
		1988	0	0	0		0
		*1989		0	0		0
		*1990		0	0		0
369	Non-metal products	1985	2	844	0.848		6.047
		1986	2	856	0.824		4.901
		1987	2	718	0.760		7.391
		1988	2	929	1.133		4.960
		*1989		901	1.955		7.798
		*1990		881	2.749		12.133

* Estimates

Country: AFGHANISTAN

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
371	Iron and steel	1985	0	0	0		0
		1986	0	0	0		0
		1987	1	212	0.424		0.870
		1988	1	151	0.425		1.917
		*1989					2.174
		1990					
372	Non-ferrous metals	1985	0	0	0		0
		1986	0	0	0		0
		1987	0	0	0		0
		1988	0	0	0		0
		*1989	0	0	0		0
		*1990	0	0	0		0
381	Metal products	*1985	0	374	0.426		14.884
		*1986	0	977	1.307		20.018
		*1987	0	1421	1.559		19.349
		*1988	0	1241	1.361		16.119
		*1989					22.773
		1990					
382	Machinery n.e.c.	*1985	2	812	1.338		43.506
		*1986	2	2147	4.014		60.613
		*1987	2	2886	4.336		51.121
		*1988	2	2415	4.021		46.012
		*1989					66.148
		1990					
383	Electrical machinery	*1985	0	649	1.159		40.119
		*1986	0	1780	3.753		60.498
		*1987	0	2453	4.275		56.376
		*1988	0	2219	4.021		49.206
		*1989					74.646
		1990					
384	Transport equipment	*1985	0	860	1.555		40.476
		*1986	0	2485	5.303		65.453
		*1987	0	3091	5.420		53.012
		*1988	1	2582	4.996		47.011
		*1989					69.122
		1990					
385	Professional goods	1985	0	0	0		0
		1986	0	0	0		0
		1987	0	0	0		0
		1988	0	0	0		0
		*1989	0	0	0		0
		*1990	0	0	0		0
390	Other industries	*1985	65	67	0.068		3.565
		*1986	131	194	0.253		4.247
		*1987	123	261	0.271		4.114
		*1988	149	231	0.254		3.213
		*1989					4.465
		1990					

* Estimates

Country: BANGLADESH

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Output
					US\$ million		
3	MANUFACTURING	1985	3934	468503	258.061	862.865	2497.513
		1986	4473	467839	290.717	982.961	2489.519
		1987	4481	478710	326.127	1035.977	2723.449
		1988	4649	478238	348.026	1133.130	2904.825
		1989	4803	462454	377.707	1225.599	3111.564
		1990	5021	461789	392.402	1237.197	3191.473
311/2	Food products	1985	610	45600	21.954	97.696	312.948
		1986	627	46055	22.626	82.152	287.762
		1987	631	48498	29.725	102.423	370.080
		1988	649	50732	33.485	116.640	421.449
		1989	665	47655	33.474	100.818	364.278
		*1990	699	49853	33.194	94.780	348.199
313	Beverages	1985	6	600	0.386	6.037	10.145
		1986	6	636	0.428	5.393	9.406
		1987	6	645	0.452	6.817	10.113
		1988	6	667	0.472	7.240	10.739
		1989	6	707	0.551	11.967	17.753
		*1990	6	742	0.554	11.474	16.934
314	Tobacco	1985	23	6600	5.705	108.662	149.920
		1986	25	5526	5.591	142.664	189.430
		1987	22	5150	5.751	137.480	211.470
		1988	23	5460	6.203	138.113	212.444
		1989	23	5654	6.926	158.302	243.498
		*1990	24	5835	6.832	142.708	222.018
321	Wood products	1985	1559	293000	147.941	229.612	733.952
		1986	2048	293938	168.842	330.351	713.158
		1987	2057	296989	188.433	344.394	718.966
		1988	2160	294203	198.483	351.314	733.413
		1989	2269	281631	215.295	370.027	772.477
		*1990	2383	275682	226.111	382.563	800.375
322	Wearing apparel	1985	46	9500	3.318	7.644	24.719
		1986	44	11082	3.749	7.071	26.112
		1987	79	16230	5.590	11.244	43.263
		*1988	75	15246	5.410	10.475	40.278
		*1989	71	14320	5.408	10.113	38.737
		*1990	68	15482	5.859	11.207	40.306
323	Leather and products	1985	133	3600	1.786	14.395	92.302
		1986	140	4050	1.980	20.456	102.641
		1987	136	4062	2.165	16.866	135.412
		*1988	143	4308	2.388	19.485	127.170
		*1989	145	4420	2.609	22.243	134.577
		*1990	150	4534	2.634	23.212	140.235
324	Footwear	1985	5	1400	1.297	9.645	18.753
		1986	5	1404	1.381	12.925	22.363
		1987	5	1730	2.100	12.633	22.552
		*1988	5	1650	2.034	11.886	21.458
		*1989	5	1703	2.262	13.289	24.005
		*1990	4	1634	2.157	12.654	23.382
331	Wood products	1985	33	2200	1.315	9.537	20.075
		1986	33	2482	1.480	7.531	18.088
		1987	32	2437	1.519	7.851	19.031
		*1988	34	2584	1.650	8.748	17.892
		*1989	35	2727	1.850	10.113	19.691
		*1990	37	2891	1.970	11.244	21.342
332	Furnitures, fixtures	1985	18	1600	0.889	1.715	5.394
		1986	18	1306	0.855	2.434	5.887
		1987	17	1180	0.743	2.746	5.751
		*1988	16	1109	0.719	2.569	5.383
		*1989	16	1095	0.719	2.580	5.348
		*1990	15	1141	0.751	2.721	5.619

* Estimates

Country: BANGLADESH

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Output
					US\$ million		
341	Paper and products	1985	26	8800	7.337	19.396	78.014
		1986	28	9025	9.208	28.546	83.303
		1987	28	8953	9.887	21.034	87.561
		1988	28	8735	9.991	21.898	91.158
		1989	28	8210	10.826	23.416	97.479
		*1990	29	7869	11.323	24.617	104.562
342	Printing, publishing	1985	173	6700	3.994	7.680	19.253
		1986	182	7561	4.078	7.893	21.146
		1987	179	7600	4.330	8.433	21.519
		*1988	183	8057	4.814	9.651	23.030
		*1989	187	8355	5.372	10.630	25.159
		*1990	192	8857	5.744	11.544	27.657
351	Industrial chemicals	1985	26	6900	6.848	69.905	129.845
		1986	24	6700	9.176	72.977	152.234
		1987	25	7610	11.082	90.226	166.785
		*1988	25	8072	12.501	105.272	215.552
		*1989	25	8063	13.532	113.244	232.908
		*1990	26	8387	14.123	115.596	243.011
352	Other chemical prod.	1985	407	29100	20.650	84.908	195.285
		1986	404	26552	23.679	91.788	200.217
		1987	404	25588	24.297	95.380	205.492
		*1988	412	25159	27.452	144.613	314.196
		*1989	418	23998	30.952	153.663	332.924
		*1990	439	23349	31.872	155.367	344.164
353	Petroleum refineries	1985	1	600	1.504	75.013	276.621
		1986	1	587	1.085	58.902	240.471
		1987	1	600	1.906	62.391	258.158
		*1988	1	636	2.149	56.822	235.117
		*1989	1	675	2.504	69.944	289.412
		*1990	1	716	2.654	77.688	323.233
354	Petroleum, coal prod.	1985	1	13	0.014	2.000	5.644
		1986	13	219	0.099	2.434	7.959
		1987	13	230	0.129	2.811	10.307
		*1988	14	216	0.146	2.847	9.701
		*1989	13	229	0.147	3.174	10.719
		*1990	14	243	0.160	3.522	11.641
355	Rubber products	1985	35	1300	0.564	1.465	4.787
		1986	34	1364	0.658	1.776	5.262
		1987	34	1330	0.646	1.939	6.139
		*1988	36	1308	0.730	3.726	11.797
		*1989	37	1279	0.854	5.745	18.192
		*1990	39	1357	0.847	5.186	16.792
356	Plastic products	1985	44	1300	0.532	1.929	7.466
		1986	45	1447	0.658	3.026	12.596
		1987	44	1480	0.711	3.619	14.249
		*1988	46	1570	0.713	3.374	13.283
		*1989	48	1665	0.751	3.260	12.840
		*1990	50	1767	0.765	3.129	12.324
361	Pottery, china etc.	1985	6	2270	0.922	3.786	5.680
		1986	6	1669	0.756	3.848	7.761
		1987	7	2200	0.905	3.263	8.433
		*1988	7	2067	0.883	3.072	6.383
		*1989	7	2192	1.029	3.809	7.821
		*1990	7	2209	1.049	3.876	8.167
362	Glass and products	1985	36	2000	1.050	4.429	8.287
		1986	35	1953	1.085	2.598	6.117
		1987	32	1830	1.066	4.362	8.724
		1988	34	1833	1.052	4.484	8.968
		1989	34	1723	1.078	4.670	9.340
		*1990	34	1669	1.082	4.815	9.690

* Estimates

Country: BANGLADESH

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Output
					US\$ million		
369	Non-metal products	1985	16	2800	1.915	7.394	22.968
		1986	19	2781	2.039	6.347	24.172
		1987	20	2660	2.229	8.756	26.688
		*1988	21	2693	2.363	9.736	30.929
		*1989	21	2720	2.587	11.934	37.474
		*1990	23	2884	2.653	10.972	36.421
371	Iron and steel	1985	61	9600	9.437	34.613	154.170
		1986	62	9687	9.800	20.587	131.680
		1987	16	9580	10.372	31.212	127.367
		*1988	17	9074	11.439	27.348	111.600
		*1989	16	9174	13.072	28.868	117.805
		*1990	16	9322	12.795	28.395	116.253
372	Non-ferrous metals	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
381	Metal products	1985	317	12700	5.283	13.431	44.258
		1986	326	10340	4.966	12.859	38.248
		1987	330	10680	5.493	13.926	45.137
		*1988	344	10992	5.781	14.639	43.013
		*1989	353	11322	6.322	16.015	46.223
		*1990	371	11592	6.410	16.119	46.644
382	Machinery n.e.c.	1985	140	6500	3.593	16.932	32.756
		1986	125	6167	3.848	16.016	30.684
		1987	127	6190	3.942	14.281	33.183
		*1988	131	6564	4.247	16.530	34.981
		*1989	135	6947	4.728	19.683	38.825
		*1990	142	7272	4.859	21.327	42.189
383	Electrical machinery	1985	73	6600	4.951	18.432	55.081
		1986	75	7987	7.301	25.323	70.313
		1987	80	7895	7.141	21.292	82.779
		*1988	83	7862	6.911	18.443	71.701
		*1989	87	8342	8.045	23.562	91.604
		*1990	91	8852	8.733	25.141	101.899
384	Transport equipment	1985	42	4400	3.761	9.930	37.935
		1986	44	4338	4.210	10.458	34.597
		1987	46	4295	4.200	13.376	39.289
		*1988	46	4558	4.739	17.461	51.287
		*1989	45	4847	5.543	28.028	82.324
		*1990	48	5102	6.038	31.170	92.223
385	Professional goods	1985	6	72	0.022	0.036	0.107
		1986	6	71	0.023	0.043	0.132
		1987	6	69	0.023	0.052	0.162
		*1988	6	65	0.022	0.048	0.150
		*1989	7	61	0.022	0.046	0.144
		*1990	7	61	0.020	0.042	0.129
390	Other industries	1985	91	2749	1.094	6.644	51.152
		1986	98	2913	1.118	6.666	47.785
		1987	104	3000	1.292	7.173	44.846
		*1988	107	2820	1.251	6.697	41.755
		*1989	106	2741	1.252	6.458	40.010
		*1990	106	2770	1.215	6.133	36.066

* Estimates

Country: BENIN

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross Output
					US\$ million		
3	MANUFACTURING	1985		6741	9.482	35.301	155.650
		1986		6662	12.128	44.513	206.500
		1987		6593	14.279	52.379	255.942
		1988		6672	14.408	53.235	267.189
		1989		6795	13.827	50.321	254.692
		1990		6807	16.319	59.187	307.167
311/2	Food products	1985		2530	2.755	11.453	72.343
		1986		2432	3.366	13.496	94.699
		1987		2345	3.714	14.338	117.397
		1988		2275	3.528	13.125	120.015
		1989		2227	3.170	11.388	109.278
		1990		2175	3.524	12.221	128.682
313	Beverages	1985		944	1.258	5.801	11.433
		1986		1003	1.613	7.138	14.608
		1987		1065	1.895	7.854	16.842
		1988		1132	1.962	7.678	16.211
		1989		1180	1.883	6.961	15.316
		1990		1252	2.233	7.741	17.516
314	Tobacco	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
321	Textiles	1985		1688	2.077	1.781	18.084
		1986		1623	2.538	2.098	21.592
		1987		1525	2.798	2.222	26.561
		1988		1544	2.687	2.027	24.933
		1989		1618	2.640	1.759	24.808
		1990		1560	2.937	1.883	27.486
322	Wearing apparel	1985		255	0.318	1.975	5.722
		1986		254	0.401	2.486	7.586
		1987		264	0.486	3.131	9.967
		1988		280	0.508	3.319	11.111
		1989		286	0.474	3.010	10.593
		1990		282	0.529	3.259	12.065
323	Leather and products	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
324	Footwear	1985		183	0.263	1.533	3.245
		1986		195	0.376	2.234	4.609
		1987		207	0.485	2.952	5.964
		1988		221	0.540	3.264	6.527
		1989		236	0.568	3.261	6.554
		1990		252	0.740	4.075	8.187
331	Wood products	1985		110	0.341	1.091	3.831
		1986		117	0.456	1.381	5.563
		1987		124	0.583	1.768	7.307
		1988		132	0.605	1.802	8.274
		1989		140	0.594	1.713	8.872
		1990		149	0.743	2.106	11.776
332	Furniture, fixtures	1985		73	0.158	1.563	4.847
		1986		77	0.204	2.018	6.257
		1987		82	0.243	2.609	8.249
		1988		87	0.235	2.771	9.364
		1989		93	0.212	2.582	8.947
		1990		98	0.249	3.068	10.883

* Estimates

Country: BENIN

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross Output
					US\$ million		
341	Paper and products	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
342	Printing, publishing	1985		181	0.562	0.916	2.289
		1986		192	0.791	1.128	2.988
		1987		204	1.016	1.398	3.783
		1988		218	1.126	1.438	3.957
		1989		232	1.180	1.383	3.902
		1990		247	1.485	1.495	4.456
351	Industrial chemicals	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
352	Other chemical prod.	1985		179	0.506	2.766	9.552
		1986		189	0.716	3.655	13.880
		1987		201	0.918	4.786	18.247
		1988		213	0.903	5.246	20.421
		1989		211	0.812	4.918	20.713
		1990		217	0.962	5.618	26.419
353	Petroleum refineries	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
354	Petroleum, coal prod.	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
355	Rubber products	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
356	Plastic products	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
361	Pottery, china etc.	1985		81	0.117	0.214	0.786
		1986		76	0.167	0.254	0.962
		1987		73	0.215	0.287	1.095
		1988		73	0.239	0.285	1.082
		1989		76	0.219	0.270	1.014
		1990		75	0.283	0.318	1.179
362	Glass and products	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0

* Estimates

Country: BENIN

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross Output
					US\$ million		
369	Non-metal products	1985		304	0.388	4.281	14.275
		1986		286	0.522	6.334	20.287
		1987		268	0.670	8.483	26.074
		1988		252	0.687	9.805	28.903
		1989		237	0.617	10.744	30.352
		1990		222	0.736	14.590	39.476
371	Iron and steel	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
372	Non-ferrous metals	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
381	Metal products	1985		214	0.738	1.926	9.242
		1986		219	0.977	2.288	13.467
		1987		232	1.255	2.550	14.455
		1988		247	1.390	2.475	16.393
		1989		262	1.408	2.333	14.343
		1990		279	1.898	2.812	19.043
382	Machinery n.e.c.	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
383	Electrical machinery	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
384	Transport equipment	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
385	Professional goods	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
390	Other industries	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0

* Estimates

Country: BOTSWANA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985	640	10000	18.803	47.881	165.519
		1986	866	12200	24.304	67.719	212.687
		1987	1021	14700	29.442	84.967	276.769
		1988	320	16400	30.832	92.589	303.047
		1989	319	18100	32.337	101.741	336.336
		1990	321	19203	40.693	131.519	443.272
311/2	Food products	1985	85	3200	6.992	14.248	64.195
		1986	92	4200	9.625	24.465	85.458
		*1987	109	3100	10.866	31.874	108.719
		*1988	51	3000	11.462	35.194	119.795
		*1989	52	3800	12.003	39.110	132.610
		*1990	55	4029	15.061	52.103	175.912
313	Beverages	1985	19	400	1.165	9.746	34.375
		1986	18	600	1.820	12.366	40.257
		*1987	29	800	2.353	14.245	54.294
		*1988	7	900	2.363	15.742	60.186
		*1989	6	1100	2.428	17.596	67.253
		*1990	6	1167	2.906	20.429	90.119
314	Tobacco	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
321	Textiles	*1985	71	1194	1.517	2.571	11.168
		*1986	114	1211	1.629	4.840	13.612
		*1987	126	2019	2.150	6.693	18.470
		*1988	50	2426	2.325	7.585	20.515
		*1989	53	2837	2.531	8.628	22.934
		*1990	55	3011	3.300	11.730	30.685
322	Wearing apparel	*1985	18	306	0.390	0.660	2.868
		*1986	27	289	0.389	1.156	3.251
		*1987	30	481	0.513	1.596	4.400
		*1988	12	574	0.553	1.795	4.869
		*1989	12	663	0.600	2.015	5.418
		*1990	13	703	0.780	2.691	7.206
323	Leather and products	*1985	24	205	0.181	0.253	0.470
		*1986	25	273	0.249	0.366	0.695
		*1987	29	342	0.327	0.507	0.935
		*1988	10	478	0.352	0.580	1.012
		*1989	9	479	0.382	0.670	1.106
		*1990	9	509	0.497	0.928	1.449
324	Footwear	*1985	11	95	0.084	0.118	0.218
		*1986	11	127	0.115	0.170	0.322
		*1987	14	158	0.150	0.235	0.435
		*1988	4	222	0.161	0.269	0.480
		*1989	4	221	0.175	0.309	0.532
		*1990	4	234	0.227	0.424	0.706
331	Wood products	*1985	26	260	0.310	0.516	2.307
		*1986	38	329	0.416	0.881	3.382
		*1987	44	658	0.469	0.967	3.714
		*1988	14	724	0.434	1.038	3.689
		*1989	16	856	0.419	1.132	3.890
		*1990	16	909	0.487	1.480	5.177
332	Furnitures, fixtures	*1985	14	140	0.167	0.278	1.242
		*1986	19	171	0.216	0.458	1.757
		*1987	23	342	0.244	0.502	1.940
		*1988	8	376	0.226	0.540	1.977
		*1989	8	444	0.216	0.586	2.083
		*1990	8	471	0.250	0.766	2.775

* Estimates

Country: BOTSWANA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
341	Paper and products	*1985	25	352	0.746	1.605	4.776
		*1986	40	212	0.465	1.436	4.270
		*1987	44	494	0.524	1.578	5.068
		*1988	14	497	0.508	1.738	5.318
		*1989	16	785	0.502	1.929	5.918
		*1990	17	832	0.596	2.564	6.491
342	Printing, publishing	*1985	11	148	0.313	0.673	2.003
		*1986	17	88	0.194	0.598	1.779
		*1987	18	206	0.224	0.656	2.117
		*1988	5	203	0.241	0.708	2.226
		*1989	7	315	0.252	0.776	2.478
		*1990	7	334	0.313	1.015	2.718
351	Industrial chemicals	*1985	18	193	0.580	1.705	4.775
		*1986	28	258	0.832	2.452	6.768
		*1987	40	258	0.937	2.615	7.442
		*1988	15	387	0.860	2.344	7.365
		*1989	14	448	0.793	2.357	8.088
		*1990	14	476	0.872	2.888	10.576
352	Other chemical prod.	*1985	6	65	0.195	0.574	1.609
		*1986	9	86	0.279	0.822	2.268
		*1987	13	86	0.314	0.876	2.489
		*1988	5	130	0.289	0.787	2.353
		*1989	5	153	0.267	0.806	2.544
		*1990	5	163	0.295	1.027	3.335
353	Petroleum refineries	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
354	Petroleum, coal prod.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
355	Rubber products	*1985	2	26	0.080	0.234	0.655
		*1986	3	35	0.114	0.335	0.924
		*1987	5	35	0.128	0.357	1.014
		*1988	2	53	0.118	0.321	0.958
		*1989	2	62	0.109	0.328	1.036
		*1990	2	66	0.120	0.419	1.359
356	Plastic products	*1985	1	15	0.046	0.135	0.377
		*1986	2	20	0.065	0.193	0.532
		*1987	3	20	0.074	0.206	0.584
		*1988	1	30	0.068	0.185	0.552
		*1989	1	36	0.063	0.189	0.598
		*1990	1	38	0.063	0.242	0.784
361	Pottery, china etc.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
362	Glass and products	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0

* Estimates

Country: BOTSWANA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
369	Non-metal products	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
371	Iron and steel	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
372	Non-ferrous metals	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
381	Metal products	*1985	77	1419	3.082	3.533	6.615
		*1986	98	1714	3.924	4.054	9.828
		*1987	119	1859	5.161	5.481	12.303
		*1988	35	1948	5.564	6.066	13.456
		*1989	33	2040	6.038	6.757	14.973
		*1990	31	2165	7.843	9.007	18.254
382	Machinery n.e.c.	*1985	11	206	0.447	0.513	0.960
		*1986	14	245	0.561	0.580	1.406
		*1987	17	265	0.738	0.782	1.751
		*1988	5	273	0.795	0.851	1.906
		*1989	4	280	0.862	0.927	2.120
		*1990	4	297	1.119	1.201	2.565
383	Electrical machinery	*1985	9	166	0.360	0.413	0.772
		*1986	11	198	0.452	0.467	1.133
		*1987	14	214	0.595	0.630	1.412
		*1988	4	220	0.641	0.687	1.539
		*1989	4	226	0.695	0.749	1.712
		*1990	3	240	0.902	0.972	2.074
384	Transport equipment	*1985	11	209	0.454	0.521	0.975
		*1986	14	243	0.556	0.574	1.392
		*1987	17	262	0.731	0.772	1.682
		*1988	5	258	0.778	0.804	1.782
		*1989	4	254	0.833	0.843	1.981
		*1990	4	270	1.057	1.048	2.308
385	Professional goods	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
390	Other industries	1985	200	1400	1.695	9.587	25.159
		1986	285	1900	2.404	11.510	35.653
		*1987	328	3100	2.946	14.397	48.001
		*1988	73	3200	3.093	15.357	53.071
		*1989	69	3100	3.169	16.035	59.063
		*1990	66	3289	4.000	20.586	78.777

* Estimates

Country: BURKINA FASO

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985	62	8813	24.655	125.268	312.237
		1986	64	8946	33.140	169.640	418.932
		1987	65	9141	39.692	201.602	491.014
		1988	66	9260	44.519	221.980	537.251
		1989	68	9456	44.310	214.442	520.439
		1990	70	9626	55.035	256.714	628.575
311/2	Food products	1985	15	2855	10.172	60.752	162.276
		1986	15	2861	13.855	82.141	215.858
		1987	15	2878	16.736	101.363	254.740
		1988	16	2859	19.031	112.449	276.089
		1989	16	2896	19.094	108.903	267.009
		1990	16	2902	24.047	150.632	323.723
313	Beverages	1985	2	1282	3.464	20.896	37.205
		1986	2	1295	4.722	28.793	51.778
		1987	2	1349	5.705	32.169	58.416
		1988	2	1377	6.493	35.004	63.536
		1989	2	1423	6.518	32.317	57.713
		1990	2	1455	8.217	38.387	67.700
314	Tobacco	1985	1	312	0.439	1.412	2.318
		1986	1	330	0.598	1.963	2.971
		1987	1	349	0.721	2.425	3.369
		1988	1	367	0.819	2.690	3.598
		1989	1	376	0.813	2.496	3.388
		1990	1	389	1.019	3.132	4.002
321	Textiles	1985	2	1255	3.226	16.345	44.496
		1986	2	1282	4.203	21.817	59.346
		1987	2	1304	4.977	27.027	73.097
		1988	2	1326	5.483	30.847	83.661
		1989	3	1345	5.377	31.593	85.524
		1990	3	1366	6.408	38.274	103.496
322	Wearing apparel	1985	1	33	0.066	1.822	4.990
		1986	1	35	0.089	2.433	6.659
		1987	1	37	0.107	3.014	8.202
		1988	1	40	0.120	3.440	9.384
		1989	1	42	0.120	3.523	9.593
		1990	1	45	0.148	4.270	11.611
323	Leather and products	1985	1	75	0.204	1.423	3.546
		1986	1	73	0.277	1.995	4.932
		1987	1	74	0.334	2.022	4.971
		1988	1	73	0.370	2.134	5.073
		1989	1	74	0.371	1.786	4.238
		1990	1	73	0.438	2.294	5.275
324	Footwear	1985	2	61	0.136	2.868	5.327
		1986	2	65	0.184	4.020	7.409
		1987	2	69	0.222	4.074	7.467
		1988	2	70	0.247	4.287	7.593
		1989	3	74	0.247	3.588	6.342
		1990	3	79	0.292	4.608	7.898
331	Wood products	1985		28	0.106	0.171	0.546
		1986		30	0.145	0.238	0.764
		1987		31	0.175	0.295	0.945
		1988		33	0.200	0.343	1.100
		1989		35	0.201	0.346	1.059
		1990		37	0.253	0.440	1.308

* Estimates

Country: BURKINA FASO

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
332	Furnitures, fixtures	1985	5	194	0.932	1.507	4.505
		1986	6	194	1.271	2.105	6.305
		1987	6	195	1.536	2.605	7.805
		1988	6	194	1.750	3.034	9.087
		1989	7	195	1.757	3.064	8.726
		1990	7	195	2.215	3.914	10.759
341	Paper and products	1985		55	0.118	0.174	0.475
		1986		57	0.155	0.231	0.627
		1987		60	0.178	0.262	0.724
		1988		64	0.192	0.278	0.783
		1989		67	0.183	0.262	0.750
		1990		71	0.218	0.309	0.899
342	Printing, publishing	1985	8	119	0.643	1.053	2.562
		1986	8	118	0.875	1.473	3.563
		1987	8	117	1.038	1.655	4.246
		1988	8	118	1.177	1.927	4.921
		1989	9	117	1.177	1.938	5.030
		1990	9	116	1.477	2.488	6.453
351	Industrial chemicals	1985	15	177	0.319	0.789	2.300
		1986	14	179	0.431	1.081	2.887
		1987	14	181	0.496	1.192	3.081
		1988	14	184	0.560	1.375	3.260
		1989	14	186	0.528	1.220	2.851
		1990	15	190	0.607	1.280	3.122
352	Other chemical prod.	1985		50	0.106	0.214	0.810
		1986		50	0.144	0.293	1.052
		1987		50	0.166	0.323	1.165
		1988		50	0.187	0.373	1.267
		1989		51	0.176	0.330	1.150
		1990		51	0.203	0.346	1.279
353	Petroleum refineries	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
354	Petroleum, coal prod.	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
355	Rubber products	1985		530	1.039	2.509	5.120
		1986		538	1.295	2.846	5.959
		1987		546	1.559	3.535	6.564
		1988		553	1.626	3.358	6.262
		1989		561	1.571	3.176	5.595
		1990		569	1.920	3.836	6.197
356	Plastic products	1985		376	0.721	1.261	3.068
		1986		386	0.899	1.430	3.595
		1987		397	1.082	1.776	4.079
		1988		394	1.128	1.687	3.933
		1989		402	1.089	1.596	3.584
		1990		415	1.331	1.929	4.070
361	Pottery, china etc.	1985		45	0.043	0.123	0.170
		1986		47	0.052	0.172	0.202
		1987		46	0.053	0.177	0.203
		1988		46	0.052	0.169	0.191
		1989		46	0.045	0.141	0.159
		1990		46	0.048	0.153	0.165

* Estimates

Country: BURKINA FASO

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
362	Glass and products	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
369	Non-metal products	1985		90	0.095	0.168	0.323
		1986		88	0.110	0.189	0.365
		1987		88	0.114	0.190	0.365
		1988		88	0.111	0.185	0.343
		1989		91	0.098	0.174	0.288
		1990		94	0.107	0.198	0.301
371	Iron and steel	1985	3	78	0.173	0.791	1.994
		1986	3	80	0.235	1.102	2.775
		1987	3	82	0.283	1.365	3.424
		1988	3	84	0.321	1.589	3.977
		1989	3	86	0.321	1.628	4.074
		1990	3	88	0.402	2.079	5.235
372	Non-ferrous metal	1985		30	0.088	0.317	0.858
		1986		31	0.111	0.443	1.194
		1987		30	0.137	0.532	1.463
		1988		30	0.153	0.616	1.697
		1989		30	0.146	0.601	1.685
		1990		30	0.179	0.760	2.162
381	Metal products	1985		243	0.293	0.372	2.860
		1986		253	0.398	0.520	3.985
		1987		264	0.480	0.643	4.928
		1988		276	0.546	0.721	5.737
		1989		287	0.547	0.738	5.899
		1990		301	0.688	0.914	7.609
382	Machinery n.e.c.	1985		84	0.246	0.241	1.260
		1986		87	0.335	0.337	1.755
		1987		92	0.404	0.416	2.171
		1988		96	0.459	0.467	2.528
		1989		100	0.460	0.478	2.599
		1990		104	0.578	0.591	3.353
383	Electrical machinery	1985		193	0.472	0.438	2.980
		1986		199	0.642	0.612	3.736
		1987		206	0.774	0.756	4.619
		1988		214	0.879	0.849	5.377
		1989		221	0.881	0.869	5.529
		1990		231	1.107	1.076	7.131
384	Transport equipment	1985		427	0.987	1.145	11.130
		1986		444	1.346	1.600	15.509
		1987		467	1.626	1.920	19.162
		1988		495	1.850	2.183	22.302
		1989		518	1.856	2.050	22.655
		1990		543	2.337	2.497	29.095
385	Professional goods	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
390	Other industries	1985	8	222	0.565	8.478	11.421
		1986	8	223	0.760	11.805	15.711
		1987	9	226	0.786	11.864	15.811
		1988	9	229	0.766	11.975	15.553
		1989	10	231	0.738	11.622	15.004
		1990	10	234	0.795	12.307	15.737

* Estimates

Country: BURUNDI

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985	52	4665	12.201	74.680	119.453
		1986	52	4661	12.478	86.884	134.802
		1987	52	4723	11.907	93.092	141.478
		1988	53	4810	10.720	93.290	139.098
		1989	54	4921	10.501	97.779	143.547
		1990	56	5084	10.517	104.301	151.221
311/2	Food products	1985	17	928	3.013	34.605	50.479
		1986	18	984	2.957	41.125	58.426
		1987	19	1044	2.675	44.892	62.538
		1988	20	1108	2.267	45.546	62.387
		1989	21	1175	2.063	46.783	62.990
		1990	23	1246	1.958	49.216	65.550
313	Beverages	1985	1	377	1.391	15.107	20.323
		1986	1	399	1.365	18.003	23.605
		1987	1	424	1.236	19.687	25.449
		1988	1	449	1.069	20.075	25.599
		1989	1	477	1.037	22.001	27.684
		1990	1	506	1.027	24.166	30.012
314	Tobacco	1985		212	0.678	8.401	11.423
		1986		225	0.666	10.022	13.319
		1987		239	0.603	10.981	14.399
		1988		254	0.525	11.219	14.514
		1989		269	0.511	12.318	15.725
		1990		286	0.507	13.575	17.102
321	Textiles	1985	2	411	0.740	2.049	4.317
		1986	2	381	0.732	1.912	4.035
		1987	2	354	0.666	1.638	3.470
		1988	1	330	0.562	1.307	2.780
		1989	1	313	0.510	1.120	2.395
		1990	1	310	0.464	0.964	2.077
322	Wearing apparel	1985	3	613	1.105	3.056	6.555
		1986	3	568	1.096	2.858	6.225
		1987	4	527	0.998	2.456	5.449
		1988	4	490	0.844	1.965	4.451
		1989	4	455	0.766	1.689	3.908
		1990	5	423	0.698	1.460	3.454
323	Leather and products	1985	1	151	0.272	0.753	1.655
		1986	1	140	0.270	0.704	1.591
		1987	1	130	0.245	0.605	1.406
		1988	1	121	0.208	0.483	1.156
		1989	1	113	0.188	0.413	1.021
		1990	1	105	0.172	0.355	0.906
324	Footwear	1985	0	89	0.159	0.439	0.975
		1986	0	82	0.158	0.408	0.936
		1987	1	76	0.144	0.347	0.825
		1988	1	70	0.121	0.274	0.677
		1989	1	65	0.110	0.232	0.595
		1990	1	60	0.100	0.197	0.525
331	Wood products	1985	1	85	0.088	0.151	0.417
		1986	1	92	0.104	0.184	0.510
		1987	1	98	0.112	0.178	0.566
		1988	1	106	0.112	0.178	0.583
		1989	1	113	0.109	0.158	0.562
		1990	1	122	0.117	0.163	0.604

* Estimates

Country: BURUNDI

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
332	Furniture, fixtures	1985	1	43	0.045	0.076	0.210
		1986	1	46	0.053	0.094	0.258
		1987	1	50	0.058	0.097	0.288
		1988	1	54	0.059	0.099	0.300
		1989	1	58	0.065	0.091	0.311
		1990	1	62	0.072	0.100	0.344
341	Paper and products	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0
342	Printing, publishing	1985	4	198	0.525	0.893	1.761
		1986	4	199	0.601	1.069	2.086
		1987	4	204	0.638	1.176	2.271
		1988	4	209	0.631	1.202	2.299
		1989	3	216	0.670	1.320	2.499
		1990	3	224	0.714	1.455	2.728
351	Industrial chemicals	1985	6	429	1.089	2.624	7.515
		1986	6	401	1.108	3.058	8.846
		1987	6	393	1.114	3.318	9.580
		1988	7	401	1.068	3.340	9.606
		1989	7	416	1.114	3.635	10.414
		1990	8	436	1.174	3.974	11.328
352	Other chemical prod.	1985	3	127	0.321	0.857	1.864
		1986	3	118	0.315	0.977	2.054
		1987	3	111	0.284	1.010	2.125
		1988	3	112	0.244	1.001	2.125
		1989	3	115	0.242	1.078	2.309
		1990	3	120	0.242	1.151	2.511
353	Petroleum refineries	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0
354	Petroleum, coal prod.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0
355	Rubber products	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0
356	Plastic products	1985	1	86	0.217	0.357	0.575
		1986	1	80	0.225	0.411	0.671
		1987	1	78	0.228	0.445	0.728
		1988	1	79	0.219	0.445	0.726
		1989	1	82	0.230	0.484	0.788
		1990	1	86	0.244	0.528	0.858
361	Pottery, china etc.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0

* Estimates

Country: BURUNDI

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
362	Glass and products	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0
369	Non-metal products	1985	3	294	0.659	1.480	3.193
		1986	3	311	0.655	1.539	3.110
		1987	2	330	0.597	1.344	2.750
		1988	2	350	0.507	1.176	2.318
		1989	2	371	0.461	1.029	2.051
		1990	2	393	0.440	1.049	2.069
371	Iron and steel	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
372	Non-ferrous metals	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
381	Metal products	1985	8	605	1.847	3.737	7.958
		1986	8	613	2.119	4.415	8.889
		1987	7	642	2.250	4.808	9.384
		1988	7	654	2.225	4.869	9.328
		1989	6	656	2.364	5.307	10.026
		1990	6	677	2.522	5.812	10.862
382	Machinery n.e.c.	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
383	Electrical machinery	1985		19	0.052	0.096	0.235
		1986		21	0.056	0.105	0.241
		1987		22	0.059	0.110	0.250
		1988		24	0.059	0.112	0.249
		1989		25	0.062	0.123	0.269
		1990		27	0.066	0.136	0.294
384	Transport equipment	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
385	Professional goods	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
390	Other industries	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0

* Estimates

Country: CAPE VERDE

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985	91	1000		6.107	17.921
		1986	94	1054		8.420	23.106
		1987	56	1137		7.749	30.389
		1988	53	1248		9.067	33.998
		1989	50	1452		10.411	36.896
		1990	47	1600		14.433	37.148
311/2	Food products	1985	19	1000		1.574	6.534
		1986	19	1054		1.956	7.768
		*1987	18	1137		2.528	9.806
		*1988	17	1248		2.975	11.222
		*1989	16	1452		3.434	12.600
		*1990	15	1600		4.778	17.088
313	Beverages	1985	37			0.052	0.070
		1986	35			0.045	0.076
		*1987	33			0.057	0.096
		*1988	31			0.066	0.110
		*1989	29			0.067	0.119
		*1990	27			0.083	0.156
314	Tobacco	1985	1			0.755	1.269
		1986	1			1.649	2.368
		*1987	1			2.103	2.997
		*1988	1			2.445	3.444
		*1989	1			2.797	3.890
		*1990	1			3.870	5.313
321	Textiles	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
322	Wearing apparel	1985	6			0.748	1.942
		1986	7			0.462	0.975
		*1987				0.600	1.002
		*1988				0.711	1.010
		*1989				0.828	1.043
		*1990				1.161	1.307
323	Leather and products	1985	1				
		1986	1				
		1987					
		1988					
		1989					
		1990					
324	Footwear	1985	1			0.134	0.356
		1986	1			0.159	0.381
		*1987				0.202	0.459
		*1988				0.223	0.495
		*1989				0.231	0.520
		*1990				0.290	0.681
331	Wood products	*1985	1			0.958	2.521
		*1986	1			1.566	4.122
		*1987					6.899
		*1988					7.490
		*1989					7.438
		1990					

*Estimates

Country: CAPE VERDE

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
332	Furniture, fixtures	*1985	13			0.444	1.169
		*1986	14			0.687	1.808
		1987					2.033
		1988					2.072
		1989					2.071
		1990					
341	Paper and products	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
342	Printing, publishing	1985	5			0.436	0.730
		1986	6			0.544	0.872
		*1987				0.703	1.103
		*1988				0.826	1.265
		*1989				0.955	1.424
		*1990				1.330	1.939
351	Industrial chemicals	1985	1			0.107	
		1986	1			0.139	
		1987	1				
		1988	1				
		1989	1				
		1990	1				
352	Other chemical prod.	1985					0.484
		1986					0.433
		*1987					0.549
		*1988					0.632
		*1989					0.716
		*1990					0.982
353	Petroleum refineries	1985	1				
		1986	1				
		1987	1				
		1988	1				
		1989	1				
		1990	1				
354	Petroleum, coal prod.	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
355	Rubber products	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
356	Plastic products	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
361	Pottery, china etc.	1985					
		1986					
		1987					
		1988					
		1989					
		1990					

*Estimates

Country: CAPE VERDE

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
362	Glass and products	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
369	Non-metal products	1985	2				
		1986	2				
		1987					
		1988					
		1989					
		1990					
371	Iron and steel	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
372	Non-ferrous metals	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
381	Metal products	1985	1				
		1986	3				
		1987					
		1988					
		1989					
		1990					
382	Machinery n.e.c.	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
383	Electrical machinery	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
384	Transport equipment	1985				0.877	2.148
		1986				1.193	3.068
		*1987				1.536	3.884
		*1988				1.803	4.469
		*1989				2.080	5.058
		*1990				2.900	6.929
385	Professional goods	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
390	Other industries	1985	2			0.021	0.698
		1986	2			0.020	1.235
		*1987	2			0.021	1.561
		*1988	2			0.019	1.791
		*1989	2			0.019	2.018
		*1990	2			0.021	2.754

*Estimates

Country: CENTRAL AFRICAN REPUBLIC

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985	44	7827	15.891	32.533	108.467
		1986	47	5715	20.456	23.971	112.001
		1987	50	4847	20.227	23.838	108.467
		1988	51	4857	19.604	24.495	107.868
		1989	52	4931	18.995	23.324	100.261
		1990	53	5024	21.499	27.341	115.121
311/2	Food products	1985	6	663	1.965	7.608	15.232
		1986	6	576	2.584	10.087	19.102
		*1987	6	540	2.823	10.060	20.023
		*1988	6	548	2.941	8.765	18.538
		*1989	6	577	2.973	7.513	16.855
		*1990	6	610	3.228	8.152	19.250
313	Beverages	1985	3	331	0.979	3.795	7.597
		1986	3	287	1.288	5.030	9.529
		*1987	3	269	1.432	4.852	9.891
		*1988	3	279	1.492	4.231	9.293
		*1989	3	295	1.509	3.599	8.498
		*1990	3	311	1.699	3.790	9.638
314	Tobacco	1985	5	552	1.636	6.333	12.674
		1986	5	480	2.151	8.394	15.897
		*1987	5	450	2.357	8.437	16.769
		*1988	5	456	2.456	7.352	15.540
		*1989	5	481	2.482	6.342	14.209
		*1990	5	509	2.711	6.934	16.318
321	Textiles	*1985	3	2172	4.124	0.370	26.465
		*1986	3	1336	5.166	-11.056	19.109
		*1987	3	1239	5.115	-10.270	17.795
		*1988	3	1144	4.579	-8.553	14.918
		*1989	3	1053	3.981	-6.865	12.327
		*1990	3	969	4.298	-6.833	15.306
322	Wearing apparel	*1985	0	318	0.604	0.054	3.873
		*1986	1	196	0.756	-1.618	2.796
		*1987	0	111	0.749	-1.503	2.604
		*1988	0	167	0.670	-1.252	2.183
		*1989	0	154	0.583	-1.005	1.804
		*1990	0	142	0.629	-1.000	2.240
323	Leather and products	*1985	0	33	0.062	0.006	0.399
		*1986	0	20	0.078	-0.167	0.289
		*1987	0	19	0.080	-0.155	0.279
		*1988	0	19	0.078	-0.129	0.297
		*1989	0	18	0.070	-0.134	0.264
		*1990	0	19	0.086	-0.139	0.333
324	Footwear	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
331	Wood products	1985	0	2639	3.283	7.724	20.507
		1986	0	1891	4.485	6.414	23.038
		1987	2	1277	3.246	4.642	16.674
		1988	2	1365	2.908	6.228	22.373
		1989	2	1461	2.942	6.018	21.617
		*1990	2	1559	3.451	7.011	22.609

* Estimates

Country: CENTRAL AFRICAN REPUBLIC

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
332	Furniture, fixtures	1985	2	147	0.231	0.545	1.447
		1986	3	106	0.318	0.453	1.626
		*1987	3	99	0.366	0.540	1.934
		*1988	3	97	0.354	0.474	1.887
		*1989	3	99	0.358	0.494	1.966
		*1990	3	98	0.422	0.530	2.343
341	Paper and products	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
342	Printing, publishing	1985	8	220	0.699	1.645	4.369
		1986	9	157	0.956	1.366	4.909
		*1987	9	147	1.101	1.627	5.836
		*1988	10	144	1.068	1.430	5.739
		*1989	10	148	1.080	1.490	5.979
		*1990	10	147	1.284	1.613	7.235
351	Industrial chemicals	1985	2	134	0.269	0.612	1.661
		1986	2	137	0.375	0.725	2.108
		*1987	2	128	0.433	0.762	2.303
		*1988	2	135	0.452	0.816	2.456
		*1989	3	143	0.459	0.852	2.541
		*1990	3	151	0.580	1.115	3.277
352	Other chemical prod.	1985	5	134	0.592	1.349	3.664
		1986	5	138	0.829	1.594	4.649
		*1987	5	129	0.956	1.666	5.051
		*1988	5	136	0.998	1.782	5.387
		*1989	6	144	1.012	1.861	5.573
		*1990	6	152	1.280	2.433	7.188
353	Petroleum refineries	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
354	Petroleum, coal prod.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
355	Rubber products	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
356	Plastic products	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
361	Pottery, china etc.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0

* Estimates

Country: CENTRAL AFRICAN REPUBLIC

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
362	Glass and products	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
369	Non-metal products	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
371	Iron and steel	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
372	Non-ferrous metals	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
381	Metal products	1985	1	47	0.125	0.321	1.327
		1986	2	42	0.162	0.347	1.476
		*1987	2	39	0.160	0.333	1.421
		*1988	1	37	0.143	0.289	1.260
		*1989	1	35	0.124	0.243	1.087
		*1990	1	32	0.134	0.255	1.170
382	Machinery n.e.c.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
383	Electrical machinery	1985	0	9	0.024	0.065	0.267
		1986	0	8	0.032	0.069	0.297
		*1987	0	7	0.031	0.067	0.286
		*1988	0	7	0.028	0.058	0.251
		*1989	0	7	0.024	0.048	0.214
		*1990	0	7	0.026	0.051	0.228
384	Transport equipment	1985	4	152	0.410	1.042	4.329
		1986	5	137	0.523	1.135	4.814
		*1987	5	128	0.543	1.352	5.345
		*1988	5	133	0.566	1.467	5.724
		*1989	4	125	0.519	1.261	5.519
		*1990	5	118	0.562	1.321	5.937
385	Professional goods	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
390	Other industries	1985	5	276	0.886	1.066	4.657
		1986	4	204	0.754	1.198	2.362
		*1987	4	191	0.835	1.428	2.255
		*1988	4	190	0.870	1.537	2.023
		*1989	4	193	0.879	1.607	1.807
		*1990	5	199	1.108	2.106	2.049

* Estimates

Country: ETHIOPIA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross Output
					US\$ million		
3	MANUFACTURING	1985	405	88013	117.242	577.145	1375.456
		1986	402	90844	123.478	644.015	1424.785
		1987	409	95017	137.624	706.569	1555.166
		1988	414	98672	148.147	758.257	1626.671
		1989	415	102682	161.749	878.286	1808.729
		1990	421	107705	180.060	984.609	2052.712
311/2	Food products	1985	131	17257	22.421	114.057	262.125
		1986	125	18216	22.803	120.435	284.541
		1987	129	18052	24.286	125.845	290.386
		1988	136	18298	26.124	131.014	306.425
		*1989	136	19221	27.657	146.438	330.687
		*1990	140	20055	30.099	159.375	369.411
313	Beverages	1985	30	7859	12.414	140.676	197.440
		1986	30	8261	12.640	143.333	204.251
		1987	30	8746	13.630	153.575	225.410
		1988	29	8863	15.259	172.463	249.130
		*1989	29	9245	16.905	201.071	279.658
		*1990	28	9796	18.869	225.464	317.406
314	Tobacco	1985	2	930	1.263	35.169	75.411
		1986	2	1017	1.439	45.797	79.082
		1987	2	846	1.435	52.029	79.372
		1988	2	925	1.374	59.710	80.676
		*1989	2	974	1.489	70.884	91.525
		*1990	2	1017	1.653	82.086	105.889
321	Textiles	1985	48	32477	34.346	69.420	181.159
		1986	48	32415	37.079	79.534	185.942
		1987	51	35918	43.286	101.546	223.140
		1988	49	37406	45.419	98.116	226.811
		*1989	50	38589	50.354	116.487	249.945
		*1990	52	40603	56.764	129.440	282.309
322	Wearing apparel	1985	12	3293	2.928	10.821	25.652
		1986	12	3367	3.130	9.662	27.633
		1987	13	3531	3.604	8.551	30.435
		1988	11	3457	4.358	10.000	36.715
		*1989	11	3666	4.836	11.821	41.712
		*1990	11	3888	5.476	13.689	48.372
323	Leather and products	1985	10	2664	3.260	12.947	41.932
		1986	10	2955	3.264	16.039	49.275
		1987	10	2966	4.082	24.734	59.903
		1988	10	3142	4.736	32.222	80.580
		*1989	10	3332	5.133	37.765	91.435
		*1990	10	3533	5.807	41.145	104.606
324	Footwear	1985	16	2712	3.206	9.758	24.589
		1986	16	2816	3.300	9.082	23.430
		1987	16	2684	4.125	10.483	27.488
		1988	18	3215	4.467	10.918	32.271
		*1989	18	3384	4.927	12.949	36.612
		*1990	19	3516	5.441	14.275	41.532
331	Wood products	1985	15	1509	2.293	5.797	10.435
		1986	14	1525	2.301	6.908	11.063
		1987	13	1485	2.314	6.957	12.174
		1988	14	1565	2.585	7.585	13.816
		*1989	13	1576	2.803	8.674	15.112
		*1990	13	1578	3.016	9.563	16.831
332	Furniture, fixtures	1985	15	1003	1.433	3.768	8.986
		1986	17	1056	1.626	4.638	9.420
		1987	18	1135	1.848	4.300	8.019
		1988	18	1429	2.216	4.831	8.261
		*1989	19	1515	2.458	5.537	9.115
		*1990	20	1606	2.771	6.241	10.344

* Estimates

Country: ETHIOPIA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross Output
					US\$ million		
341	Paper and products	1985	5	1223	1.616	8.889	20.870
		1986	7	1383	1.957	11.256	24.058
		1987	7	1453	2.227	10.531	24.686
		1988	7	1453	2.329	6.280	21.449
		*1989	7	1474	2.583	6.091	19.941
		*1990	7	1555	2.923	6.576	21.944
342	Printing, publishing	1985	23	3001	4.672	17.053	26.618
		1986	22	3060	4.685	17.729	28.841
		1987	21	3139	5.682	20.483	31.981
		1988	21	3333	6.250	18.357	30.193
		*1989	20	3520	6.731	21.663	33.552
		*1990	20	3690	7.596	24.259	37.847
351	Industrial chemicals	1985	3	272	0.396	1.208	2.657
		1986	3	266	0.429	1.498	2.899
		1987	3	284	0.482	1.932	2.899
		1988	3	319	0.582	2.222	3.478
		*1989	3	338	0.646	2.647	3.939
		*1990	3	359	0.731	3.031	4.487
352	Other chemical prod.	1985	14	1966	2.789	20.821	44.589
		1986	14	2017	3.248	23.518	49.812
		1987	14	2311	3.644	25.942	60.676
		1988	13	2133	3.734	21.787	52.319
		*1989	13	2262	4.142	25.865	59.377
		*1990	13	2400	4.688	29.981	68.754
353	Petroleum refineries	1985	1	1257	7.662	53.527	278.454
		1986	1	1677	6.892	79.952	268.985
		1987	1	1448	6.865	79.858	278.309
		1988	1	1433	7.286	96.280	279.468
		*1989	1	1519	7.823	114.842	317.587
		*1990	1	1564	8.550	134.020	368.310
354	Petroleum, coal prod.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
355	Rubber products	1985	4	1672	2.779	12.995	27.343
		1986	4	1661	3.628	11.063	23.961
		1987	4	1799	4.144	12.995	29.372
		1988	5	1904	4.401	12.367	30.097
		*1989	5	1955	4.880	13.953	33.161
		*1990	5	2072	5.525	16.167	38.400
356	Plastic products	1985	9	1455	1.784	10.966	21.256
		1986	10	1431	1.937	12.560	23.285
		1987	10	1521	2.258	12.899	25.314
		1988	9	1671	2.731	11.594	24.734
		*1989	9	1772	3.029	13.335	28.220
		*1990	10	1878	3.431	15.289	32.806
361	Pottery, china etc.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
362	Glass and products	1985	2	777	1.064	3.575	7.633
		1986	2	790	1.208	4.444	8.502
		1987	2	722	1.115	4.396	8.309
		1988	2	675	1.152	4.589	8.792
		*1989	2	647	1.154	4.536	8.697
		*1990	2	678	1.265	5.146	10.072

* Estimates

Country: ETHIOPIA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross Output
					US\$ million		
369	Non-metal products	1985	30	3580	4.680	18.502	34.638
		1986	31	3745	5.076	17.198	34.589
		1987	31	3594	5.086	15.459	37.150
		1988	32	3851	4.548	19.517	42.560
		*1989	32	3903	4.858	22.096	47.812
		*1990	32	3960	5.230	24.320	53.721
371	Iron and steel	1985	3	767	1.326	7.585	34.058
		1986	3	786	1.585	5.894	28.357
		1987	3	857	1.759	9.517	35.459
		1988	3	990	2.363	11.304	38.599
		*1989	3	1050	2.621	12.829	43.176
		*1990	3	1113	2.965	14.226	48.785
372	Non-ferrous metal	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
381	Metal products	1985	26	1833	3.086	12.077	25.700
		1986	25	1833	3.254	11.884	23.140
		1987	25	1939	3.527	14.058	29.034
		1988	25	2000	3.949	12.367	28.406
		*1989	25	2117	4.355	14.741	32.234
		*1990	24	2245	4.925	17.111	37.326
382	Machinery n.e.c.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
383	Electrical machinery	1985	3	96	0.191	0.821	1.401
		1986	3	96	0.200	0.531	1.063
		1987	3	110	0.200	0.725	1.353
		1988	3	109	0.238	0.725	1.304
		*1989	3	115	0.264	0.865	1.480
		*1990	3	122	0.298	1.006	1.713
384	Transport equipment	1985	3	411	1.633	6.715	22.512
		1986	3	472	1.799	11.063	32.657
		1987	3	477	2.024	9.758	34.300
		1988	3	502	2.046	14.010	30.386
		*1989	3	509	2.101	13.201	33.754
		*1990	3	477	2.036	12.203	31.849
385	Professional goods	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
390	Other industries	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0

* Estimates

Country: GAMBIA

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross Output
					US\$ million		
3	MANUFACTURING	1985	31	2730	2.943	9.906	46.015
		1986	32	2771	2.662	9.544	43.561
		1987	32	2840	3.388	12.924	57.654
		1988	33	2895	4.143	16.793	73.456
		1989	35	2976	4.180	18.003	76.948
		1990	36	3049	4.723	21.627	90.938
311/2	Food products	1985	10	1534	1.631	5.615	33.902
		1986	11	1541	1.486	5.515	32.594
		1987	10	1547	1.868	7.435	43.112
		1988	11	1550	2.279	9.748	55.341
		1989	11	1555	2.263	10.417	57.864
		1990	12	1562	2.535	12.568	68.335
313	Beverages	1985	3	132	0.292	0.899	4.834
		1986	2	124	0.237	0.706	4.079
		1987	2	129	0.309	0.944	5.451
		1988	2	121	0.336	1.029	6.491
		1989	2	124	0.345	1.062	6.853
		1990	2	117	0.360	1.153	8.143
314	Tobacco	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
321	Textiles	1985	1	165	0.150	0.363	1.586
		1986	1	176	0.141	0.360	1.552
		1987	1	187	0.184	0.493	2.099
		1988	1	199	0.233	0.659	2.764
		1989	1	212	0.240	0.718	2.966
		1990	1	226	0.279	0.884	3.594
322	Wearing apparel	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
323	Leather and products	1985	1	12	0.005	0.012	0.069
		1986	1	12	0.005	0.009	0.068
		1987	1	13	0.007	0.012	0.093
		1988	1	14	0.008	0.015	0.123
		1989	1	15	0.009	0.015	0.133
		1990	1	16	0.010	0.017	0.163
324	Footwear	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
331	Wood products	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0

* Estimates

Country: GAMBIA

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross Output
					US\$ million		
332	Furniture, fixtures	1985	2	490	0.332	0.579	1.248
		1986	2	521	0.315	0.568	1.208
		1987	2	555	0.414	0.772	1.614
		1988	2	592	0.529	1.026	2.097
		1989	2	633	0.551	1.112	2.217
		1990	2	676	0.647	1.363	2.646
341	Paper and products	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
342	Printing, publishing	1985	1	44	0.102	0.350	0.456
		1986	1	46	0.096	0.343	0.441
		1987	1	48	0.126	0.466	0.589
		1988	1	50	0.159	0.617	0.765
		1989	1	52	0.164	0.666	0.808
		1990	2	55	0.191	0.812	0.963
351	Industrial chemicals	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
352	Other chemical prod.	1985	3	44	0.080	0.185	0.503
		1986	3	41	0.075	0.183	0.404
		1987	3	39	0.099	0.249	0.444
		1988	4	36	0.126	0.330	0.473
		1989	4	34	0.130	0.358	0.419
		1990	4	32	0.152	0.438	0.410
353	Petroleum refineries	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
354	Petroleum, coal prod.	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
355	Rubber products	1985		37	0.023	0.119	0.283
		1986		39	0.019	0.117	0.274
		1987		42	0.023	0.160	0.366
		1988		44	0.027	0.213	0.474
		1989		47	0.025	0.230	0.501
		1990		49	0.027	0.282	0.596
356	Plastic products	1985	1	0	0	0	0
		1986	1	0	0	0	0
		1987	1	0	0	0	0
		1988	1	0	0	0	0
		1989	1	0	0	0	0
		1990	1	0	0	0	0
361	Pottery, china etc.	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0

* Estimates

Country: GAMBIA

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross Output
					US\$ million		
362	Glass products	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
369	Non-metal products	1985	2	73	0.041	0.160	0.397
		1986	2	69	0.033	0.137	0.324
		1987	2	73	0.039	0.184	0.423
		1988	3	69	0.043	0.194	0.448
		1989	3	73	0.038	0.206	0.455
		1990	3	68	0.038	0.200	0.441
371	Iron and steel	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
372	Non-ferrous metals	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
381	Metal products	1985	1	128	0.154	0.310	0.566
		1986	1	136	0.145	0.307	0.511
		1987	1	144	0.190	0.421	0.639
		1988	1	152	0.241	0.564	0.778
		1989	1	162	0.248	0.615	0.773
		1990	1	171	0.289	0.757	0.869
382	Machinery n.e.c.	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
383	Electrical machinery	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
384	Transport equipment	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
385	Professional goods	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
390	Other industries	1985	6	71	0.134	1.315	2.170
		1986	6	66	0.107	1.299	2.103
		1987	6	64	0.130	1.788	2.825
		1988	7	68	0.163	2.398	3.703
		1989	7	72	0.168	2.604	3.959
		1990	7	76	0.195	3.151	4.777

* Estimates

Country: LESOTHO

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross Output
					US\$ million		
3	MANUFACTURING	1985	81	6604	6.010	21.669	65.517
		1986	65	5036	9.113	8.371	100.741
		1987	62	4820	12.137	10.034	134.513
		1988	59	4598	13.113	10.310	146.347
		1989	57	4442	14.018	9.897	157.511
		1990	57	4295	17.100	10.966	194.310
311/2	Food products	*1985	6	747	1.393	8.688	25.218
		*1986			2.138		39.522
		*1987			2.874		53.200
		*1988			3.113		58.341
		*1989			3.335		63.188
		*1990			4.076		78.120
313	Beverages	*1985	5	587	1.094	6.819	19.794
		*1986			1.677		31.073
		*1987			2.185		42.747
		*1988			2.358		47.310
		*1989			2.514		51.715
		*1990			3.056		64.422
314	Tobacco	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
321	Textiles	*1985	16	2355	1.003	2.101	4.976
		*1986	16	2193	1.543	2.669	7.862
		*1987	15	2031	2.081	2.953	10.941
		*1988	14	1885	2.265	3.259	12.307
		*1989	13	1740	2.439	2.031	13.727
		*1990	12	1601	2.999	2.889	17.498
322	Wearing apparel	*1985	4	557	0.237	0.497	1.176
		*1986	4	518	0.365	0.631	1.859
		*1987	3	480	0.492	0.699	2.586
		*1988	3	445	0.535	0.771	2.908
		*1989	3	410	0.576	0.682	3.243
		*1990	3	377	0.708	0.685	4.132
323	Leather and products	*1985	1	97	0.041	0.086	0.204
		*1986	1	90	0.063	0.110	0.323
		*1987	1	83	0.085	0.121	0.449
		*1988	1	77	0.093	0.134	0.505
		*1989	1	71	0.100	0.118	0.563
		*1990	0	65	0.123	0.119	0.717
324	Footwear	*1985	2	284	0.121	0.254	0.600
		*1986	2	265	0.186	0.322	0.949
		*1987	2	245	0.251	0.357	1.320
		*1988	2	227	0.273	0.394	1.484
		*1989	2	209	0.294	0.348	1.655
		*1990	1	193	0.361	0.349	2.109
331	Wood products	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
332	Furniture, fixtures	1985	14	284	0.346	0.389	1.291
		*1986	13	301	0.453	0.617	1.655
		*1987	12	319	0.557	0.855	1.973
		*1988	12	339	0.565	0.961	1.905
		*1989	12	360	0.569	1.064	1.814
		*1990	12	383	0.658	1.350	1.978

* Estimates

Country: LESOTHO

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross Output
					US\$ million		
341	Paper and products	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
342	Printing, publishing	1985	4	351	0.394	0.291	1.297
		*1986	4	336	0.584	0.368	1.648
		*1987	4	337	0.784	0.406	1.820
		*1988	3	337	0.846	0.359	1.612
		*1989	3	337	0.903	0.313	1.407
		*1990	3	338	1.097	0.310	1.394
351	Industrial chemicals	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
352	Other chemical prod.	1985	4	192	0.427	1.296	4.648
		*1986	4	202	0.640	2.052	5.902
		*1987	4	212	0.860	2.863	6.516
		*1988	4	203	0.931	2.588	5.766
		*1989	4	212	0.997	2.859	5.030
		*1990	3	223	1.217	3.621	4.981
353	Petroleum refineries	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
354	Petroleum, coal prod.	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
355	Rubber products	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
356	Plastic products	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
361	Pottery, china etc.	1985	1				
		1986					
		1987					
		1988					
		1989					
		1990					
362	Glass products	1985					
		1986					
		1987					
		1988					
		1989					
		1990					

* Estimates

Country: LESOTHO

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross Output
					US\$ million		
369	Non-metal products	1985	6	435	0.393	0.422	2.282
		*1986	6	462	0.604	0.534	3.596
		*1987	5	488	0.814	0.587	4.970
		*1988	5	479	0.884	0.638	5.553
		*1989	5	493	0.949	0.539	6.130
		*1990	5	506	1.163	0.554	7.724
371	Iron and steel	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
372	Non-ferrous metals	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
381	Metal products	1985	11	315	0.360	0.627	2.332
		*1986	10	295	0.552	0.794	3.666
		*1987	10	276	0.741	0.874	4.248
		*1988	9	272	0.803	0.887	4.437
		*1989	9	272	0.860	0.778	4.328
		*1990	9	272	1.050	0.773	5.217
382	Machinery n.e.c.	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
383	Electrical machinery	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
384	Transport equipment	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
385	Professional goods	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
390	Other industries	1985	7	400	0.200	0.199	1.698
		*1986	7	374	0.306	0.274	2.687
		*1987	7	350	0.412	0.319	3.744
		*1988	7	334	0.448	0.318	4.219
		*1989	7	336	0.482	0.293	4.713
		*1990	7	338	0.592	0.316	6.018

* Estimates

Country: MADAGASCAR

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross Output
					US\$ million		
3	MANUFACTURING	1985	339	47364	51.922	132.489	327.662
		1986	362	42120	51.636	152.011	377.986
		1987	360	43999	37.862	108.337	290.925
		1988	368	44161	37.035	107.190	288.165
		1989	373	45239	35.025	98.848	283.457
		1990	374	46987	42.323	125.319	355.006
311/2	Food products	1985	86	17484	14.637	45.280	81.263
		1986	119	12750	13.808	24.375	77.270
		*1987	113	13546	9.612	19.673	62.06
		*1988	115	13108	9.213	17.032	57.156
		*1989	115	13606	8.260	14.801	54.935
		*1990	112	14428	9.707	18.201	66.666
313	Beverages	1985	29	3118	3.804	15.922	32.722
		1986	29	3506	4.511	19.357	39.918
		*1987	28	3717	3.311	14.920	31.307
		*1988	30	3941	3.374	15.775	33.196
		*1989	31	4179	3.206	16.607	34.942
		*1990	32	4432	4.040	21.987	46.137
314	Tobacco	1985	7	945	0.964	3.097	9.178
		1986	8	947	0.933	2.410	10.308
		*1987	8	926	0.710	1.563	6.917
		*1988	7	912	0.678	1.339	6.341
		*1989	7	922	0.664	1.394	6.237
		*1990	7	919	0.823	1.557	7.430
321	Textiles	1985	21	10239	12.171	15.662	75.592
		1986	19	9290	11.537	54.835	104.273
		*1987	20	9864	9.059	35.454	83.809
		*1988	20	10111	9.006	37.225	85.887
		*1989	20	10297	8.843	31.867	83.723
		*1990	20	10445	10.751	41.928	105.825
322	Wearing apparel	1985	32	2210	2.462	6.418	11.695
		1986	26	1679	1.878	3.788	9.832
		*1987	27	1643	1.323	2.715	6.412
		*1988	29	1542	1.263	2.425	5.547
		*1989	30	1463	1.180	2.465	4.836
		*1990	31	1374	1.427	2.709	5.391
323	Leather and products	1985	2	261	0.217	1.103	2.359
		1986	2	239	0.219	0.866	1.397
		*1987	2	248	0.153	0.696	1.073
		*1988	2	255	0.151	0.741	1.068
		*1989	2	262	0.149	0.787	1.059
		*1990	2	269	0.184	1.053	1.319
324	Footwear	1985	8	802	1.730	4.704	9.288
		1986	7	787	1.625	4.195	8.771
		*1987	7	813	1.199	3.041	6.117
		*1988	7	855	1.170	2.975	6.086
		*1989	7	894	1.123	2.840	5.982
		*1990	7	947	1.353	3.400	7.339
331	Wood products	1985	16	642	0.548	0.693	1.654
		1986	15	661	0.401	0.407	1.096
		*1987	16	673	0.280	0.265	0.717
		*1988	16	691	0.259	0.234	0.647
		*1989	17	713	0.243	0.213	0.597
		*1990	17	736	0.289	0.247	0.701
332	Furniture, fixtures	1985	16	652	0.555	0.705	1.680
		1986	15	672	0.408	0.414	1.113
		*1987	16	679	0.276	0.275	0.728
		*1988	16	685	0.258	0.250	0.670
		*1989	17	692	0.241	0.227	0.618
		*1990	18	700	0.283	0.258	0.715

* Estimates

Country: MADAGASCAR

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross Output
					US\$ million		
341	Paper and products	1985	3	950	1.537	3.371	10.904
		1986	3	957	1.406	6.064	13.937
		*1987	3	1011	1.000	3.969	10.380
		*1988	3	1026	0.967	4.075	10.467
		*1989	3	1061	0.899	3.990	10.464
		*1990	2	1091	1.083	4.961	13.146
342	Printing, publishing	1985	31	1247	1.511	2.311	7.396
		1986	28	1092	1.269	2.243	6.430
		*1987	29	1085	0.853	1.462	4.326
		*1988	31	1088	0.769	1.324	4.012
		*1989	32	1086	0.681	1.150	3.622
		*1990	34	1085	0.758	1.269	4.123
351	Industrial chemicals	1985	1	138	0.240	0.522	1.028
		1986	1	179	0.319	0.478	1.351
		*1987	1	175	0.227	0.345	0.998
		*1988	1	180	0.222	0.338	0.988
		*1989	1	187	0.216	0.328	0.971
		*1990	1	194	0.263	0.400	1.198
352	Other chemical prod.	1985	23	2067	2.326	10.667	29.070
		1986	28	2667	3.075	9.681	38.410
		*1987	26	2830	2.272	7.777	30.538
		*1988	27	2688	2.285	8.020	31.496
		*1989	27	2635	2.193	7.718	30.876
		*1990	28	2793	2.655	9.568	38.678
353	Petroleum refineries	1985	1	433	1.166	6.811	10.596
		1986	1	414	1.282	7.763	12.407
		*1987	1	426	0.882	5.393	8.821
		*1988	1	423	0.786	4.733	7.944
		*1989	1	431	0.697	4.383	7.502
		*1990	1	446	0.793	5.169	9.023
354	Petroleum, coal prod.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
355	Rubber products	1985	3	172	0.190	0.690	1.906
		1986	3	161	0.207	0.735	2.243
		*1987	3	152	0.139	0.476	1.508
		*1988	3	161	0.138	0.507	1.599
		*1989	3	158	0.124	0.439	1.495
		*1990	3	161	0.145	0.531	1.829
356	Plastic products	1985	8	534	0.740	2.180	5.217
		1986	6	354	0.427	1.289	3.977
		*1987	7	375	0.311	0.939	2.828
		*1988	7	398	0.306	0.949	2.903
		*1989	7	422	0.302	0.972	3.018
		*1990	8	447	0.378	1.264	3.979
361	Pottery, china etc.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
362	Glass and products	1985	3	347	0.412	0.412	0.998
		1986	3	380	0.436	0.546	3.140
		*1987	3	366	0.315	0.353	2.033
		*1988	3	378	0.288	0.375	1.733
		*1989	3	369	0.270	0.319	1.639
		*1990	4	374	0.308	0.340	1.758

* Estimates

Country: MADAGASCAR

ISIC	Sector	Year	Establishments	Employees	Salaries	Value added	Gross Output
					US\$ million		
369	Non-metal products	1985	8	1034	1.112	1.236	4.874
		1986	6	1367	1.453	3.614	7.813
		*1987	6	1283	1.119	2.337	5.114
		*1988	6	1323	1.082	2.263	4.966
		*1989	6	1317	1.024	1.939	4.543
		*1990	6	1368	1.220	2.212	5.377
371	Iron and steel	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
372	Non-ferrous metals	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
381	Metal products	1985	20	2771	3.627	5.241	15.181
		1986	24	2737	4.288	4.288	17.680
		*1987	25	2903	3.356	3.151	12.724
		*1988	25	3078	3.405	3.141	12.879
		*1989	24	3256	3.421	3.178	13.209
		*1990	24	3424	4.281	4.032	17.040
382	Machinery n.e.c.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
383	Electrical machinery	1985	10	718	1.143	3.235	6.858
		1986	9	723	1.171	2.590	8.395
		*1987	9	743	0.828	2.091	6.543
		*1988	9	788	0.831	2.124	6.844
		*1989	8	740	0.735	1.843	7.167
		*1990	8	785	0.902	2.436	9.412
384	Transport equipment	1985	9	447	0.691	1.645	6.809
		1986	8	463	0.818	1.727	7.162
		*1987	8	451	0.560	1.218	5.215
		*1988	8	441	0.513	1.141	5.069
		*1989	8	454	0.487	1.183	5.337
		*1990	8	469	0.598	1.539	7.054
385	Professional goods	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
390	Other industries	1985	2	143	0.198	0.583	1.395
		1986	2	95	0.114	0.345	1.063
		*1987	2	91	0.077	0.224	0.711
		*1988	2	90	0.069	0.204	0.667
		*1989	2	95	0.067	0.207	0.686
		*1990	2	99	0.080	0.256	0.868

* Estimates

Country: MALAWI

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985	94	30725	31.804	89.798	330.148
		1986	94	37976	33.732	75.391	341.719
		1987	92	38843	35.598	74.989	327.815
		1988	90	40576	40.342	86.912	381.319
		1989	89	42798	46.632	103.599	458.306
		1990	89	45294	56.018	133.287	576.222
311/2	Food products	1985	26	10701	11.296	14.294	113.045
		1986	26	15951	12.862	14.961	126.580
		*1987	25	16547	13.906	13.832	122.692
		*1988	24	17541	15.932	14.140	143.716
		*1989	23	18596	18.517	15.187	174.576
		*1990	22	19722	22.507	19.479	219.752
313	Beverages	1985	4	1876	2.327	7.388	32.163
		1986	4	1814	2.193	6.442	39.687
		*1987	4	1922	2.267	5.963	36.642
		*1988	4	2038	2.662	6.906	44.242
		*1989	4	2162	3.151	7.562	54.025
		*1990	4	2294	3.834	9.642	68.283
314	Tobacco	1985	4	3500	1.862	4.538	13.709
		1986	4	4396	2.203	5.094	15.299
		*1987	4	4208	2.195	4.777	14.079
		*1988	4	4133	2.246	5.138	14.691
		*1989	4	4381	2.505	6.062	17.249
		*1990	4	4645	2.934	7.156	21.632
321	Textiles	1985	5	5322	4.305	13.671	35.767
		1986	5	6487	4.061	10.548	29.237
		*1987	5	6884	4.358	9.730	28.917
		*1988	5	7306	5.108	11.484	35.000
		*1989	4	7758	6.044	14.290	42.769
		*1990	5	8239	7.347	18.560	53.974
322	Wearing apparel	1985	7	672	0.384	0.575	3.289
		1986	7	1407	0.664	0.990	6.276
		*1987	7	1431	0.675	0.920	5.751
		*1988	6	1476	0.748	0.945	6.252
		*1989	6	1542	0.848	0.997	7.094
		*1990	6	1636	1.033	1.230	8.912
323	Leather and products	1985	1	71	0.079	0.079	0.559
		1986	1	74	0.076	0.076	0.536
		*1987	1	70	0.073	0.070	0.488
		*1988	1	73	0.085	0.082	0.495
		*1989	1	77	0.101	0.103	0.597
		*1990	1	82	0.122	0.134	0.750
324	Footwear	1985	1	412	0.582	2.567	4.707
		1986	1	395	0.549	2.002	9.124
		*1987	1	403	0.609	2.298	9.232
		*1988	1	427	0.710	2.888	11.167
		*1989	1	453	0.832	3.682	13.647
		*1990	1	481	0.977	4.319	17.188
331	Wood product.	1985	2	1524	1.076	1.667	4.208
		1986	2	1591	1.096	1.096	4.232
		*1987	2	1597	1.141	1.012	3.866
		*1988	2	1693	1.299	1.236	4.217
		*1989	2	1795	1.509	1.553	4.984
		*1990	2	1903	1.803	2.030	6.247
332	Furniture, fixtures	1985	3	354	0.437	0.575	2.910
		1986	3	275	0.370	0.530	2.904
		*1987	3	264	0.362	0.492	2.676
		*1988	3	280	0.425	0.603	3.220
		*1989	3	269	0.434	0.626	3.615
		*1990	3	285	0.527	0.808	4.545

* Estimates

Country: MALAWI

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
341	Paper and products	1985	1	270	0.336	1.820	6.779
		1986	1	252	0.322	0.322	5.769
		*1987	1	267	0.355	0.297	5.660
		*1988	1	284	0.417	0.368	6.859
		*1989	1	301	0.495	0.446	8.399
		*1990	1	320	0.605	0.555	10.624
342	Printing, publishing	1985	7	1230	1.642	6.481	13.822
		1986	7	1036	1.661	4.970	13.509
		*1987	7	1099	1.809	4.785	13.505
		*1988	7	1106	2.026	5.977	15.283
		*1989	7	1173	2.294	6.638	17.683
		*1990	7	1217	2.651	8.615	22.111
351	Industrial chemicals	1985	2	400	0.755	7.627	20.350
		1986	2	197	0.599	3.479	7.988
		*1987	2	185	0.571	3.266	7.296
		*1988	2	185	0.651	4.103	8.023
		*1989	2	195	0.766	4.897	9.000
		*1990	2	207	0.931	6.397	11.242
352	Other chemical prod.	1985	8	714	2.280	14.486	37.122
		1986	8	916	2.461	13.098	41.868
		*1987	8	860	2.455	14.889	38.565
		*1988	7	911	2.709	18.677	43.913
		*1989	7	885	3.050	23.790	52.118
		*1990	7	930	3.561	31.316	65.375
353	Petroleum refineries	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
354	Petroleum, coal prod.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
355	Rubber products	1985	2	147	0.211	1.072	2.026
		1986	2	144	0.217	0.270	2.170
		*1987	2	140	0.207	0.248	2.160
		*1988	2	143	0.230	0.308	2.610
		*1989	2	149	0.271	0.336	3.180
		*1990	2	158	0.330	0.434	4.004
356	Plastic products	1985	4	324	0.485	2.471	5.194
		1986	4	464	0.759	2.499	7.522
		*1987	4	457	0.842	2.842	7.571
		*1988	4	485	0.986	3.402	9.139
		*1989	4	515	1.167	4.293	11.145
		*1990	5	547	1.418	5.618	14.042
361	Pottery, china etc.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
362	Glass and products	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0

* Estimates

Country: MALAWI

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
369	Non-metal products	1985	2	900	1.015	1.496	11.180
		1986	2	729	0.830	4.635	9.931
		*1987	2	684	0.792	5.273	9.080
		*1988	2	642	0.837	5.416	9.657
		*1989	2	602	0.889	6.857	10.988
		*1990	2	565	0.979	8.936	13.772
371	Iron and steel	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
372	Non-ferrous metals	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
381	Metal products	1985	10	1628	1.588	6.347	16.298
		1986	10	1200	1.484	2.274	10.998
		*1987	11	1139	1.560	2.098	11.758
		*1988	11	1130	1.620	2.577	14.241
		*1989	12	1181	1.820	3.240	17.383
		*1990	12	1252	2.115	4.180	21.899
382	Machinery n.e.c.	1985	2	501	0.651	1.040	2.928
		1986	2	385	0.701	1.151	3.605
		*1987	2	409	0.779	1.320	3.802
		*1988	2	435	0.918	1.669	4.624
		*1989	2	463	1.089	1.868	5.681
		*1990	2	493	1.330	2.444	7.218
383	Electrical machinery	1985	1	31	0.105	0.508	0.975
		1986	1	32	0.125	0.448	0.884
		*1987	1	30	0.119	0.412	0.804
		*1988	1	28	0.120	0.418	0.786
		*1989	1	27	0.122	0.446	0.776
		*1990	1	25	0.127	0.488	0.861
384	Transport equipment	1985	2	148	0.390	1.098	3.209
		1986	2	231	0.500	0.505	3.602
		*1987	2	245	0.522	0.464	3.270
		*1988	2	260	0.613	0.574	3.187
		*1989	2	277	0.727	0.727	3.399
		*1990	2	294	0.888	0.950	3.792
385	Professional goods	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
390	Other industries	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0

* Estimates

Country: MALI

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985		16170	14.705	44.900	137.605
		1986		17101	20.247	62.125	183.624
		1987		17586	24.435	74.569	214.731
		1988		18676	26.785	83.761	235.248
		1989		19793	24.959	75.358	212.894
		1990		20986	31.033	96.145	266.051
311/2	Food products	1985		3658	2.551	9.061	44.989
		1986		3889	3.280	11.814	57.773
		1987		3676	3.598	12.623	61.676
		1988		3906	4.008	14.439	68.588
		1989		4154	3.500	13.554	63.792
		1990		4418	4.425	17.653	81.520
313	Beverages	1985		246	0.468	0.854	1.969
		1986		262	0.648	1.238	2.844
		1987		278	0.747	1.317	3.097
		1988		296	0.761	1.221	2.907
		1989		314	0.710	1.065	2.554
		1990		334	0.826	1.141	2.770
314	Tobacco	1985		871	1.113	6.537	11.582
		1986		902	1.571	9.029	16.422
		1987		958	1.859	9.799	18.354
		1988		1018	2.069	11.260	20.922
		1989		1080	1.899	9.624	18.294
		1990		1149	2.407	12.575	23.736
321	Textiles	1985		5890	5.351	14.531	39.614
		1986		6248	7.553	20.686	54.211
		1987		6633	9.640	27.055	67.912
		1988		7047	10.734	31.120	74.625
		1989		7483	10.022	26.992	65.727
		1990		7951	12.700	35.105	81.715
322	Wearing apparel	1985		1734	1.605	4.036	11.671
		1986		1840	2.267	5.737	16.121
		1987		1954	2.895	7.516	20.339
		1988		2076	3.226	8.653	22.483
		1989		2206	3.083	7.571	20.152
		1990		2346	3.909	9.866	25.302
323	Leather and goods	1985		48	0.034	0.016	0.042
		1986		51	0.044	0.020	0.051
		1987		54	0.050	0.021	0.055
		1988		57	0.050	0.019	0.051
		1989		61	0.048	0.018	0.048
		1990		65	0.055	0.019	0.050
324	Footwear	1985		127	0.091	0.044	0.115
		1986		134	0.120	0.053	0.139
		1987		143	0.139	0.057	0.148
		1988		152	0.139	0.052	0.138
		1989		161	0.135	0.051	0.133
		1990		171	0.156	0.053	0.141
331	Wood products	1985		219	0.085	0.086	0.276
		1986		210	0.103	0.102	0.334
		1987		198	0.113	0.108	0.359
		1988		210	0.108	0.100	0.335
		1989		210	0.094	0.088	0.295
		1990		200	0.102	0.092	0.316
332	Furniture, fixtures	1985		120	0.046	0.046	0.149
		1986		118	0.055	0.054	0.180
		1987		111	0.061	0.058	0.194
		1988		118	0.059	0.053	0.181
		1989		120	0.052	0.047	0.159
		1990		113	0.056	0.049	0.170

* Estimates

Country: MALI

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
341	Paper and products	1985		86	0.142	0.226	0.439
		1986		92	0.202	0.327	0.634
		1987		90	0.227	0.357	0.693
		1988		96	0.254	0.343	0.664
		1989		103	0.255	0.351	0.681
		1990		109	0.324	0.385	0.747
342	Printing, publishing	1985		160	0.263	0.416	0.808
		1986		171	0.373	0.574	1.116
		1987		163	0.476	0.640	1.245
		1988		174	0.531	0.729	1.417
		1989		185	0.533	0.686	1.333
		1990		197	0.671	0.727	1.414
351	Industrial chemicals	1985		153	0.160	0.377	2.039
		1986		163	0.224	0.518	2.893
		1987		173	0.269	0.604	3.498
		1988		184	0.285	0.632	3.806
		1989		197	0.286	0.649	3.911
		1990		210	0.358	0.779	4.855
352	Other chemical prod.	1985		231	0.202	0.484	2.614
		1986		237	0.261	0.617	3.447
		1987		244	0.300	0.693	4.009
		1988		250	0.296	0.665	4.034
		1989		257	0.276	0.628	3.937
		1990		264	0.320	0.709	4.531
353	Petroleum refineries	1985		149	0.126	0.297	1.569
		1986		159	0.178	0.430	2.272
		1987		169	0.201	0.460	2.565
		1988		179	0.224	0.529	2.930
		1989		191	0.209	0.472	2.745
		1990		203	0.264	0.597	3.563
354	Petroleum, coal prod.	1985		13	0.012	0.029	0.162
		1986		14	0.016	0.039	0.224
		1987		15	0.019	0.046	0.275
		1988		16	0.019	0.044	0.274
		1989		17	0.018	0.043	0.281
		1990		18	0.022	0.053	0.353
355	Rubber products	1985		69	0.069	0.166	0.902
		1986		73	0.092	0.219	1.234
		1987		77	0.109	0.254	1.480
		1988		82	0.109	0.245	1.500
		1989		86	0.106	0.243	1.539
		1990		91	0.129	0.287	1.854
356	Plastic products	1985		55	0.059	0.157	0.772
		1986		59	0.083	0.227	1.119
		1987		63	0.106	0.278	1.423
		1988		67	0.116	0.294	1.584
		1989		72	0.117	0.303	1.629
		1990		76	0.148	0.391	2.117
361	Pottery, china etc.	1985		19	0.017	0.022	0.037
		1986		20	0.024	0.026	0.043
		1987		22	0.028	0.034	0.054
		1988		23	0.028	0.033	0.052
		1989		25	0.028	0.028	0.043
		1990		26	0.033	0.030	0.046
362	Glass products	1985		16	0.013	0.018	0.034
		1986		16	0.015	0.021	0.040
		1987		17	0.017	0.024	0.043
		1988		17	0.017	0.023	0.040
		1989		17	0.015	0.019	0.034
		1990		17	0.016	0.021	0.036

* Estimates

Country: MALI

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
369	Non-metal products	1985		647	0.510	0.789	1.431
		1986		686	0.696	1.082	1.918
		1987		705	0.773	1.169	2.045
		1988		748	0.860	1.335	2.288
		1989		778	0.751	1.127	1.917
		1990		817	0.863	1.281	2.114
371	Iron and steel	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
372	Non-ferrous metals	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
381	Metal products	1985		450	0.447	2.632	7.115
		1986		472	0.549	3.366	8.721
		1987		501	0.666	4.438	11.163
		1988		531	0.694	4.998	12.383
		1989		558	0.609	4.569	10.820
		1990		592	0.730	5.952	13.681
382	Machinery n.e.c.	1985		211	0.103	0.296	1.494
		1986		225	0.147	0.427	1.721
		1987		218	0.166	0.450	2.176
		1988		231	0.178	0.417	2.265
		1989		246	0.179	0.428	1.870
		1990		263	0.201	0.454	2.401
383	Electric machinery	1985		362	0.208	0.734	0.696
		1986		385	0.288	1.069	0.818
		1987		410	0.342	1.136	0.863
		1988		437	0.372	1.302	0.796
		1989		467	0.373	1.348	0.696
		1990		498	0.466	1.675	0.735
384	Transport equipment	1985		635	1.030	3.047	7.085
		1986		674	1.460	4.448	9.350
		1987		716	1.633	5.432	11.066
		1988		760	1.649	5.255	10.984
		1989		807	1.660	5.454	10.305
		1990		857	1.852	6.251	11.886
385	Professional goods	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
390	Other industries	1985		0	0	0	0
		1986		0	0	0	0
		1987		0	0	0	0
		1988		0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0

* Estimates

Country: MOZAMBIQUE

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985	322	65507			471.906
		1986	311	62490			
		1987	386	111629			
		1988	411	116319			
		1989	420	122739			
		1990	439	129409			
311/2	Food products	1985	57	27484			96.884
		1986	51	24320			
		1987	106	54740			
		1988	117	60340			
		1989	124	64074			
		1990	131	68152			
313	Beverages	1985	17	2362			29.032
		1986	16	2580			
		1987	17	2140			
		1988	16	1940			
		1989	17	1979			
		1990	18	1921			
314	Tobacco	1985		566			58.715
		1986	5	500			
		1987		500			
		1988	5	500			
		1989		530			
		1990		563			
321	Textiles	1985	20	11805			51.903
		1986	18	10550			
		1987	20	14950			
		1988	21	16670			
		1989	22	17686			
		1990	24	18781			
322	Wearing apparel	1985	38	4668			48.408
		1986	35	5170			
		1987	36	5120			
		1988	34	4880			
		1989	36	5081			
		1990	38	5143			
323	Leather and products	1985	4	310			2.465
		1986	4	340			
		1987	4	320			
		1988	4	360			
		1989	4	382			
		1990	5	398			
324	Footwear	1985	13	1135			9.438
		1986	14	1210			
		1987	14	1420			
		1988	15	1450			
		1989	14	1538			
		1990	13	1631			
331	Wood products	1985	1	23			13.842
		1986	1	20			
		1987	15	5430			
		1988	17	4240			
		1989	18	4507			
		1990	19	4800			
332	Furniture, fixtures	1985	34	2949			10.631
		1986	31	3290			
		1987	33	1620			
		1988	34	2400			
		1989	36	2321			
		1990	38	2181			

Country: MOZAMBIQUE

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
341	Paper and products	1985	4	718			8.894
		1986	4	800			
		1987	4	730			
		1988	4	720			
		1989	4	733			
		1990	5	689			
342	Printing, publishing	1985	27	2894			16.515
		1986	25	2710			
		1987	27	2710			
		1988	29	2880			
		1989	31	3029			
		1990	33	3187			
351	Industrial chemicals	1985	21	624			3.040
		1986	23	690			
		1987	10	390			
		1988	9	420			
		1989	10	425			
		1990	10	400			
352	Other chemical prod.	1985	6	306			20.750
		1986	5	270			
		1987	5	1290			
		1988	5	1560			
		1989	5	1658			
		1990	6	1765			
353	Petroleum refineries	1985		1224			6.705
		1986	2	1370			
		1987		860			
		1988	1	840			
		1989		789			
		1990		741			
354	Petroleum, coal prod.	1985	0	0			0
		1986	0	0			0
		1987	0	0			0
		1988	0	0			0
		1989	0	0			0
		1990	0	0			0
355	Rubber products	1985	7	742			10.980
		1986	6	660			
		1987	7	1100			
		1988	8	990			
		1989	8	1031			
		1990	9	1093			
356	Plastic products	1985	14	838			5.500
		1986	13	930			
		1987	13	1000			
		1988	12	1330			
		1989	13	1411			
		1990	14	1496			
361	Pottery, china etc.	1985					0.329
		1986	1	80			
		1987		90			
		1988	1	0			
		1989					
		1990					
362	Glass and products	1985	1	788			5.265
		1986	1	870			
		1987	2	1030			
		1988	2	940			
		1989	2	935			
		1990	2	910			

Country: MOZAMBIQUE

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
369	Non-metal products	1985	4	488			7.594
		1986	4	430			
		1987	4	5250			
		1988	4	3390			
		1989	4	3602			
		1990	5	3836			
371	Iron and steel	1985	9	1394			3.817
		1986	10	1510			
		1987	10	1730			
		1988	11	1670			
		1989	10	1772			
		1990	10	1881			
372	Non-ferrous metals	1985					1.710
		1986	1	160			
		1987		30			
		1988	1	0			
		1989					
		1990					
381	Metal products	1985	24	624			23.926
		1986	22	550			
		1987	23	2780			
		1988	23	2270			
		1989	24	2412			
		1990	26	2567			
382	Machinery n.e.c.	1985	7	1020			8.738
		1986	8	1120			
		1987	15	1910			
		1988	16	1670			
		1989	15	1771			
		1990	14	1879			
383	Electrical machinery	1985	5	1050			16.879
		1986	5	940			
		1987	7	1410			
		1988	8	1470			
		1989	8	1561			
		1990	7	1639			
384	Transport equipment	1985	6	1404			7.899
		1986	5	1240			
		1987	9	2710			
		1988	10	2920			
		1989	11	3100			
		1990	11	3295			
385	Professional goods	1985					0.483
		1986	0	100			
		1987		110			
		1988	1	80			
		1989					
		1990					
390	Other industries	1985	1	91			1.567
		1986	1	80			
		1987	3	260			
		1988	3	390			
		1989	3	414			
		1990	3	441			

Country: NEPAL

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985			39.265	167.076	520.243
		1986	9359	136825	46.512	210.919	636.210
		1987	2314	140025	53.800	215.094	511.883
		1988	2335	139907	54.655	211.335	543.106
		1989			49.689	189.410	457.655
		1990			54.053	213.545	514.415
311/2	Food products	1985			7.866	57.463	287.514
		1986	6583	24050	8.595	68.477	314.550
		1987	360	16432	6.106	28.194	112.957
		1988	365	15204	6.657	26.063	112.795
		1989			5.909	27.269	118.187
		1990			6.219	30.995	136.575
313	Beverages	1985			0.832	5.052	11.112
		1986	37	1628	0.953	6.039	13.282
		1987	36	1900	1.264	20.571	30.297
		1988	34	1584	0.884	14.341	21.039
		1989			0.887	14.004	21.437
		1990			0.976	15.978	23.965
314	Tobacco	1985			2.897	26.806	39.211
		1986	69	8873	3.315	31.114	44.478
		1987	71	7430	3.603	40.194	58.139
		1988	70	7160	3.754	33.877	50.494
		1989			3.445	34.535	50.246
		1990			3.767	38.715	55.524
321	Textiles	1985			8.554	23.739	60.214
		1986	511	24239	9.799	28.375	71.973
		1987	420	31195	15.666	34.733	89.135
		1988	409	30476	15.425	35.638	99.528
		1989			15.275	36.777	96.953
		1990			16.708	41.535	108.376
322	Wearing apparel	1985			3.260	7.275	15.420
		1986	86	8518	3.735	8.695	18.432
		1987	99	8576	5.307	13.945	31.704
		1988	81	8899	5.187	14.341	33.491
		1989			4.835	12.653	28.716
		1990			5.290	14.438	32.149
323	Leather and products	1985					
		1986	11	483	0.195	3.622	9.951
		1987	12	497	0.252	1.692	7.070
		1988	12	552	0.272	2.018	11.808
		1989					
		1990					
324	Footwear	1985			0.260	0.540	1.446
		1986	7	688	0.296	0.642	1.363
		1987	7	559	0.368	0.935	2.361
		1988	8	519	0.385	0.859	2.404
		1989			0.345	0.812	2.057
		1990			0.377	0.915	2.303
331	Wood products	1985			1.329	3.586	10.017
		1986	335	3555	1.519	4.201	11.578
		1987	114	2996	1.436	4.623	9.676
		1988	113	2463	1.073	2.662	6.355
		1989			0.929	2.789	6.610
		1990			1.018	3.218	7.537
332	Furniture, fixture	1985			0.833	2.664	5.878
		1986	293	2494	0.896	2.160	4.771
		1987	114	1566	0.679	2.433	4.899
		1988	115	1470	0.642	1.632	3.521
		1989			0.642	1.625	3.625
		1990			0.658	1.432	3.504

Country: NEPAL

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
341	Paper and products	1985			0.388	1.213	4.142
		1986	29	1238	0.444	1.450	4.951
		1987	23	1383	0.698	2.184	7.233
		1988	22	1533	0.720	2.705	7.385
		1989			0.721	2.692	7.602
		1990			0.792	3.006	8.575
342	Printing, publishing	1985			1.131	2.775	6.192
		1986	326	2715	1.294	3.315	7.183
		1987	88	1905	1.126	2.672	5.997
		1988	85	1907	1.116	2.705	6.269
		1989			1.112	2.814	6.398
		1990			1.217	3.208	7.151
351	Industrial chemicals	1985		0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	1	0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0
352	Other chemical prod.	1985			1.981	7.991	24.479
		1986	96	5258	2.269	9.551	29.260
		1987	85	4970	2.583	12.681	35.499
		1988	85	5235	3.005	15.887	40.833
		1989			2.683	13.219	36.308
		1990			2.932	15.054	40.621
353	Petroleum refineries	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0
354	Petroleum, coal prod.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0
355	Rubber products	1985					
		1986	22	625	0.293	0.945	4.025
		1987	19	703	0.294	1.850	4.524
		1988	28	906	0.394	2.061	6.827
		1989					
		1990					
356	Plastic products	1985					
		1986	54	1126	0.510	2.062	7.354
		1987	40	1265	0.627	2.581	7.615
		1988	46	1318	0.744	3.091	11.507
		1989					
		1990					
361	Pottery, china etc.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0
362	Glass and products	1985		0	0	0	0
		1986	1	0	0	0	0
		1987	1	0	0	0	0
		1988	1	0	0	0	0
		1989		0	0	0	0
		1990		0	0	0	0

Country: NEPAL

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
369	Non-metal products	1985			7.841	21.868	36.963
		1986	513	44416	8.982	26.139	44.182
		1987	624	51695	9.998	26.574	47.795
		1988	661	53956	10.943	32.117	57.364
		1989			10.937	33.022	57.935
		1990			12.003	37.160	64.723
371	Iron and steel	1985					
		1986	34	1299	0.659	4.812	19.893
		1987	22	1076	0.598	3.823	15.294
		1988	21	1788	0.851	9.017	34.135
		1989					
		1990					
372	Non-ferrous metals	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0
381	Metal products	1985			1.760	4.752	13.852
		1986	294	3988	2.015	5.668	16.423
		1987	131	3689	2.260	6.872	21.177
		1988	128	2539	1.451	5.796	18.119
		1989			1.466	6.029	18.282
		1990			1.631	6.871	20.438
382	Machinery n.e.c.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0
383	Electrical machinery	1985					
		1986	27	697	0.420	2.452	8.664
		1987	23	1147	0.553	6.675	16.252
		1988	24	1012	0.552	5.067	15.243
		1989					
		1990					
384	Transport equipment	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0
385	Professional goods	1985					
		1986	5	94	0.045	0.117	0.606
		1987	2				
		1988	2	0	0	0	0
		1989					
		1990					
390	Other industries	1985			0.330	1.353	4.106
		1986	26	841	0.280	1.082	3.292
		1987	23	1041	0.383	1.863	4.260
		1988	24	1386	0.600	1.460	3.993
		1989			0.505	1.171	3.301
		1990			0.463	1.020	2.976

Country: NIGER

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985	40	2204	7.977	19.415	53.766
		1986	40	2247	10.218	25.416	69.157
		1987	40	2256	10.754	27.712	73.671
		1988	41	2275	10.961	29.168	74.361
		1989	40	2312	9.827	27.154	67.629
		1990	41	2347	11.579	32.734	79.287
311/2	Food products	*1985	8	133	0.582	1.144	5.593
		*1986	9	128	0.736	1.535	7.100
		*1987	9	132	0.785	1.565	7.577
		*1988	9	125	0.791	1.712	7.650
		*1989	9	131	0.710	1.430	6.858
		*1990	9	129	0.827	1.709	8.005
313	Beverages	*1985	2	347	1.109	5.672	10.367
		*1986	2	351	1.409	7.209	13.169
		*1987	2	336	1.454	7.468	13.673
		*1988	2	350	1.503	7.702	14.072
		*1989	2	357	1.391	7.122	13.000
		*1990	2	348	1.578	8.092	14.789
314	Tobacco	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
321	Textiles	*1985	2	746	2.506	4.947	17.130
		*1986	2	747	3.152	6.231	21.578
		*1987	2	744	3.377	6.636	22.823
		*1988	2	747	3.372	6.662	23.029
		*1989	1	748	3.066	6.075	21.052
		*1990	1	746	3.556	7.019	24.229
322	Wearing apparel	*1985	1	67	0.307	0.741	2.133
		*1986	1	68	0.387	0.934	2.684
		*1987	1	66	0.412	0.993	2.867
		*1988	1	67	0.414	0.998	2.870
		*1989	1	68	0.377	0.911	2.613
		*1990	1	67	0.436	1.051	3.025
323	Leather and products	*1985	1	61	0.173		1.660
		*1986	1	65	0.233		2.219
		*1987	1	69	0.234		2.145
		*1988	1	73	0.251		2.362
		*1989	1	77	0.211		1.927
		*1990	1	82	0.264		2.471
324	Footwear	1985	1				
		1986	1				
		1987	1				
		1988	1				
		1989	1				
		1990	1				
331	Wood products	*1985	1	13	0.015	0.016	0.044
		*1986	1	12	0.017	0.017	0.050
		*1987	1	11	0.017	0.015	0.048
		*1988	1	11	0.016	0.013	0.048
		*1989	1	10	0.013	0.010	0.039
		*1990	1	9	0.014	0.010	0.040
332	Furniture, fixtures	1985			0.193		0.751214
		1986			0.256		0.985511
		1987			0.254		0.951736
		1988			0.273		1.04813
		1989			0.229		0.854106
		1990			0.287		1.096619

* Estimates

Country: NIGER

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
341	Paper and products	*1985	1	19	0.051	0.118	0.449
		*1986	1	19	0.064	0.127	0.576
		*1987	1	19	0.069	0.120	0.631
		*1988	1	20	0.069	0.103	0.638
		*1989	1	20	0.062	0.081	0.587
		*1990	1	20	0.072	0.090	0.684
342	Printing, publishing	*1985	3	158	0.480	0.911	1.664
		*1986	3	164	0.629	1.263	2.290
		*1987	3	160	0.655	1.263	2.301
		*1988	3	166	0.682	1.391	2.517
		*1989	3	161	0.595	1.154	2.102
		*1990	3	163	0.705	1.401	2.544
351	Industrial chemicals	1985	3	17			
		1986	3	16			
		1987	3	15			
		1988	3	16			
		1989	3	15			
		1990	3	16			
352	Other chemical prod.	*1985	6	429	0.475	3.560	2.043
		*1986	6	456	0.642	4.997	2.349
		*1987	6	485	0.637	6.010	2.260
		*1988	7	473	0.682	6.703	2.002
		*1989	6	503	0.572	6.838	1.620
		*1990	7	536	0.672	8.936	1.668
353	Petroleum refineries	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
354	Petroleum, coal prod.	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
355	Rubber products	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
356	Plastic products	1985	2				
		1986	2				
		1987	2				
		1988	3				
		1989	3				
		1990	3				
361	Pottery, china etc.	1985	1				
		1986	1				
		1987	1				
		1988	1				
		1989	1				
		1990	1				
362	Glass and products	1985					
		1986					
		1987					
		1988					
		1989					
		1990					

* Estimates

Country: NIGER

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
369	Non-metal products	*1985	2	77	0.824	1.145	3.255
		*1986	2	79	1.033	1.424	4.360
		*1987	2	81	1.116	1.582	4.917
		*1988	2	84	1.106	1.526	4.772
		*1989	2	86	1.001	1.361	4.274
		*1990	2	88	1.167	1.615	5.095
371	Iron and steel	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
372	Non-ferrous metal	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
381	Metal products	*1985	5	114	0.818	1.161	5.422
		*1986	4	121	1.064	1.679	7.261
		*1987	4	117	1.054	2.059	8.026
		*1988	4	125	1.130	2.357	8.197
		*1989	4	118	0.944	2.171	7.487
		*1990	4	126	1.182	2.810	8.876
382	Machinery n.e.c.	1985			0.410		3.215
		1986			0.556		4.492
		1987			0.648		5.410
		1988			0.632		5.110
		1989			0.621		5.181
		1990			0.781		6.727
383	Electrical machinery	1985		23	0.034		0.038
		1986		21	0.040		0.043
		1987		20	0.039		0.041
		1988		19	0.042		0.045
		1989		17	0.035		0.036
		1990		16	0.037		0.037
384	Transport equipment	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
385	Professional goods	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
390	Other industries	1985					
		1986					
		1987					
		1988					
		1989					
		1990					

* Estimates

Country: RWANDA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1965	99	8224	15.870	153.634	272.703
		1986	102	6526	18.554	192.925	242.537
		1987	140	7364	21.018	196.033	271.252
		1988	138	7554	23.674	197.895	318.690
		1989	135	7835	23.524	179.005	331.307
		1990	134	7989	23.984	177.752	362.184
311/2	Food products	*1985	28	2016	4.312	59.578	90.272
		*1986	28	1461	4.709	67.670	74.657
		*1987	27	1503	4.967	67.750	83.481
		*1988	27	1484	5.194	66.615	93.271
		*1989	26	1527	4.771	57.433	91.539
		*1990	25	1465	4.578	51.722	93.876
313	Beverages	*1985	3	1070	2.289	31.622	47.913
		*1986	3	841	2.711	38.956	42.978
		*1987	3	824	3.163	39.030	52.946
		*1988	4	844	3.736	38.455	64.437
		*1989	4	863	3.880	33.241	69.109
		*1990	4	897	4.212	32.174	77.606
314	Tobacco	*1985	1	500	1.069	14.766	22.373
		*1986	2	403	1.301	18.693	20.623
		*1987	2	394	1.561	20.980	25.337
		*1988	2	380	1.846	22.048	30.662
		*1989	2	371	1.922	19.459	32.656
		*1990	1	354	2.091	19.882	36.344
321	Textiles	1985	10	824	1.507	1.817	10.409
		1986	11	329	1.213	4.838	14.594
		1987					
		1988					
		1989					
		1990					
322	Wearing apparel	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987					
		1988					
		1989					
		1990					
323	Leather and products	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987					
		1988					
		1989					
		1990					
324	Footwear	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987					
		1988					
		1989					
		1990					
331	Wood products	*1985	19	563	0.548	6.797	10.535
		*1986	23	691	0.928	8.297	7.382
		*1987	21	647	0.948	8.123	9.124
		*1988	20	604	0.949	7.900	9.262
		*1989	19	563	0.837	7.363	8.653
		*1990	18	552	0.810	7.901	9.291
332	Furniture, fixtures	*1985	2	60	0.059	0.728	1.128
		*1986	2	76	0.102	0.911	0.811
		*1987	3	78	0.122	1.123	0.997
		*1988	3	80	0.143	1.367	1.209
		*1989	3	82	0.148	1.468	1.292
		*1990	3	84	0.160	1.652	1.444

* Estimates

Country: RWANDA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
341	Paper and products	*1985	3	210	0.400	1.042	1.846
		*1986	4	116	0.321	1.706	2.778
		*1987	4	124	0.390	1.676	2.900
		*1988	4	133	0.463	1.643	2.864
		*1989	4	143	0.457	1.606	2.782
		*1990	4	152	0.493	1.728	2.991
342	Printing, publishing	*1985	4	251	0.479	1.249	2.213
		*1986	4	132	0.366	1.945	3.167
		*1987	4	140	0.415	1.944	3.173
		*1988	4	149	0.450	2.148	3.125
		*1989	4	158	0.442	2.113	2.701
		*1990	3	167	0.433	2.231	2.437
351	Industrial chemicals	1985	11	1465	1.512	9.115	31.849
		1986	13	1405	3.074	9.493	31.002
		*1987	12	1490	3.691	11.651	38.131
		*1988	13	1580	4.365	14.091	46.323
		*1989	13	1676	4.540	15.012	49.626
		*1990	14	1703	4.303	16.009	55.691
352	Other chemical prod.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
353	Petroleum refineries	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
354	Petroleum, coal prod.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
355	Rubber products	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
356	Plastic products	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
361	Pottery, china etc.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
362	Glass and products	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0

* Estimates

Country: RWANDA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
369	Non-metal products	1985	5	683	1.759	15.692	23.711
		1986	6	507	1.700	22.490	16.419
		*1987	6	544	2.076	21.987	20.530
		*1988	6	585	2.509	21.307	25.485
		*1989	5	630	2.676	19.361	27.944
		*1990	5	680	2.986	20.744	32.095
371	Iron and steel	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
372	Non-ferrous metals	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
381	Metal products	1985	13	582	1.938	11.229	30.456
		1986	6	565	2.130	17.926	28.126
		*1987	6	599	2.203	17.624	34.616
		*1988	7	635	2.269	17.306	42.035
		*1989	7	674	2.030	16.997	44.992
		*1990	8	715	1.936	18.257	50.398
382	Machinery n.e.c.	1985	0	0	0.000	0.000	0.000
		1986	0	0	0.000	0.000	0.000
		*1987	14	329	0.495	1.249	0.003
		*1988	13	349	0.586	1.511	0.003
		*1989	12	371	0.610	1.437	0.003
		*1990	12	394	0.663	1.580	0.002
383	Electrical machinery	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	15	243	0.342	1.126	0.006
		*1988	16	258	0.404	1.362	0.006
		*1989	17	273	0.421	1.238	0.005
		*1990	17	290	0.458	1.341	0.004
384	Transport equipment	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	22	449	0.644	1.769	0.008
		*1988	21	476	0.761	2.141	0.008
		*1989	20	505	0.792	2.277	0.006
		*1990	19	536	0.861	2.529	0.006
385	Professional goods	1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
390	Other industries	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987					
		1988					
		1989					
		1990					

* Estimates

Country: SOMALIA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985	284	14354	8.681	34.727	109.385
		1986	290	16217	6.124	23.115	89.324
		1987	297	15344	5.755	22.021	79.558
		1988	304	14716	6.924	27.113	90.847
		1989	316	14188	5.828	23.628	74.185
		1990	327	13751	8.414	36.246	107.883
311/2	Food products	*1985	68	10128	5.295	7.218	30.883
		1986	72	11329	3.494	4.475	25.386
		*1987	75	10513	3.352	4.447	19.730
		*1988	79	9761	4.093	5.676	23.136
		*1989	83	9083	3.482	5.058	19.779
		*1990	88	8470	4.976	7.843	29.888
313	Beverages	*1985	7	339	0.203	2.039	3.294
		1986	7	377	0.133	1.253	2.767
		*1987	7	350	0.120	1.247	2.114
		*1988	8	324	0.139	1.600	2.103
		*1989	8	299	0.114	1.440	1.607
		*1990	8	277	0.163	2.283	2.305
314	Tobacco	*1985		558	0.377	11.865	17.365
		1986		526	0.240	7.897	11.387
		*1987		560	0.231	7.839	11.314
		*1988		596	0.285	9.925	14.420
		*1989		633	0.247	8.810	12.824
		*1990		672	0.375	13.596	19.985
321	Textiles	*1985	10	805	0.881	3.476	7.544
		1986	9	715	0.560	2.093	4.556
		*1987	10	767	0.538	2.082	4.532
		*1988	9	827	0.665	2.671	5.816
		*1989	10	893	0.576	2.406	5.239
		*1990	9	966	0.879	3.818	8.312
322	Wearing apparel	*1985	34	167	0.084	0.250	0.925
		1986	32	150	0.053	0.150	0.554
		*1987	30	161	0.051	0.149	0.551
		*1988	29	172	0.063	0.191	0.707
		*1989	29	184	0.055	0.172	0.637
		*1990	29	197	0.084	0.273	1.011
323	Leather and products	*1985	6	448	0.355	0.769	2.415
		1986	6	501	0.239	0.670	1.592
		*1987	6	465	0.230	0.515	1.579
		*1988	6	432	0.284	0.515	1.977
		*1989	6	401	0.245	0.422	1.732
		*1990	7	375	0.371	0.600	2.660
324	Footwear	*1985	20	73	0.027	0.121	0.285
		1986	21	64	0.017	0.072	0.170
		*1987	23	69	0.016	0.072	0.170
		*1988	24	74	0.020	0.092	0.218
		*1989	25	80	0.017	0.083	0.196
		*1990	27	87	0.027	0.132	0.311
331	Wood products	*1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
332	Furniture, fixtures	*1985	31	302	0.108	2.365	4.371
		1986	29	273	0.069	1.658	2.864
		*1987	31	293	0.066	1.616	2.839
		*1988	29	315	0.081	2.002	3.592
		*1989	31	340	0.071	1.738	3.166
		*1990	29	366	0.108	2.645	4.885

* Estimates

Country: SOMALIA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
341	Paper and products	*1985	0	0	0	0	0
		1986	0	675	0.424	-0.227	7.974
		*1987	0	662	0.365	-0.196	6.857
		*1988	0	648	0.401	-0.215	7.543
		*1989	0	635	0.308	-0.165	5.792
		*1990	0	623	0.415	-0.223	7.805
342	Printing, publishing	*1985	1	33	0.011	0.083	0.149
		1986	1	29	0.007	0.050	0.089
		*1987	1	31	0.007	0.050	0.088
		*1988	1	34	0.009	0.064	0.113
		*1989	1	36	0.007	0.057	0.102
		*1990	1	39	0.011	0.091	0.162
351	Industrial chemicals	*1985	0	85	0.117	0.227	0.527
		1986	0	95	0.100	0.203	0.471
		*1987	0	89	0.081	0.155	0.371
		*1988	0	83	0.083	0.150	0.371
		*1989	0	77	0.060	0.103	0.259
		*1990	0	72	0.075	0.131	0.318
352	Other chemical prod.	*1985	6	354	0.254	3.098	6.272
		1986	6	335	0.162	2.722	3.835
		*1987	6	358	0.155	2.078	3.815
		*1988	6	384	0.192	2.042	4.895
		*1989	6	411	0.167	1.425	4.406
		*1990	5	440	0.254	1.843	6.982
353	Petroleum refineries	*1985	0	210	0.511	0.534	28.750
		1986	0	213	0.325	0.320	23.342
		*1987	0	213	0.259	0.318	21.516
		*1988	0	211	0.262	0.408	20.963
		*1989	0	211	0.186	0.367	14.132
		*1990	0	211	0.234	0.580	16.653
354	Petroleum, coal prod.	*1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	
355	Rubber products	*1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	
356	Plastic products	*1985	1	100	0.077	0.182	0.730
		1986	1	91	0.049	0.109	0.437
		*1987	1	96	0.047	0.108	0.434
		*1988	1	90	0.058	0.139	0.538
		*1989	1	84	0.050	0.125	0.502
		*1990	1	79	0.077	0.199	0.789
361	Pottery, china etc.	*1985	3	4	0.001		0.008
		1986	3	3	0.001	0	0.006
		*1987	3	4	0.001		0.004
		*1988	3	4	0.001		0.004
		*1989	3	4	0.001		0.003
		*1990	3	4	0.001		0.004
362	Glass and products	*1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	

* Estimates

Country: SOMALIA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
369	Non-metal products	*1985	68	448	0.199	0.999	2.203
		1986	71	401	0.126	0.599	1.324
		*1987	75	430	0.121	0.596	1.317
		*1988	79	464	0.150	0.765	1.690
		*1989	84	501	0.130	0.689	1.522
		*1990	88	541	0.198	1.093	2.415
371	Iron and steel	*1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
372	Non-ferrous metals	*1985	0		0.007	0.021	0.148
		1986	0	150	0.006	0.019	0.132
		*1987	0		0.005	0.014	0.104
		*1988	0		0.005	0.014	0.104
		*1989	0		0.003	0.010	0.072
		*1990	0		0.004	0.012	0.089
381	Metal products	*1985	8	227	0.111	0.367	0.998
		1986	8	219	0.070	0.220	0.604
		*1987	8	213	0.068	0.219	0.601
		*1988	8	226	0.084	0.281	0.769
		*1989	8	240	0.072	0.253	0.689
		*1990	9	255	0.110	0.401	1.082
382	Machinery n.e.c.	*1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
383	Electrical machinery	*1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
384	Transport equipment	*1985	0	29	0.033	0.562	1.080
		1986	0	32	0.028	0.502	0.965
		*1987	0	30	0.023	0.384	0.759
		*1988	0	28	0.024	0.373	0.760
		*1989	0	26	0.017	0.256	0.530
		*1990	0	24	0.021	0.325	0.651
385	Professional goods	*1985	0	0	0	0	0
		1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
390	Other industries	*1985	21	44	0.032	0.550	1.438
		1986	22	39	0.021	0.331	0.868
		*1987	21	42	0.020	0.329	0.863
		*1988	22	45	0.024	0.422	1.107
		*1989	22	49	0.021	0.380	0.996
		*1990	23	53	0.032	0.603	1.575

* Estimates

Country: SUDAN

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985		77437	105.021	295.234	1004.408
		1986		70195	111.893	352.107	1200.476
		1987		64551	98.627	351.161	1176.863
		1988		58953	105.040	411.267	1326.431
		1989		55914	162.553	716.960	2371.361
		1990		51734	249.672	1189.273	3615.964
311/2	Food products	1985		43004	40.164	141.174	559.747
		1986		39028	41.586	161.299	662.321
		1987		36025	35.589	154.229	632.753
		1988		32974	37.966	176.456	677.513
		1989		31513	56.833	290.194	1217.537
		1990		29256	90.655	472.545	1693.403
313	Beverages	1985		1229	1.922	5.744	27.716
		1986		1107	1.989	7.550	36.430
		1987		1011	1.693	8.206	39.579
		1988		920	1.683	10.456	50.348
		1989		859	2.542	19.874	95.505
		1990		792	3.543	35.388	168.172
314	Tobacco	1985		754	3.477	32.750	56.027
		1986		689	4.370	42.930	73.589
		1987		637	4.528	46.489	79.827
		1988		585	5.488	58.947	101.393
		1989		565	9.895	111.435	191.980
		1990		524	16.687	196.993	337.034
321	Textiles	1985		17263	24.831	22.826	55.370
		1986		15602	25.690	30.004	63.339
		1987		14213	21.895	32.610	62.063
		1988		12900	21.813	41.554	72.492
		1989		12010	32.337	78.992	127.410
		1990		11030	44.814	140.683	210.898
322	Wearing apparel	1985		523	0.642	0.695	4.165
		1986		476	0.676	0.914	5.265
		1987		446	0.585	0.993	5.318
		1988		413	0.592	1.265	6.134
		1989		411	0.889	2.405	10.424
		1990		384	1.249	4.284	16.476
323	Leather and products	1985		1138	1.497	3.210	8.362
		1986		1028	1.535	4.200	10.620
		1987		936	1.295	4.532	11.060
		1988		848	1.276	5.727	13.365
		1989		789	1.885	10.470	23.423
		1990		727	2.592	18.208	38.462
324	Footwear	1985		1164	2.561	7.736	24.503
		1986		1056	2.637	10.154	32.076
		1987		966	2.235	11.006	34.584
		1988		881	2.212	13.977	43.501
		1989		824	3.301	26.078	81.122
		1990		762	4.572	45.837	140.863
331	Wood products	1985		301	0.256	0.770	1.442
		1986		272	0.262	0.896	1.855
		1987		248	0.220	0.838	1.936
		1988		224	0.216	0.872	2.234
		1989		208	0.318	1.441	3.851
		1990		190	0.435	2.005	5.799
332	Furniture, fixtures	1985		151	0.320	0.441	1.607
		1986		137	0.364	0.580	2.113
		1987		125	0.316	0.630	2.296
		1988		114	0.320	0.803	2.925
		1989		106	0.563	1.526	5.559
		1990		97	0.794	2.713	9.882

* Estimates

Country: SUDAN

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
341	Paper and products	1985		496	1.333	4.371	12.862
		1986		444	1.675	5.642	16.240
		1987		403	1.730	6.056	16.661
		1988		366	2.083	7.643	19.936
		1989		343	3.720	14.387	35.590
		1990		316	6.194	25.410	59.720
342	Printing, publishing	1985		2031	3.808	13.976	28.551
		1986		1817	3.968	18.175	35.876
		1987		1632	3.446	19.531	37.188
		1988		1471	3.671	24.600	45.118
		1989		1345	5.727	43.818	81.424
		1990		1220	8.612	75.691	137.404
351	Industrial chemicals	1985		133	0.581	1.931	4.685
		1986		120	0.723	2.477	6.153
		1987		109	0.733	2.610	6.670
		1988		99	0.863	2.960	8.451
		1989		93	1.418	5.394	15.880
		1990		86	2.335	7.753	27.809
352	Other chemical prod.	1985		2041	6.249	11.542	83.194
		1986		1855	7.047	13.919	97.495
		1987		1726	6.461	13.835	93.409
		1988		1583	7.563	14.138	107.728
		1989		1542	12.052	25.516	179.496
		1990		1430	19.800	35.079	289.668
353	Petroleum refineries	1985		162	2.818	5.478	14.985
		1986		149	3.493	6.375	19.678
		1987		138	3.555	6.068	21.327
		1988		129	4.236	5.995	27.037
		1989		132	7.239	10.806	50.871
		1990		123	11.952	14.820	89.257
354	Petroleum, coal prod.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0
355	Rubber products	1985		313	1.182	7.290	15.811
		1986		284	1.218	7.107	16.377
		1987		263	1.040	5.694	15.198
		1988		241	1.079	5.322	17.098
		1989		231	1.612	7.417	29.205
		1990		214	2.521	9.635	47.214
356	Plastic products	1985		448	1.118	3.229	11.161
		1986		406	1.258	4.124	14.474
		1987		373	1.148	4.343	15.352
		1988		343	1.240	5.172	18.885
		1989		333	1.964	9.424	34.043
		1990		310	3.138	13.873	57.111
361	Pottery, china etc.	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0
362	Glass and products	1985		387	0.569	0.416	1.352
		1986		353	0.615	0.420	1.391
		1987		353	0.542	0.349	1.171
		1988		326	0.550	0.336	1.150
		1989		306	0.886	0.561	1.684
		1990		285	1.252	0.757	2.310

* Estimates

Country: SUDAN

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
369	Non-metal products	1985		1758	2.810	4.291	14.715
		1986		1596	3.308	4.198	16.796
		1987		1477	3.244	3.380	16.445
		1988		1357	3.743	3.178	19.219
		1989		1311	6.432	4.485	33.772
		1990		1218	10.330	5.887	55.817
371	Iron and steel	1985		246	0.492	0.359	1.998
		1986		228	0.510	0.363	2.022
		1987		212	0.442	0.364	1.904
		1988		197	0.446	0.357	1.875
		1989		198	0.775	0.652	3.364
		1990		185	1.092	0.897	4.644
372	Non-ferrous metals	1985		325	0.692	5.118	11.624
		1986		302	0.705	5.104	11.827
		1987		277	0.591	4.176	9.918
		1988		254	0.578	3.980	9.723
		1989		244	0.840	6.391	14.968
		1990		228	1.141	8.569	20.490
381	Metal products	1985		1880	3.719	9.519	29.292
		1986		1701	4.137	12.040	38.023
		1987		1567	3.808	12.597	40.620
		1988		1424	3.863	12.711	47.891
		1989		1331	6.029	20.939	83.965
		1990		1231	8.522	31.108	129.308
382	Machinery n.e.c.	1985		73	0.190	0.149	0.292
		1986		66	0.240	0.196	0.384
		1987		72	0.251	0.213	0.417
		1988		67	0.307	0.272	0.531
		1989		68	0.559	0.517	1.010
		1990		64	0.955	0.920	1.799
383	Electrical machinery	1985		1015	2.462	7.446	22.367
		1986		927	2.517	7.404	21.825
		1987		835	2.118	6.054	17.516
		1988		759	2.082	6.636	16.430
		1989		702	3.043	9.581	22.917
		1990		646	4.157	14.603	29.898
384	Transport equipment	1985		315	0.761	4.093	7.706
		1986		287	0.779	5.376	9.571
		1987		263	0.657	5.837	9.863
		1988		254	0.648	7.427	11.912
		1989		239	0.951	13.997	21.420
		1990		220	1.306	24.766	36.034
385	Professional goods	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
		1990	0	0	0	0	0
390	Other industries	1985		290	0.567	0.682	4.877
		1986		266	0.591	0.660	4.740
		1987		244	0.505	0.524	3.791
		1988		225	0.503	0.485	3.546
		1989		212	0.743	0.667	4.948
		1990		196	1.024	0.856	6.494

* Estimates

Country: TOGO

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985	39	5089	11.380	35.699	123.573
		1986	40	5195	15.998	49.796	161.862
		1987	40	5200	18.325	53.844	180.277
		1988	41	5253	18.619	57.980	182.765
		1989	42	5324	17.582	57.535	168.651
		1990	43	5417	21.288	73.412	202.963
311/2	Food products	1985	12	835	2.279	10.176	29.766
		1986	12	821	2.784	12.236	35.800
		1987	13	761	2.900	12.936	38.610
		1988	14	706	2.640	12.902	40.177
		1989	15	655	2.211	13.066	36.748
		1990	15	607	2.368	17.017	43.941
313	Beverages	1985	3	586	3.030	14.397	46.470
		1986	3	603	4.400	21.460	62.044
		1987	3	567	4.691	22.853	72.140
		1988	3	532	4.377	25.438	75.993
		1989	3	500	3.835	26.009	72.513
		1990	3	470	4.664	34.042	90.322
314	Tobacco	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
321	Textiles	1985	2	1847	3.526	4.519	18.082
		1986	2	1928	5.122	6.720	23.814
		1987	2	1994	6.351	6.949	24.663
		1988	2	2073	6.884	7.691	22.309
		1989	2	2148	6.859	6.399	18.537
		1990	1	2230	8.489	7.245	19.985
322	Wearing apparel	1985	1	32	0.014	0.020	0.029
		1986	1	34	0.021	0.030	0.042
		1987	1	32	0.022	0.031	0.044
		1988	1	34	0.024	0.034	0.046
		1989	1	33	0.021	0.029	0.038
		1990	1	35	0.027	0.038	0.048
323	Leather and products	1985		21	0.012	0.027	0.044
		1986		21	0.017	0.039	0.060
		1987		21	0.021	0.047	0.068
		1988		22	0.023	0.052	0.067
		1989		22	0.023	0.053	0.063
		1990		22	0.029	0.053	0.072
324	Footwear	1985		139	0.393	1.983	2.097
		1986		141	0.571	2.963	2.744
		1987		143	0.694	3.779	3.068
		1988		145	0.749	4.217	2.998
		1989		147	0.746	4.331	2.695
		1990		149	0.896	5.668	3.096
331	Wood products	1985	1	136	0.230	0.313	0.514
		1986	1	144	0.334	0.466	0.694
		1987	1	135	0.373	0.483	0.719
		1988	1	143	0.405	0.536	0.730
		1989	1	152	0.403	0.546	0.672
		1990	1	156	0.513	0.675	0.760
332	Furniture, fixtures	1985	1	151	0.147	0.226	0.338
		1986	1	160	0.213	0.337	0.438
		1987	1	151	0.228	0.352	0.453
		1988	1	160	0.247	0.391	0.444
		1989	1	169	0.245	0.399	0.393
		1990	1	180	0.308	0.504	0.435

* Estimates

Country: TOGO

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
341	Paper and products	1985	1	36	0.033	0.059	0.231
		1986	1	38	0.046	0.080	0.290
		1987	1	39	0.053	0.084	0.305
		1988	1	38	0.056	0.080	0.282
		1989	1	36	0.053	0.073	0.243
		1990	1	37	0.060	0.080	0.262
342	Printing, publishing	1985	7	535	0.663	0.659	1.917
		1986	7	567	0.963	0.801	2.666
		1987	7	601	1.151	1.010	3.257
		1988	7	622	1.246	1.020	3.511
		1989	7	660	1.238	0.924	3.384
		1990	7	700	1.449	0.983	4.020
351	Industrial chemicals	1985	4	188	0.655	1.067	5.232
		1986	4	202	0.974	1.613	7.908
		1987	5	218	1.238	2.091	10.247
		1988	5	236	1.377	2.378	11.647
		1989	5	256	1.409	2.494	12.198
		1990	6	276	1.842	3.354	16.370
352	Other chemical prod.	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
353	Petroleum refineries	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
354	Petroleum, coal prod.	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
355	Rubber products	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
356	Plastic products	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
361	Pottery, china etc.	1985		10			
		1986		11			
		1987		11			
		1988		11			
		1989		11			
		1990		12			
362	Glass and products	1985		26			
		1986		27			
		1987		29			
		1988		31			
		1989		30			
		1990		31			

* Estimates

Country: TOGO

ISIC	Sector	*Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
369	Non-metal products	1985	2	169		1.621	14.003
		1986	2	159		2.326	19.096
		1987	2	148		2.486	19.752
		1988	2	137		2.489	17.825
		1989	2	127		2.460	14.761
		1990	2	118		2.746	15.635
371	Iron and steel	1985	3	130	0.334	0.714	3.206
		1986	3	138	0.476	0.816	4.095
		1987	2	147	0.523	0.835	4.448
		1988	2	157	0.520	0.831	4.117
		1989	2	168	0.478	0.816	3.904
		1990	2	180	0.580	1.062	4.886
372	Non-ferrous metals	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
381	Metal products	1985	2	115		0.032	1.304
		1986	2	122		0.045	1.776
		1987	2	130		0.047	2.113
		1988	2	139		0.042	2.284
		1989	2	148		0.034	2.239
		1990	2	158		0.036	2.871
382	Machinery n.e.c.	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
383	Electrical machinery	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
384	Transport equipment	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
385	Professional goods	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
390	Other industries	1985	1	85	0.063	-0.115	0.341
		1986	1	79	0.077	-0.136	0.396
		1987	1	73	0.060	-0.138	0.390
		1988	1	67	0.072	-0.122	0.334
		1989	1	61	0.059	-0.098	0.262
		1990	1	56	0.063	-0.101	0.262

* Estimates

Country: UNITED REPUBLIC OF TANZANIA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985	664	93709	97.596	278.302	1144.857
		1986	658	96963	68.142	188.755	787.092
		1987	660	101634	49.107	134.461	566.271
		1988	657	106454	44.027	119.810	509.657
		1989	660	111821	41.246	111.025	477.100
		1990	657	117000	39.800	106.131	462.455
311/2	Food products	1985	138	17638	17.170	57.887	261.618
		*1986	133	18264	12.037	41.112	173.446
		*1987	138	18856	8.525	30.538	122.621
		*1988	137	19526	7.490	26.516	107.877
		*1989	138	20094	6.859	24.212	98.569
		*1990	138	20429	6.418	22.672	92.649
313	Beverages	1985	15	3706	4.091	21.016	70.055
		*1986	15	3929	2.792	14.221	53.469
		*1987	15	4167	2.001	10.429	40.112
		*1988	16	4422	1.774	9.271	34.973
		*1989	16	4694	1.653	8.733	32.749
		*1990	16	4985	1.588	8.440	32.179
314	Tobacco	1985	3	5019	2.896	15.665	34.570
		*1986	3	5321	1.853	10.953	23.656
		*1987	3	5643	1.181	7.219	16.812
		*1988	3	5987	0.981	6.749	14.837
		*1989	3	6355	0.865	6.592	13.862
		*1990	3	6748	0.789	6.649	13.492
321	Textiles	1985	77	29378	25.910	42.691	158.081
		*1986	79	31033	19.063	26.512	98.401
		*1987	81	32903	14.132	16.446	62.040
		*1988	83	34896	12.912	14.240	53.588
		*1989	86	37020	12.317	13.113	50.076
		*1990	88	39284	12.130	12.350	48.087
322	Wearing apparel	1985	56	3325	2.450	3.926	27.530
		*1986	53	3122	1.562	2.582	17.065
		*1987	52	3265	1.118	1.836	12.635
		*1988	52	3455	1.013	1.519	11.459
		*1989	51	3623	0.938	1.324	10.720
		*1990	50	3798	0.895	1.173	10.269
323	Leather and products	1985	15	1786	1.843	3.869	12.248
		*1986	15	1785	1.202	2.494	7.871
		*1987	15	1893	0.844	1.898	5.414
		*1988	15	2007	0.764	1.779	4.583
		*1989	15	2129	0.722	1.739	4.049
		*1990	14	2259	0.703	1.755	3.691
324	Footwear	1985	15	3712	4.750	6.061	29.991
		*1986	16	3937	3.349	3.833	22.952
		*1987	16	4179	2.452	2.550	17.537
		*1988	17	4441	2.242	2.390	16.560
		*1989	17	4724	2.142	2.345	16.311
		*1990	17	5029	2.116	2.379	16.589
331	Wood products	1985	60	3168	2.804	5.764	18.086
		*1986	63	3362	1.880	3.583	12.268
		*1987	60	3471	1.227	2.343	8.275
		*1988	58	3336	0.999	1.851	6.897
		*1989	58	3433	0.851	1.562	6.032
		*1990	57	3575	0.751	1.340	5.451
332	Furniture, fixtures	1985	55	1725	1.122	2.930	9.902
		*1986	52	1639	0.728	1.817	6.386
		*1987	51	1582	0.464	1.116	4.064
		*1988	49	1507	0.367	0.865	3.278
		*1989	47	1452	0.319	0.745	2.981
		*1990	45	1385	0.285	0.655	2.763

* Estimates

Country: UNITED REPUBLIC OF TANZANIA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
341	Paper and products	1985	8	1915	2.215	7.383	17.628
		*1986	8	2031	1.487	5.681	12.492
		*1987	8	2155	1.105	4.380	9.429
		*1988	8	2289	1.015	3.997	8.550
		*1989	9	2432	0.974	3.920	8.192
		*1990	9	2497	0.967	3.244	7.141
342	Printing, publishing	1985	44	2405	3.285	12.426	49.164
		*1986	46	2481	2.116	9.321	36.686
		*1987	47	2543	1.541	6.871	27.397
		*1988	48	2647	1.407	6.125	24.973
		*1989	47	2757	1.330	4.876	22.026
		*1990	49	2881	1.290	4.942	22.063
351	Industrial chemicals	1985	10	1427	3.188	8.711	59.924
		*1986	10	1341	2.061	5.510	40.417
		*1987	10	1419	1.528	4.208	30.816
		*1988	10	1504	1.397	3.965	29.078
		*1989	10	1595	1.333	3.897	28.716
		*1990	11	1691	1.315	3.953	29.338
352	Other chemical prod.	1985	14	1480	1.328	6.665	21.789
		*1986	13	1391	0.849	4.769	15.349
		*1987	13	1473	0.609	3.580	11.278
		*1988	13	1442	0.538	3.213	9.954
		*1989	12	1501	0.492	3.021	9.195
		*1990	12	1494	0.460	2.886	8.653
353	Petroleum refineries	1985	21	927	1.975	9.915	32.412
		*1986	20	871	1.301	6.171	20.421
		*1987	21	831	0.887	4.031	13.855
		*1988	20	843	0.753	3.508	12.914
		*1989	20	871	0.672	2.877	10.976
		*1990	19	838	0.618	2.363	7.192
354	Petroleum, coal prod.	1985	0	0	0	0	0
		*1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
355	Rubber products	1985	8	894	1.711	11.367	38.576
		*1986	8	928	1.225	8.407	29.456
		*1987	7	984	0.907	6.428	22.430
		*1988	7	1041	0.809	5.846	21.040
		*1989	6	1103	0.768	5.698	20.617
		*1990	6	1105	0.702	5.216	20.488
356	Plastic products	1985	5	576	0.778	1.791	7.383
		*1986	5	565	0.551	1.105	4.590
		*1987	5	531	0.398	0.678	2.950
		*1988	5	517	0.359	0.510	2.339
		*1989	5	486	0.337	0.443	2.067
		*1990	5	473	0.323	0.441	2.052
361	Pottery, china etc.	1985	0	0	0	0	0
		*1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
362	Glass and products	1985	0	356	0.172	0.137	1.940
		*1986	0	352	0.122	0.085	1.210
		*1987	0	360	0.088	0.052	0.918
		*1988	0	371	0.079	0.039	0.860
		*1989	0	386	0.074	0.031	0.814
		*1990	0	407	0.073	0.025	0.793

* Estimates

Country: UNITED REPUBLIC OF TANZANIA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
369	Non-metal products	1985	14	3100	5.197	4.150	58.672
		*1986	13	3188	3.733	2.591	44.684
		*1987	13	3358	2.767	1.750	33.884
		*1988	13	3479	2.528	1.493	31.655
		*1989	13	3646	2.412	1.353	30.627
		*1990	13	3790	2.377	1.261	30.182
371	Iron and steel	*1985	4	1000	1.543	6.132	37.720
		*1986	4	1060	1.087	4.680	26.933
		*1987	4	1125	0.806	3.591	20.265
		*1988	4	1195	0.736	3.409	18.876
		*1989	4	1271	0.701	3.386	18.396
		*1990	5	1352	0.690	3.481	18.510
372	Non-ferrous metals	*1985	2	702	1.084	4.308	26.497
		*1986	2	745	0.795	2.984	19.206
		*1987	2	790	0.589	2.284	14.576
		*1988	3	840	0.538	2.167	13.634
		*1989	3	890	0.486	1.727	12.241
		*1990	3	946	0.478	1.760	12.337
381	Metal products	1985	43	2781	4.607	15.385	48.706
		*1986	44	2651	2.957	9.582	31.537
		*1987	43	2724	2.042	6.707	22.587
		*1988	43	2887	1.813	5.903	20.094
		*1989	44	3062	1.685	5.392	18.115
		*1990	44	3246	1.611	5.059	16.567
382	Machinery n.e.c.	1985	13	1297	1.837	3.514	11.275
		*1986	12	1346	1.368	2.682	8.109
		*1987	13	1427	1.001	1.902	5.911
		*1988	13	1514	0.909	1.687	5.302
		*1989	13	1605	0.848	1.524	4.888
		*1990	13	1702	0.809	1.400	4.576
383	Electrical machinery	1985	10	1288	1.620	6.279	28.903
		*1986	11	1286	1.072	4.072	19.536
		*1987	11	1363	0.776	3.108	14.886
		*1988	12	1446	0.709	2.937	14.032
		*1989	12	1535	0.676	2.907	13.839
		*1990	13	1631	0.665	2.977	14.116
384	Transport equipment	1985	20	3238	3.308	18.739	74.004
		*1986	19	3432	2.428	13.018	55.543
		*1987	19	3639	1.785	9.901	42.225
		*1988	18	3860	1.630	9.292	39.627
		*1989	18	4095	1.553	9.116	38.872
		*1990	18	4346	1.528	9.242	39.416
385	Professional goods	1985	0	0	0	0	0
		*1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
390	Other industries	1985	14	866	0.801	1.591	8.185
		*1986	13	903	0.521	0.990	5.409
		*1987	13	950	0.332	0.613	3.353
		*1988	12	1005	0.265	0.538	2.678
		*1989	11	1061	0.237	0.493	2.171
		*1990	11	1112	0.218	0.461	1.862

* Estimates

Country: YEMEN

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985	80	10191		150.774	432.352
		1986	104	15166		158.298	578.999
		1987	115	16195		187.790	710.029
		1988	120	16524		258.262	823.838
		1989	82	10808		334.952	792.028
		1990	81	11039		385.603	904.355
311/2	Food products	*1985	15	4220		40.323	196.399
		1986	16	4724		43.924	232.545
		1987	20	5387		50.872	312.763
		1988	21	5492		68.938	331.416
		*1989	20	5152		87.269	416.896
		*1990	19	5455		101.774	485.612
313	Beverages	*1985	16	1692		43.483	50.467
		1986	17	1656		48.052	40.419
		1987	16	1442		61.173	40.099
		1988	14	1010		89.186	40.708
		*1989	15	1083		122.364	56.349
		*1990	16	1167		144.714	68.092
314	Tobacco	*1985	2	429		8.064	85.864
		1986	2	480		8.676	101.753
		1987	2	506		9.877	108.035
		1988	2	545		13.286	150.512
		*1989	2	509		16.732	163.849
		*1990	2	489		19.476	182.828
321	Textiles	*1985	4	1713		10.899	19.906
		1986	4	1872		9.391	17.782
		1987	6	1993		9.241	18.314
		1988	6	2096		10.244	25.880
		*1989	6	1956		10.689	27.715
		*1990	6	1823		9.604	25.521
322	Wearing apparel	1985		0			
		1986	0	269			
		1987	0	285			
		1988	0	302			
		1989					
		1990					
323	Leather and products	1985					
		1986					2.396
		1987					2.992
		1988					3.477
		1989					
		1990					
324	Footwear	1985			0		
		1986	1	124	0		2.905
		1987	1	103	0		2.108
		1988	2	210	0		3.142
		1989			0		
		1990			0		
331	Wood products	*1985	12			0	0.214
		1986	11			0	0.239
		1987	10			0	0.406
		1988	9			0	0.573
		*1989	8			0	0.610
		*1990	7			0	0.560
332	Furniture, fixtures	1985					
		1986					
		1987					
		1988					
		1989					
		1990					

* Estimates

Country: YEMEN

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
341	Paper and products	1985					
		1986		262			
		1987		277			
		1988		284			
		1989					
342	Printing, publishing	1985					
		1986	3	103		19.068	
		1987	5	657		35.409	
		1988	4	813		30.557	
		1989					
351	Industrial chemicals	1985					
		1986		1359			
		1987		1383			
		1988		1323			
		1989					
352	Other chemical prod.	1985					
		1986	11	507		55.887	
		1987	11	465		71.040	
		1988	17	632		85.203	
		1989					
353	Petroleum refineries	1985					
		1986					
		1987					
		1988					
		1989					
354	Petroleum, coal prod.	1985					
		1986					
		1987					
		1988					
		1989					
355	Rubber products	1985					
		1986					
		1987					
		1988					
		1989					
356	Plastic products	1985					
		1986	9	1500		38.925	
		1987	13	1342		44.740	
		1988	14	1510		54.288	
		1989					
361	Pottery, china etc.	1985					
		1986					
		1987					
		1988					
		1989					
362	Glass and products	1985					
		1986					
		1987					
		1988					
		1989					

* Estimates

Country: YEMEN

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
369	Non-metal products	*1985	19	1527		35.781	67.761
		1986	18	1637		34.688	57.682
		1987	17	1569		39.319	63.411
		1988	17	1563		51.383	83.094
		*1989	18	1464		63.359	105.941
		*1990	19	1418		69.321	117.044
371	Iron and steel	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
372	Non-ferrous metals	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
381	Metal products	*1985	13	611		12.224	11.741
		1986	12	548		13.566	9.399
		1987	14	652		17.307	10.714
		1988	14	603		25.224	14.992
		*1989	13	643		34.538	20.670
		*1990	12	686		40.715	24.699
382	Machinery n.e.c.	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
383	Electrical machinery	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
384	Transport equipment	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
385	Professional goods	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
390	Other industries	1985					
		1986	0	126			
		1987	0	133			
		1988	0	141			
		1989					
		1990					

* Estimates

Country: ZAIRE

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985	391	45229	64.425	371.244	
		1986	402	45279	77.862	501.640	
		1987	414	45028	77.013	560.800	
		1988	427	44941	83.195	683.100	
		1989	440	45134	81.990	757.395	
		1990	452	45327	78.279	808.279	
311/2	Food products	1985	66	6949	4.770	315.293	
		1986	69	6932	5.538	428.391	
		1987	73	6513	5.169	480.411	
		1988	77	6120	5.244	586.953	
		1989	82	5749	4.848	653.997	
		1990	87	5399	4.307	700.568	
313	Beverages	1985	9	5341	5.603	19.883	
		1986	9	5187	6.305	26.956	
		1987	9	5101	5.836	30.101	
		1988	10	5019	5.871	36.605	
		1989	10	4965	5.380	40.642	
		1990	11	4933	4.738	43.474	
314	Tobacco	1985	2	766	1.970	6.694	
		1986	2	761	2.218	9.147	
		1987	2	732	2.054	10.322	
		1988	2	703	2.067	12.695	
		1989	2	666	1.894	14.241	
		1990	2	626	1.668	15.345	
321	Textiles	1985	16	5730	6.753	2.639	
		1986	16	5572	7.631	3.566	
		1987	16	5344	7.090	3.975	
		1988	16	5122	7.160	4.812	
		1989	16	4880	6.586	5.119	
		1990	16	4628	5.820	5.050	
322	Wearing apparel	1985	17	1686	2.370	1.145	
		1986	16	1603	2.736	1.491	
		1987	14	1506	2.547	1.557	
		1988	13	1415	2.576	1.681	
		1989	12	1329	2.372	1.558	
		1990	12	1248	2.099	1.349	
323	Leather and products	1985	1	350	0.376	0.433	
		1986	1	373	0.482	0.525	
		1987	1	397	0.525	0.583	
		1988	1	423	0.623	0.709	
		1989	1	450	0.674	0.787	
		1990	1	480	0.703	0.844	
324	Footwear	1985	5	3777	5.726	2.135	
		1986	5	4020	7.295	2.422	
		1987	5	4280	7.946	2.697	
		1988	5	4560	9.423	3.272	
		1989	5	4861	10.199	3.627	
		1990	5	5186	10.630	3.883	
331	Wood products	1985	14	2220	0.984	0.949	
		1986	14	2086	1.114	1.138	
		1987	14	1987	1.037	1.109	
		1988	13	1941	1.050	1.167	
		1989	13	2057	0.968	1.117	
		1990	13	2181	0.859	1.023	
332	Furniture, fixtures	1985	7	738	0.619	0.812	
		1986	7	706	0.705	1.099	
		1987	6	663	0.655	1.225	
		1988	6	622	0.662	1.484	
		1989	5	583	0.609	1.638	
		1990	5	546	0.538	1.738	

* Estimates

Country: ZAIRE

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
341	Paper and products	1985	4	504	2.900	0.101	
		1986	4	530	3.890	0.128	
		1987	4	562	4.298	0.143	
		1988	4	596	5.168	0.172	
		1989	4	632	5.670	0.190	
		1990	4	670	5.987	0.201	
342	Printing, publishing	1985	68	3873	1.649	0.421	
		1986	73	4117	1.857	0.513	
		1987	78	4377	1.720	0.538	
		1988	83	4655	1.732	0.629	
		1989	88	4951	1.588	0.685	
		1990	93	5267	1.399	0.724	
351	Industrial chemicals	1985	67	974	4.018	5.078	
		1986	71	911	4.561	6.248	
		1987	76	852	4.260	6.805	
		1988	81	796	4.326	8.092	
		1989	86	744	4.011	7.274	
		1990	90	695	3.590	6.943	
352	Other chemical prod.	1985	1	57	0.664	0.233	
		1986	1	53	0.754	0.315	
		1987	1	50	0.749	0.351	
		1988	1	46	0.813	0.426	
		1989	1	43	0.831	0.472	
		1990	1	41	0.838	0.504	
353	Petroleum refineries	1985	4	966	2.992	0.907	
		1986	4	908	3.392	1.006	
		1987	4	913	3.164	0.954	
		1988	4	926	3.208	0.939	
		1989	4	982	2.968	0.839	
		1990	4	1041	2.747	0.716	
354	Petroleum, coal prod.	*1985		0	0	0	0
		*1986		0	0	0	0
		*1987		0	0	0	0
		*1988		0	0	0	0
		*1989		0	0	0	0
		*1990		0	0	0	0
355	Rubber products	1985	3	1286	6.099	0.058	
		1986	3	1366	8.179	0.069	
		1987	3	1452	9.035	0.062	
		1988	3	1544	10.864	0.06	
		1989	3	1642	11.916	0.054	
		1990	3	1746	12.578	0.046	
356	Plastic products	*1985	0	0	0	0	0
		*1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
361	Pottery, china etc.	1985	1	155	0.260	0.084	
		1986	1	146	0.295	0.100	
		1987	1	149	0.305	0.108	
		1988	1	153	0.345	0.109	
		1989	1	162	0.371	0.103	
		1990	1	172	0.384	0.089	
362	Glass and products	1985	1	220	0.266	0.225	
		1986	1	207	0.301	0.266	
		1987	1	208	0.281	0.292	
		1988	1	211	0.285	0.291	
		1989	1	223	0.263	0.274	
		1990	1	237	0.239	0.236	

* Estimates

Country: ZAIRE

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
369	Non-metal products	1985	8	1733	3.047	1.358	
		1986	8	1629	3.458	1.586	
		1987	8	1652	3.445	1.538	
		1988	8	1692	3.773	1.665	
		1989	8	1794	3.974	1.695	
		1990	8	1902	4.112	1.704	
371	Iron and steel	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
372	Non-ferrous metals	1985					
		1986					
		1987					
		1988					
		1989					
		1990					
381	Metal products	1985	27	1580	2.935	1.508	
		1986	27	1675	3.860	2.042	
		1987	27	1694	3.874	2.276	
		1988	27	1704	4.217	2.700	
		1989	27	1660	4.049	2.884	
		1990	27	1578	3.645	2.857	
382	Machinery n.e.c.	1985	7	459	2.319	2.174	
		1986	7	487	3.062	2.958	
		1987	7	482	3.168	2.861	
		1988	7	472	3.483	3.085	
		1989	7	444	3.225	3.021	
		1990	7	417	2.869	2.715	
383	Electrical machinery	1985	4	192	0.435	1.047	
		1986	4	192	0.488	1.316	
		1987	4	182	0.451	1.406	
		1988	4	173	0.453	1.691	
		1989	4	163	0.414	1.865	
		1990	4	153	0.364	1.983	
384	Transport equipment	1985	46	4251	6.365	2.272	
		1986	46	4311	8.054	2.897	
		1987	45	4332	7.830	3.187	
		1988	45	4351	8.258	3.804	
		1989	45	4353	7.706	4.189	
		1990	44	4341	6.859	4.439	
385	Professional goods	*1985	0	0	0	0	0
		*1986	0	0	0	0	0
		*1987	0	0	0	0	0
		*1988	0	0	0	0	0
		*1989	0	0	0	0	0
		*1990	0	0	0	0	0
390	Other industries	1985	16	1421	1.306	5.798	
		1986	16	1507	1.686	7.464	
		1987	16	1599	1.573	8.301	
		1988	15	1697	1.595	10.059	
		1989	15	1801	1.473	11.130	
		1990	15	1840	1.307	11.850	

* Estimates

Country: ZAMBIA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
3	MANUFACTURING	1985	502	61920	157.397	574.610	1377.949
		1986	529	61052	104.843	387.787	916.432
		1987	540	59999	161.560	602.135	1430.661
		1988	555	60115	275.122	1028.631	2445.483
		1989	549	60697	302.255	1132.677	2667.648
		1990	547	62575	297.456	1109.166	2734.084
311/2	Food products	1985	99	16460	25.197	61.552	264.545
		1986	96	16335	16.408	38.661	165.103
		1987	104	16110	25.569	61.013	259.392
		1988	109	16211	41.807	99.194	421.032
		1989	115	16251	43.546	99.893	423.516
		*1990	120	17043	43.564	96.007	440.450
313	Beverages	1985	12	3614	6.849	103.849	139.504
		1986	9	3740	5.068	76.036	106.615
		1987	12	3610	7.034	107.359	153.255
		1988	12	3475	12.498	190.701	274.859
		1989	11	3488	16.415	243.275	353.248
		*1990	10	3516	15.382	210.617	353.723
314	Tobacco	1985	1	415	2.081	39.396	52.896
		1986	1	429	1.539	32.183	44.793
		1987	1	414	2.137	47.248	66.613
		1988	1	399	3.797	85.701	121.623
		1989	1	400	4.987	111.100	158.440
		*1990	1	405	4.988	113.873	164.974
321	Textiles	1985	27	5213	12.657	31.857	94.771
		1986	35	5292	9.098	21.994	65.262
		1987	28	5292	12.362	30.057	89.084
		1988	27	5329	22.451	54.254	160.682
		1989	26	5425	29.373	68.610	203.090
		*1990	24	5751	29.400	68.102	208.787
322	Wearing apparel	1985	67	7509	14.506	22.919	95.469
		1986	106	7622	10.427	15.499	67.492
		1987	105	7622	14.168	21.000	93.352
		1988	110	7675	25.730	37.705	169.712
		1989	105	7814	33.664	47.493	215.742
		*1990	99	8042	33.684	46.109	225.435
323	Leather and products	1985	3	305	0.801	2.994	7.287
		1986	3	309	0.576	2.062	4.951
		1987	3	310	0.783	2.814	6.713
		1988	3	312	1.421	5.076	12.061
		1989	3	317	1.859	6.416	15.199
		*1990	3	332	1.860	6.584	15.891
324	Footwear	1985	7	1221	3.211	12.606	30.256
		1986	6	1239	2.308	8.807	20.767
		1987	5	1239	3.136	12.094	28.286
		1988	5	1248	5.696	21.895	50.957
		1989	5	1271	7.452	27.747	64.342
		*1990	4	1316	7.456	28.395	67.204
331	Wood products	1985	12	1552	1.918	10.721	19.695
		1986	12	1495	1.213	7.543	13.949
		1987	9	1487	1.741	11.803	21.904
		1988	9	1507	3.212	22.553	41.925
		*1989	8	1522	4.198	29.315	54.555
		*1990	8	1541	4.071	30.132	57.059
332	Furniture, fixture	1985	20	1599	2.672	10.141	23.709
		1986	17	1540	1.690	6.635	15.670
		1987	19	1532	2.425	10.013	23.792
		1988	20	1552	4.474	18.794	44.791
		1989	19	1568	5.848	24.130	57.627
		*1990	19	1600	5.790	24.716	59.926

* Estimates

Country: ZAMBIA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
341	Paper and products	1985	14	1000	2.809	7.508	21.443
		1986	12	964	1.977	5.050	14.664
		1987	15	951	3.291	8.457	24.812
		1988	14	962	5.676	14.464	42.588
		1989	15	929	5.344	13.133	38.740
		*1990	16	985	5.349	13.474	40.118
342	Printing, publishing	1985	19	2399	6.374	13.279	30.915
		1986	24	2314	4.486	9.174	21.559
		1987	24	2283	7.468	15.587	36.834
		1988	25	2308	12.880	26.797	63.448
		1989	26	2230	12.126	24.397	57.822
		*1990	28	2356	12.130	25.011	60.514
351	Industrial chemicals	1985	8	2021	9.619	25.999	73.402
		1986	6	1952	5.726	14.499	41.735
		1987	6	1863	8.911	22.432	65.721
		1988	6	1884	15.837	39.358	116.195
		1989	7	1993	17.781	42.502	126.103
		*1990	7	1934	17.271	43.514	127.237
352	Other chemical prod.	1985	26	3346	14.648	50.899	142.687
		1986	24	3233	8.719	28.439	80.481
		1987	25	3085	13.570	44.066	125.798
		1988	26	3120	24.115	77.364	221.693
		1989	26	3301	27.075	83.580	240.097
		*1990	27	3123	26.660	85.618	244.385
353	Petroleum refineries	1985	2	340	2.951	4.780	7.684
		1986	2	328	1.757	2.596	4.290
		1987	2	313	2.734	3.930	6.672
		1988	2	317	4.859	6.830	11.732
		1989	2	335	5.456	7.327	12.685
		*1990	2	345	5.463	7.389	13.262
354	Petroleum, coal prod.	1985	1	114	0.985	1.738	3.626
		1986	1	110	0.586	0.968	2.135
		1987	1	105	0.912	1.498	3.471
		1988	1	106	1.622	2.628	6.218
		1989	1	113	1.821	2.837	6.805
355	Rubber products	1985	6	1600	6.063	16.302	46.627
		1986	6	1546	3.609	9.078	26.832
		1987	6	1475	5.617	14.029	42.722
		1988	6	1492	9.982	24.603	75.884
		1989	6	1579	11.207	26.559	82.599
356	Plastic products	1985	11	459	1.294	7.105	16.625
		1986	11	444	0.771	4.224	10.095
		1987	11	424	1.199	6.855	16.659
		1988	12	428	2.131	12.274	30.032
		1989	11	453	2.393	13.433	33.007
361	Pottery, china etc.	1985	1	104	0.347	1.015	3.306
		1986	1	89	0.197	0.569	1.869
		1987	1	88	0.335	1.010	3.346
		1988	1	85	0.555	1.674	5.563
		1989	1	81	0.488	1.426	4.745
362	Glass and products	1985	3	335	1.041	3.014	7.896
		1986	3	285	0.592	1.687	4.424
		1987	3	282	1.008	2.981	7.832
		1988	3	272	1.667	4.942	12.989
		1989	3	259	1.465	4.208	11.061
369	Non-metal products	1985	15	3098	12.937	45.347	94.006
		1986	13	2644	7.359	24.854	51.717
		1987	15	2618	12.518	43.142	90.145
		1988	14	2523	20.711	71.082	148.716
		1989	14	2403	18.194	60.340	126.319

* Estimates

Country: ZAMBIA

ISIC	Sector	Year	Establish- ments	Employees	Salaries	Value added	Gross output
					US\$ million		
371	Iron and steel	1985	5	1126	3.143	4.974	12.089
		1986	5	1177	2.242	3.238	8.174
		1987	5	1195	4.056	5.733	14.857
		1988	5	1171	6.328	8.799	22.955
		1989	5	1152	6.367	8.490	22.266
372	Non-ferrous metals	1985	5	115	0.307	0.843	3.032
		1986	2	121	0.219	0.547	2.047
		1987	5	123	0.396	0.966	3.722
		1988	5	120	0.617	1.483	5.751
		1989	5	118	0.621	1.430	5.578
381	Metal products	1985	66	4279	11.832	46.811	78.053
		1986	66	4183	8.609	37.626	62.576
		1987	71	4069	14.335	67.374	111.913
		1988	73	4091	22.360	106.146	176.259
		1989	72	4132	21.219	98.500	163.527
382	Machinery n.e.c.	1985	17	781	3.365	10.725	19.560
		1986	17	764	2.448	8.070	14.234
		1987	14	743	4.077	14.038	24.328
		1988	15	747	6.358	21.938	37.834
		1989	14	755	6.034	20.243	34.791
383	Electrical machinery	1985	24	1475	5.324	13.023	29.593
		1986	19	1442	3.874	8.907	20.090
		1987	20	1403	6.451	14.781	33.189
		1988	19	1410	10.062	22.789	51.101
		1989	18	1424	9.549	20.817	46.635
384	Transport equipment	1985	15	1335	4.164	24.370	57.175
		1986	16	1305	3.030	18.039	42.825
		1987	16	1269	5.045	31.145	74.394
		1988	17	1276	7.870	48.576	116.231
		1989	16	1289	7.468	44.747	107.197
385	Professional goods	1985	0	0	0	0	0
		1986	0	0	0	0	0
		1987	0	0	0	0	0
		1988	0	0	0	0	0
		1989	0	0	0	0	0
390	Other industries	1985	16	105	0.300	0.846	2.099
		1986	16	150	0.315	0.803	2.083
		1987	14	94	0.281	0.714	1.854
		1988	15	95	0.407	1.016	2.655
		1989	15	95	0.305	0.731	1.914

* Estimates