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**INDUSTRY AND DEVELOPMENT**

No. 17

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The Supervisory Panel of *Industry and Development* welcomes readers' opinions and comments, and will be glad to consider for possible publication articles relevant to the aims and scope of the journal (see "information for contributors", back cover).

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In tables:

Totals may not add precisely because of rounding.

Two dots (..) indicate that data are not available or are not separately listed.

A dash (-) indicates that the amount is nil or negligible.

The following abbreviations are used:

CFA	Communauté financière africaine
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
OPEC	Organization of Petroleum Exporting Countries
UNIDO	United Nations Industrial Development Organization

INDUSTRY AND EXTERNAL DEBT IN AFRICA: A PRELIMINARY ANALYSIS

Secretariat of UNIDO\*

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Introduction

The proximate concern of this report is to offer a tentative response to two interrelated questions: what has been the impact of the industrialization process on the fast deteriorating foreign debt position of African countries? And, seen from the opposite angle, what is the effect of the debt burden on current and likely future industrial trends in Africa? The specific conception and operation of industry in Africa during the quarter of a century that has elapsed since independence has, in many cases, been a considerable drain on the already scarce foreign exchange resources and thus a powerful factor contributing to the accumulation of foreign debt. Upon gaining their independence, African States were not industrialized to any significant degree. The infrastructure and industrial tradition which play a fundamental role in the industrialization process were generally absent, and agriculture and mining were not organized to serve as stable resource bases for industrial processing. The decision to industrialize after independence was taken on the basic recognition that industry would be the necessary engine of long-term socio-economic growth and would enable the achievement of increasing economic independence.

It has, however, become increasingly evident that many of the investments undertaken in the industrial sector were insufficiently integrated within the national economy and thus with the overall development process. Consequently, linkages between industrial projects - and indeed between industrial development and that of the economy as a whole - remained weak. In the absence of sufficient domestic financial resources and developed raw material resources, the industrial projects required substantial commercial external borrowings and sizeable official development assistance flows. Moreover, many of the established industries proved not to generate the desired saving of foreign exchange, with the result being that they in fact aggravated the current foreign exchange crisis in a period of high external indebtedness.

The implication is that this structure of industry and the pattern of industrial development must be radically altered both in quantum and nature in that present problems confronting African industrial sectors reflect underlying structural weaknesses and imbalances. In order to reduce these imbalances, a number of key issues must be treated. First, there is a need to understand the causes leading to the development of an essentially dualistic economic structure in many African countries, where industry has minimal structural and institutional links with the subsistence sector.

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\*The research work was done by staff of the UNIDO Secretariat, Division for Industrial Studies, with Javed Ansari, Paul Hesp and Bo Thomé as consultants. Additional contributions were made by Charles Cooper of the Institute for Social Studies at The Hague; Jacques de Bandt and Philippe Huson in co-operation with other French researchers; Alisdair I. MacBean in the United Kingdom; Brent Copley and Roger Young of the North-South Institute at Ottawa; and Marian Radetzki at Stockholm.

Secondly, the nature of the external relationships of African industry, and particularly its dependence on foreign capital, technology and raw materials, need to be examined closely. Thirdly, changes in the internal organization of African industry and its position within the international economy that could reduce its structural weaknesses need to be identified. Finally, it is essential that the scope for implementing a strategy for bringing about such changes should be realistically identified.

This study deals with these issues in the context of the impact of the debt crisis on African industrialization. It seeks to develop a relevant policy perspective in order to identify the choices open to African decision makers in their quest for a more viable industrial sector which can serve as a basis for stimulating national development.

Proposals for the restructuring of African industry have been forthcoming from a wide variety of sources. Perhaps the most well known and widely debated are the set of policy recommendations put forward by the international financial institutions. According to this view, industrial policies should be redesigned to foster export growth; public sector direct ownership and management of industrial projects should be replaced by indigenous capital and entrepreneurship to the greatest extent possible; the emphasis on large projects, almost invariably heavy net absorbers of foreign capital, should give way to smaller operations which will be less of a burden in absolute terms; and the mix of foreign financing should be altered towards greater use of commercial loans and direct foreign investment in the more advanced countries of the region, a closer association of public and private capital in the "donor" countries, and closer attention should be given to project-specific outlays for infrastructure so as to maximize the productivity of these foreign inputs. All these changes must, according to prevailing views, be effected within a framework of severe constraints on aggregate investments in the industrial sector.

This study argues that, while such a policy re-orientation may contribute to an alleviation of short-term pressures on the balance of payments of some African countries, it is inadequate as a basis for reducing the structural deficiencies. These, as pointed out above, are reflected in the very weak inter-industrial linkages characteristic of most African countries, in the insufficient integration of the industrial sector within the national economy and in the sector's high dependence on foreign capital and raw material imports. An export-oriented industrialization strategy which relies principally on the investment initiatives of private enterprise is unlikely to increase industrial integration or reduce international dependence. Such an approach may lead to a widespread erosion of the industrial base of many African countries. Donor agencies which are broadly sympathetic to the macro-economic perspective outlined above are nevertheless reluctant to support the generalized decentralization that a comprehensive endorsement of such a strategy may entail. They are therefore cautious about designing sector specific policies and, as this report repeatedly points out, there are many inconsistencies in the macro-economic recommendations and sector-specific interventions of the international financial agencies.

Africa is at a crossroads in regard to industry. Although evidence is by no means systematic or sufficiently detailed, there are indications that a de-industrialization process has already begun in various countries, especially in sub-Saharan Africa. The development of a consistent and coherent industrial strategy capable of handling short-term costs while preserving a national industrial base is an urgent necessity. Such a strategy must be constructed on the basis of an objective assessment of the

existing evidence about problems and opportunities. This prospect is greatly magnified by Africa's chronic dependence on others (overwhelmingly the United States of America, the European Economic Community and a handful of other developed countries) for supplies of finance and equipment for industry. Those suppliers will have to be convinced of the earnestness of African endeavours; if they are not, then there could be such severe cut-backs that any careful restructuring would be precluded.

This report is organized as follows: in the first section, a brief summary is given of an interpretation of the current situation - one which differs from the macro-economic perspective outlined above. Its aim is to underline some basic points regarding the process of industrial change in Africa and to present essential data on debt and its relation to industry.

In the second section, the financial mechanisms through which industry is funded are examined, with special emphasis given to the domestic and international structures and the influence of the latter on the former. The first two sections represent an attempt to describe the framework in which the industry/debt crisis is located.

In the third section, case-study evidence of the actual performance of industrial projects is analysed. It is at the project level that the various aspects of the major problems affecting African industry emerge most clearly, and the concrete problems must be the starting point for the formulation of an industrial strategy. In the first part of the third section, a description is provided of a series of conditions which affect project performance even though they are situated at a broader level (e.g. macro-economic policy). Subsequent analysis is organized with reference to the various phases of a project, from initial formulation through actual operation. Some phases are more critical than others and the decision makers, both foreign and domestic, who intervene also vary from phase to phase. The function of this analysis is to clarify which aspects of project performance are most susceptible to improvement, which economic agents (at home and abroad) could best contribute to such improvement, and how (and in what time horizon) project performance could be bettered.

In the fourth section, the emphasis shifts from the presentation of empirical evidence to a consideration of the views and suggestions which now appear to characterize thinking in several of the main donor countries. Given the role of both public and private entities from those countries in the provision of finance for, and actual operation of, industry in Africa, these views constitute important data for African policy makers. In this discussion, particular attention is devoted to some of the key themes which recur in the debate involving developed countries, i.e. rehabilitation rather than new projects, the stress on export-oriented industries, and the need to promote domestic private entrepreneurship. An attempt is made to assess the real prospects for these activities and to outline their relationship to existing industrial operations.

In the fifth and concluding section, the main findings of the report are brought together and, taking into account the actual problems of industries and the macro-economic environment, a series of suggestions are made which could be implemented by African countries themselves as part of their own response to the industry/debt crisis.

This introduction would not be complete without underlining some of the limitations of the present report. First, the findings presented here constitute no more than a preliminary analysis of the problem. Secondly, there has been no opportunity for discussion with African policy makers working at the national level. This report might thus facilitate collab-



oration between the United Nations Industrial Development Organization (UNIDO) and African countries on the subject of industrial restructuring in a period of crisis. Thirdly, no individual country studies have been undertaken. It has thus not been possible to identify explicitly which industrial activities could, in particular cases, constitute the core of future operations. UNIDO believes that such practical steps would be an essential part of follow-up work to the present report. Fourthly, direct discussions with financing organizations in Africa, and to a lesser extent abroad, have simply not been possible on a sufficient scale within the time schedule set for this report. Without more detailed contacts of this type, there is a risk that some possibilities will be lost and/or some proposals will be insufficiently precise from the financial angle. Finally, most of the discussion in the main sections of the report focuses on sub-Saharan Africa, making but limited reference to the north African countries. Since the share of Algeria, Egypt, Morocco and Tunisia in total African manufacturing value added exceeded 50 per cent in 1981 and their share of total debt is of the same order of magnitude, the focus adopted is not due to any lack of weight of these countries; it stems from the different nature of their problems as compared to those of sub-Saharan Africa. The north African countries are much more closely tied to circuits of foreign commercial finance and more closely integrated to export of manufactures through international sub-contracting (above all, this is true for Morocco and Tunisia) than most of sub-Saharan Africa. It could be argued, and indeed this report does consider the argument, that four countries in sub-Saharan Africa - Côte d'Ivoire, Kenya, Nigeria and Zimbabwe - bear important similarities to the north African States. Nevertheless, the policy debate for sub-Saharan Africa as a whole has been cast in markedly different terms than it has for north Africa. For the moment, the task of creating viable frameworks for industrial restructuring is far more urgent in Africa south of the Sahara, even though some overlap in issues certainly exists between the two subregions. This is so because the impact of the debt crisis has been far more severe on the countries of sub-Saharan Africa. Consequently, greater industrial reorganization is needed to accommodate the growing debt burden in these countries than in north Africa.

#### The present situation

##### Statistical overview of debt

An investigation into the impact of the growing debt burden on African industry must begin with an assessment of the volume of external debt in African countries and the proportion that is directly or indirectly attributable to industry. This is a complex task. Aggregate figures are published by the World Bank, based on a debtor reporting system, and the Bank for International Settlements, based on a creditor reporting system. The latter estimate tends to be appreciably higher, though since both of them relate primarily to disbursed public and publicly guaranteed debt only, they significantly underestimate the aggregate debt figure. For example, the World Bank estimate for the end of 1983 for the region as a whole was \$96.8 billion; the Executive Director of the Economic Commission for Africa has, however, referred to regional debt of the order of \$170 billion, with the latter figure including a series of debts not covered by government guarantees (a proportion which, on the figures just given, would be around 40 per cent of the total). Moreover, the ratio of publicly guaranteed debt to total debt will certainly vary from country to country so that the distribution of the debt burden among African nations will change according to which approach is adopted. For purposes of this report, the World Bank figures (relating to publicly guaranteed debt only) will be the main source. It should, however, be kept in mind that these figures currently

cover not more than about two thirds of the total and that this proportion could be altering over time.

Table 1 shows the disbursed public and publicly guaranteed debt for sub-Saharan Africa as of the end of 1976, 1982 and 1983. Over the seven-year period, the aggregate rose nearly 250 per cent to a total of \$58.5 billion at the end of 1983. While the public/private split has altered little, a crucial shift can be observed within the public debt: whereas in the mid-1970s around two thirds was owed to official creditors, the proportion has recently dropped to about 60 per cent. In itself the change may not seem great, yet its impact on debt servicing costs has been significant due to the appreciably tougher terms charged by private creditors. Over the period 1976-1983, there has been a marked deterioration in all aspects of debt servicing, concisely summarized in an increase in the debt servicing/exports ratio from 6.6 per cent to 23.2 per cent.\* This simply means that, relatively speaking, much less foreign exchange is available for productive use than before. Industry must therefore either obtain a greater share of the allocation or receive more inflows from other sources if it is to maintain its position vis-à-vis other sectors. As will be seen later, neither of these conditions has prevailed.

Table 2 shows in greater detail the overall worsening of the structure of debt, this time with data taken from the period 1972-1983. By 1983, concessional lending was down to less than half of the total and the reliance on financial markets (e.g. the Eurodollar market) had grown substantially. Contrary to what is often supposed, therefore, African debt is no longer characterized by a dominance of soft loans. Instead, it is necessary to distinguish among countries. Those with "bankable" assets (which in effect, as far as sub-Saharan Africa is concerned, means oil-exporting and mineral-rich countries) could obtain ready access to commercial money markets while other countries could not - hence three quarters of Euromoney borrowings of sub-Saharan Africa in the early 1980s were accounted for by Angola, Cameroon, the Congo, Côte d'Ivoire, Gabon and Nigeria. Countries without such resources and thus without recourse to commercial money have been driven into other arrangements: in the period 1979-1984, debt reschedulings took place more than 40 times among the countries of sub-Saharan Africa (and in some cases, on more than one occasion). In the worsening climate even countries with access to commercial money markets have become involved in rescheduling.

In terms of the pressure of debt on national economies, the situation has worsened for all countries. Ratios of debt to gross national product have reached levels way beyond those observed elsewhere in developing countries; for example, among low-income countries in sub-Saharan Africa, more than half had a ratio in excess of 50 per cent, while another five of the middle-income group also had such ratios. In addition to the debt-service figures cited earlier, the picture has also become far more bleak with regard to net capital transfers. For all groups of countries of sub-Saharan Africa, there has tended to be a sharp decline in net transfers, due primarily to a dramatic rise in interest costs and the rise in amortization payments. Consequently, current account deficits cannot be expected to be offset by such flows and must instead be compressed (for example, by following deflationary policies as proposed by the International Monetary Fund) or financed through other means.

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\*The debt service/export ratio is held down (in the short run) by rescheduling arrangements. In the long run, these reschedulings increase the debt burden.

Table 1. Public and private debt in sub-Saharan Africa, 1976, 1982 and 1983

Item	1976	1982	1983
<u>Millions of dollars</u>			
Total debt outstanding (disbursed)	17 745.0	53 741.8	58 508.6
Public	16 605.6	50 510.2	55 589.0
Private	1 139.4	3 231.0	2 907.6
Public debt outstanding (disbursed)	16 605.6	50 510.2	55 589.0
Official creditors	10 718.9	29 489.9	33 149.9
Of which multilateral	(3 173.1)	(11 386.3)	(12 886.1)
Private creditors	5 886.7	21 020.3	22 499.1
Of which banks	(3 534.1)	(18 157.4)	(20 000.7)
Public net transfer	2 288.0	5 279.4	4 831.0
Official creditors	1 544.5	2 937.0	3 097.0
Of which multilateral	(522.2)	(1 481.5)	(1 327.8)
Private creditors	742.5	2 342.4	1 733.8
Of which banks	(679.9)	(2 307.1)	(1 887.0)
Public debt service	1 499.6	4 940.5	5 725.1
Official creditors	519.1	1 435.2	1 602.5
Of which multilateral	(192.5)	(627.6)	(758.2)
Private creditors	980.5	3 502.4	4 122.6
Of which banks	(387.2)	(3 110.6)	(3 713.2)
<u>Percentage</u>			
Terms			
Interest			
Official creditors	3.5	4.5	5.8
Private creditors	7.8	11.3	11.0
Grant element			
Official creditors	49.1	42.0	33.2
Private creditors	7.2	-6.0	-2.3
Ratios			
Debt to gross national product	16.3	26.3	32.1
Total debt service to exports	5.8	15.0	20.3
Interest payments to exports	1.8	7.2	9.1
<u>Millions of dollars</u>			
Private debt			
Debt outstanding	1 139.4	3 231.6	2 907.6
Net transfer	77.3	207.8	-5.7
Private debt service	235.0	912.3	928.7
Total debt service (millions of dollars)	1 734.6	5 852.6	6 653.6
Total debt service/exports (percentage)	6.6	18.0	23.2

Source: World Bank, World Debt Tables 1984-1985.

Table 2. Sub-Saharan Africa: composition of debt, in billions of dollars and as a percentage of the total debt, 1972-1983

Source	1972 Amount/%	1978 Amount/%	1979 Amount/%	1980 Amount/%	1981 Amount/%	1982 Amount/%	1983 Amount/%
Financial markets	1.0/14.5	8.2/30.1	10.9/32.0	12.9/32.2	15.2/34.2	18.1/36.1	20.0/36.2
Oil importers	(0.9)/(13.5)	(5.8)/(21.3)	(7.3)/(21.4)	(8.1)/(20.2)	(8.9)/(20.0)	(9.4)/(18.7)	(9.0)/(16.3)
Suppliers' credits	1.0/14.3	3.4/12.4	3.5/10.2	3.1/7.8	2.9/6.5	2.8/5.6	2.4/4.4
Oil importers	(0.8)/(11.2)	(2.8)/(10.3)	(2.9)/(8.5)	(2.3)/(5.8)	(2.5)/(5.6)	(2.4)/(4.6)	(2.1)/(3.8)
<b>Bilateral</b>							
Non-concessional							
DAC	0.3/4.6	1.4/5.2	2.7/7.9	3.7/9.2	4.1/9.2	4.2/8.4	4.9/8.9
Oil importers	(0.2)/(3.3)	(1.2)/(4.4)	(2.3)/(6.8)	(3.2)/(8.0)	(3.6)/(8.1)	(3.7)/(7.4)	(4.3)/(7.8)
Others	--/0.6	0.8/2.8	1.2/3.6	1.5/3.8	1.4/3.2	1.8/3.6	1.8/3.3
Oil importers	(--)/(0.6)	(0.7)/(2.4)	(1.1)/(3.2)	(1.4)/(3.6)	(1.3)/(2.9)	(1.7)/(3.4)	(1.3)/(2.3)
Concessional							
DAC	2.0/28.4	4.3/15.8	4.5/13.2	5.1/12.7	5.1/11.5	5.5/10.9	5.6/10.1
Others	1.1/15.3	3.7/13.6	4.6/13.4	5.2/12.9	6.1/13.7	6.5/12.9	7.7/14.0
Oil importers	(3.1)/(43.7)	(6.5)/(23.8)	(7.5)/(21.9)	(8.6)/(21.5)	(9.7)/(21.9)	(10.4)/(20.7)	(11.7)/(21.2)
Multilateral							
Oil importers	1.3/18.5 (0.9)/(12.7)	5.5/20.0 (4.6)/(16.8)	6.8/19.8 (5.7)/(16.7)	8.5/21.3 (7.6)/(19.0)	9.7/21.8 (8.3)/(18.6)	11.3/22.5 (9.7)/(19.3)	12.8/23.1 (10.9)/(19.7)
Total	7.1/100.0	27.3/100.0	34.2/100.0	39.9/100.0	44.5/100.0	50.2/100.0	55.2/100.0

Notes: The figures in parentheses show the amount and percentage of the total debt attributable to the oil importers.

DAC: Development Assistance Committee (Organisation for Economic Co-operation and Development).

The panorama described in the preceding paragraphs demonstrates the sharp growth in African debt, the pronounced deterioration in the terms on which such debt has been contracted, and the pressure the debt imposes on overall economic management, including that of the industrial sector. It will be shown later that, in fact, the drive towards reorganizing the economies of sub-Saharan Africa in the sense of eliminating activities has been aimed at industry. It is thus relevant to ask to what extent the debt is attributable to industry.

Debt and industry

Tables 3 and 4 present calculations for sub-Saharan Africa. Debt figures in table 3 include undisbursed commitments (which explains why the aggregate is noticeably larger than that given in table 1), while table 4 gives data for disbursed commitments. For only four countries does the "manufacturing debt" share exceed 20 per cent and in no instance does it go beyond 50 per cent. While classificatory adjustments might conceivably put the shares a little higher, the data certainly lend no support to the view that, for sub-Saharan Africa as a whole, industry has been a primary cause of the debt expansion: the sector has not been a heavier borrower than the others. Table 5 disaggregates debt figures for six sectors and a miscellaneous category "Others" and shows that, in percentage terms, manufacturing industry ranks third among the six sectors explicitly identified with about one seventh of total debt. In only two countries, Benin and Nigeria, does manufacturing industry rank first among all sectors as a source of debt liability.

Table 3. Manufacturing sector's share of total debt, 1983  
(Millions of dollars)

Country	Total debt <u>a/</u> (1)	Manufacturing debt <u>b/</u> (2)	(2) as a percentage of (1)
Benin	877.1	440.4	50
Botswana	383.6	..	..
Burkina Faso	653.7	22.2	3
Burundi	527.4	87.1	17
Cameroon	2 591.9	525.4	20
Cape Verde	112.1	.7	1
Central African Republic	305.4	.1	0
Chad	243.4	28.5	12
Comoros	154.5	..	..
Congo	1 886.4	154.6	8
Côte d'Ivoire	6 074.5	461.3	8
Djibouti	98.4	5.2	5
Equatorial Guinea	146.2	8.3	6
Ethiopia	1 486.2	221.5	15
Gabon	1 595.2	14.5	1
Gambia	233.3	3.3	1
Ghana	1 405.1	93.7	7
Guinea	1 539.5	186.7	12
Guinea-Bissau	160.6	5.9	4
Kenya	3 784.0	388.7	10

continued

Table 3 (continued)

Country	Total debt <u>a/</u> (1)	Manufacturing debt <u>b/</u> (2)	(2) as a percentage of (1)
Lesotho	222.3	3.3	1
Liberia	893.4	23.8	3
Madagascar	2 178.1	146.8	7
Malawi	860.3	.6	0
Mali	1 276.0	39.1	3
Mauritania	1 670.4	156.4	9
Mauritius	553.2	23.0	4
Niger	938.9	11.3	1
Nigeria	15 522.7	5 286.8	34
Rwanda	383.8	27.4	7
Senegal	2 106.8	166.9	8
Seychelles	60.8	.2	0
Sierra Leone	459.3	26.9	6
Somalia	1 422.4	296.0	21
Sudan	6 123.4	195.2	3
Swaziland	245.4	36.7	15
Togo	936.9	116.4	12
Uganda	1 022.5	159.8	2
United Republic of Tanzania	3 234.5	465.1	14
Zaire	4 704.7	283.2	6
Zambia	3 210.4	321.0	10
Zimbabwe	2 166.6	74.6	3
<b>Total</b>	<b>74 471.2</b>		

Source: World Bank data on sectoral distribution of public debts of African countries south of the Sahara (data as of 25 April 1985).

a/ Total debts are debts outstanding, including undisbursed commitments as at the end of 1983.

b/ The actual debt to be attributed to the manufacturing sector will be higher than reflected in the table because debts which have been re-scheduled and debts for which repayment terms are unknown are not included, and also because debts for which the purpose is unclear or for which the country has not reported a purpose are put into the "not applicable" category. The World Bank print-out includes the following "sectors": agriculture, forestry, fishing; mining, quarrying; manufacturing; electricity, gas/water production; construction; trade, restaurants, lodging; transport, storage, communications; finance, insurance, real estate, business service; community, social, personal services; contribution to finance current imports; contribution not directly for imports; other contributions; debt reorganization; nationalization; military; pension payment; other contributions, not Development Assistance Committee flows; and "not applicable".

These numbers do not tell the whole story. It may be argued that the absence of domestic production of industrial items due to inefficiencies of the sector may have led to imports which worsened the balance-of-payments situation and thus indirectly brought about debt increases. It is not easy

Table 4. Debt, disbursed commitments, and debt servicing in sub-Saharan Africa, selected years

Item	1970		1975		1982		1984	
	Amount (billions of dollars)	Percentage	Amount (billions of dollars)	Percentage	Amount (billions of dollars)	Percentage	Amount (billions of dollars)	Percentage
(1) Total debt	4 685 865		11 702 591		45 456 648		56 467 945	
(2) Total sectoral debt <u>a/</u>	3 969 200		10 353 619		32 835 118		38 646 285	
(3) Total industrial debt <u>b/</u>	2 354 406		6 498 581		20 370 309		24 242 340	
(4) Total manufacturing debt <u>b/</u>	262 464		949 972		5 711 524	12.6	6 909 087	12.2
(4) as a percentage of (1)		5.6		8.1		13.4		18.9
(4) as a percentage of (2)		6.6		9.2				
(5) Total debt service	449 282		1 302 030		4 940 778		9 665,888 <u>c/</u>	
(6) Total sectoral debt service <u>a/</u>	375 372		956 010		4 242 250		6 559 316 <u>c/</u>	
(7) Total industrial debt service <u>b/</u>	264 378		660 871		2 366 912		9,226,989 <u>c/</u>	
(8) Total manufacturing debt service	34 814		127 797		776 059	15.7	1 505 145 <u>c/</u>	15.7
(8) as a percentage of (5)		7.7		9.8		18.3		22.9
(8) as a percentage of (6)		9.3		13.4				
(9) Interest repayments	161 689		429 686		2 361 639		3 605 617 <u>c/</u>	
(10) Sectoral <u>a/</u>	133 125		370 453		2 075 673		2 461 837 <u>c/</u>	
(11) Industrial <u>b/</u>	90 614		236 928		1 216 110		1 592 794 <u>c/</u>	
(12) Manufacturing	8 149		38 010		420 080	17.8	524 810 <u>c/</u>	14.5
(12) as a percentage of (9)		5.0		8.8		20.2		21.3
(12) as a percentage of (10)		9.0		10.3				
(13) Total agricultural debt	135 382		477 271		3 143 017	6.9	3 560 203	6.3
(13) as a percentage of (1)		2.8		4.1				
(14) Total trade debt	16 765		61 841		292 811	0.9	482 825	1.2
(14) as a percentage of (1)		0.3		0.6				
(15) Finance debt	67 533		172 043		622 254	1.4	837 485	1.5
(15) as a percentage of (1)		1.4		1.5				
(16) Social services	1 390 216		2 790 813		8 406 767	18.5	9 523 432	16.9
(16) as a percentage of (1)		29.6		23.8				

Source: Internal data provided by the World Bank.

a/ Including agriculture, mining, manufacturing, utilities, trade, construction, transport, finance and social service sectors.

b/ Including manufacturing, mining, utilities, construction and transport.

c/ Project estimates.

Table 5. Sectoral distribution of public debt of African countries, 1983  
(Percentage of total debts a/)

Country or area	Sector							Total
	Agriculture b/	Mining c/	Manufacturing	Infrastructure d/	Services e/	Community f/	Others g/	
Benin	5	1	50	23	1	12	8	99
Botswana	10	15	--	45	1	26	2	99
Burkina Faso	19	4	3	31	3	29	11	99
Burundi	8	1	17	29	9	25	22	102
Cameroon	9	2	20	47	1	18	3	100
Cape Verde	13	..	1	50	--	22	15	101
Central African Republic	13	..	--	37	--	10	40	100
Chad	6	..	12	8	3	60	10	100
Comoros	10	..	..	66	1	15	8	97
Congo	3	4	8	30	2	31	25	103
Côte d'Ivoire	16	2	8	39	4	30	2	100
Djibouti	4	..	5	81	3	8	3	100
Equatorial Guinea	8	..	6	6	--	50	30	100
Ethiopia	15	2	15	51	12	29	4	100
Gabon	3	1	1	53	6	18	18	100
Gambia	12	..	1	34	2	15	9	99
Ghana	9	..	7	43	3	11	29	101
Guinea	5	7	12	19	2	8	48	100
Guinea-Bissau	14	4	4	35	3	4	37	101
Kenya	13	--	10	37	2	26	14	98
Lesotho	10	..	1	39	3	26	21	100
Liberia	16	3	3	36	4	19	19	100
Madagascar	5	1	7	26	1	8	52	101
Malawi	17	--	--	36	2	34	12	101
Mali	10	2	3	37	1	35	12	99
Mauritania	4	23	9	26	--	27	16	101
Mauritius	10	..	4	29	5	34	19	100
Niger	13	18	1	31	3	26	6	98
Nigeria	5	..	34	31	5	21	19	101
Rwanda	19	..	7	47	3	17	7	100
Senegal	19	2	8	31	2	17	20	99

continued



Table 5 (continued)

Country or area	Sector							Total
	Agriculture <sup>b/</sup>	Mining <sup>c/</sup>	Manufacturing	Infrastructure <sup>d/</sup>	Services <sup>e/</sup>	Community <sup>f/</sup>	Others <sup>g/</sup>	
Seychelles	10	..	--	32	3	51	3	99
Sierra Leone	19	3	6	36	3	20	13	101
Somalia	11	1	21	25	--	19	23	100
Sudan	7	..	3	17	1	10	67	101
Swaziland	10	..	15	40	2	31	3	101
Togo	7	3	12	31	2	9	35	99
Uganda	14	1	16	19	4	23	21	102
United Republic of Tanzania	7	?	14	27	2	17	31	100
Zaire	3	4	6	35	2	5	41	100
Zambia	6	20	10	29	2	12	22	101
Zimbabwe	5	2	3	39	12	24	26	98
Sub-Saharan Africa	8	3	14	32	3	19	21	100

Source: World Bank data on sectoral distribution of public debts of African countries south of the Sahara (data as of 25 April 1985).

a/ "Total debts" are debts outstanding, including undisbursed commitments, as at the end of 1983.

b/ Including forestry and fishing.

c/ Including quarrying.

d/ Including electricity, gas and water production, and construction.

e/ Including transport, storage, communications, finance, insurance, real estate, trade, restaurants, lodging and business service.

f/ Including social and personal services.

g/ Including contributions to finance current imports, contributions not directly for imports, other contributions, debt reorganization, nationalization, military, pension payment, other contributions (but not Development Assistance Committee flows) and "not applicable".

to assess the weight of this argument. It would be wrong to just add up all industrial imports and put them on the bill since many items cannot be produced locally. Moreover, in those instances (the majority) where capacity utilization rates are well below 100 per cent, the reasons for this may not be related to domestic inefficiency. Indeed, the weight of the debt itself may well be a major reason why necessary raw materials cannot be obtained and production is restricted. But it is a fact that African industry relies on imported inputs more than it does on domestic resources, and that these imports represent a drain of foreign exchange. In the third section, the case-study analysis, an attempt is made to put these factors into perspective. A point which tends to be ignored if one looks at the percentages per sector only is that the directly productive sectors, agriculture, mining and manufacturing, do not just have to pay off their own debts: the huge debts accumulated by, for example, projects involving infrastructure (often related to industrial development) will have to be paid off as well, and part of the burden will have to be shouldered by industry. Thus, although it can be concluded that the direct contribution of manufacturing industry to debt accumulation is generally small, it has to be kept in mind that industry will have to bear a part of the debt burden of the economy as a whole. For the moment, it can be concluded that the direct contribution of manufacturing industry to debt accumulation is small in most of sub-Saharan Africa, and is certainly inferior to that of many other sectors. The contribution of manufacturing towards the servicing of debt has, however, remained limited, particularly in recent years, when industrial growth rates have tended to fall.

#### A statistical overview of industry

During the period 1963-1982, growth rates in African manufacturing did not generally lag behind those in other developing countries. Thus African manufacturing value added grew at an annual average rate of 7.3 per cent during 1963-1973, and 5.4 per cent during 1973-1981. The World Bank has estimated that manufacturing value added growth rates in all low-income developing economies (excluding China and India) were 6.7 per cent during the 1960s and 3.2 per cent during the 1970s. The manufacturing value added in medium-income developing countries grew at the rates of 7.3 per cent and 5.3 per cent respectively during these periods.

Three important differences somewhat concealed by these figures should, however, be noted. First, the manufacturing sector in most African countries is, in both absolute and relative terms, significantly smaller than in many other developing countries - the smallness of the African industrial base is partially reflected in the relatively high growth rates obtained. Secondly, industrial performance during the last four years has deteriorated very sharply in Africa relative to other developing countries. Thirdly, there are unusually wide variations in the growth performance of national manufacturing sectors.

Table 6 summarizes the growth record of the African countries during the periods 1963-1973 and 1973-1981. During the period 1973-1981, 22 of the 49 countries for which data are available experienced negative rates of growth of per capita manufacturing value added, whereas during the period 1963-1973 only two countries had negative growth rates. The tendency towards contraction in manufacturing industry as a whole is also reflected in the fact that for 18 of the 49 countries included in table 6, the share of manufacturing value added in gross domestic product declined between 1973 and 1981. In three countries - the Gambia, the Sudan and the United Republic of Tanzania - the share of manufacturing value added in gross domestic product fell by over 50 per cent during the period 1973-1981.

Table 6. Growth of manufacturing value added, at constant (1975) prices, selected periods and years

Country or area	Growth rates (percentage)				Value (dollars)	
	Total manufacturing value added		Per capita manufacturing value added		1973	1981
	1963-1973	1973-1982	1963-1973	1973-1981		
Africa	7.3	5.9	4.5	2.9	38	46
Algeria	12.8	7.0	9.7	3.5	75	94
Angola	10.2	-10.0	8.3	-12.2	51	15
Benin	6.0	-4.2	3.2	-7.0	14	10
Botswana	6.2	17.3	3.9	14.0	24	88
Burkina Faso	18.3	4.1	15.7	1.5	17	18
Burundi	13.8	5.0	11.9	2.8	12	15
Cameroon	2.5	6.4	0.6	4.0	40	55
Cape Verde	9.0	3.2	6.2	1.4	15	17
Central African Republic	6.6	1.5	4.5	-0.7	26	22
Chad	5.4	-4.6	3.4	-6.5	15	9
Comoros	7.2	-5.1	4.4	-8.0	17	11
Congo	0.3	1.7	-2.0	-0.9	45	30
Côte d'Ivoire	10.7	8.7	5.5	4.9	70	100
Egypt	3.3	8.2	0.9	5.5	57	87
Equatorial Guinea	5.1	-16.1	3.1	-18.0	20	5
Ethiopia	8.2	3.6	5.6	1.6	11	12
Gabon	10.9	14.3	9.9	12.8	90	222
Gambia	3.5	-12.0	0.3	-14.5	20	6
Ghana	6.9	-0.5	4.4	-3.6	67	50
Guinea	3.3	2.6	1.1	0.1	11	10
Guinea-Bissau	8.4	3.4	8.2	1.6	3	3
Kenya	8.6	6.8	4.9	2.7	29	34

Lesotho	34.3	3.8	31.4	1.4	8	9
Liberia	12.8	2.6	9.1	-0.9	20	19
Libyan Arab Jamahiriya	13.6	16.3	9.1	11.7	78	155
Madagascar	9.0	--	6.5	-2.5	29	21
Malawi	14.9	6.4	11.7	3.1	15	18
Mali	4.8	3.8	2.3	1.1	9	9
Mauritania	5.1	6.8	2.4	3.9	14	18
Mauritius	2.8	9.5	0.9	7.8	92	179
Morocco	5.0	7.9	2.2	4.6	82	108
Mozambique	13.6	-6.6	11.1	-9.0	48	23
Namibia	9.6	4.7	6.8	1.8	93	107
Niger	8.0	3.1	5.0	0.2	16	14
Nigeria	7.6	12.0	4.4	8.4	28	48
Réunion	-1.9	5.5	-4.2	3.7	98	116
Rwanda	15.5	16.1	12.4	12.7	4	20
Senegal	4.2	0.9	0.8	-1.8	49	42
Sierra Leone	4.5	0.2	2.1	-2.3	16	14
Somalia	21.5	2.9	19.0	-3.7	15	11
Sudan	5.6	-2.2	3.1	-4.8	47	27
Swaziland	18.1	11.5	15.6	8.5	91	213
Togo	14.0	-3.9	10.6	-6.5	24	16
Tunisia	10.0	10.9	7.9	8.3	68	126
Uganda	5.3	-5.8	1.8	-8.6	21	11
United Republic of Tanzania	10.2	-2.8	7.1	-5.7	18	9
Zaire	12.5	-7.2	10.1	-9.5	15	7
Zambia	12.7	-0.7	9.5	-3.8	86	67
Zimbabwe	10.9	2.8	7.0	-0.6	138	145

Source: UNIDO data base.

Declining growth has been accompanied by increased industrial concentration in the region. As table 7 shows, the share of the top four African countries in continental manufacturing value added (Algeria, Egypt, Morocco and Nigeria) increased from 44.6 per cent in 1973 to 55.6 per cent in 1981, whereas their share of Africa's population in 1981 was about 35 per cent. The share of the bottom four fell from 0.15 per cent to 0.06 per cent. Thirty-one countries experienced a decline in their share of continental manufacturing value added. The share of 10 countries in continental manufacturing value added was more than halved, while two countries doubled their share. The bottom 20 countries, with a population share of about 12 per cent in the whole of Africa, account for about 4 per cent of manufacturing value added. Most of these countries have a manufacturing value added of less than \$100 million each. In at least seven African countries, the manufacturing sector is almost non-existent; it accounts for less than 5 per cent of monetized gross domestic product. Its share would probably be significantly smaller if the subsistence sector within the national economy were to be taken into consideration.

The high degree of industrial concentration is also reflected in the product mix of African manufacturing. Estimates of the inter-branch distribution of manufacturing value added in nine leading African countries (Egypt, Ethiopia, Kenya, Madagascar, Tunisia, the United Republic of Tanzania, Zaire, Zambia and Zimbabwe) show that the share of food products and textiles fell from 52 per cent in 1973 to 44 per cent in 1980. The share of consumer non-durables was, however, still over 60 per cent in the early 1980s, compared with almost 75 per cent in 1973. The share of capital goods has doubled over this period. Capital goods - mainly metal products and assembled transport equipment - currently account for about 20 per cent of manufacturing value added. In 1973 the intermediate industrial branches (rubber products, other chemicals and non-metallic mineral products) had the highest rates of productivity (measured in terms of the value added per employee ratio). This pattern was broadly maintained in the early 1980s, but productivity in some consumer goods industries - particularly food products - has also increased. Association between labour productivity and the non-wage value added ratio is positive but relatively low by international standards. In the case of the economies of some African countries (such as Kenya), association between the two ratios declined substantially in 1980 compared to 1973. More significant is the minimal connection between labour productivity levels and rates of growth of output over the period 1973-1980. The most rapidly growing industrial branches (transport equipment, electrical and non-electrical machinery) did not rank high in terms of the productivity index. Industries with the highest levels of productivity (industrial chemicals, other chemicals, rubber products and food manufacturing) grew at moderate rates. Manufacturing growth was fuelled by increased investment of financial resources. It did not occur primarily as a consequence of more efficient use of existing resources. Investable surplus generated within the industrial sector remained quite small.

Relatively low levels of industrial efficiency are also reflected in stagnant export earnings. UNIDO has estimated that Africa's share in world manufacturing exports declined from 0.48 per cent in 1970 to 0.36 per cent in 1980. Over the same period, Africa's share in global manufacturing output increased from 0.73 per cent to 0.97 per cent. The widening gap between output and export growth rates indicates a gradual worsening of Africa's manufacturing trade performance. For 10 of the 16 countries for which data are available, total exports tended to grow significantly faster than manufacturing exports during the period 1973-1981 - there was therefore a decline in manufacturing's share of total exports in most African

Table 7. Country distribution and share in total economic activity of manufacturing value added, at constant (1975) prices, 1973 and 1981 (Percentage)

Country or area	Contribution to African manufacturing value added		Share of manufacturing value added in gross domestic product		Share of manufacturing value added in gross domestic product less services	
	1973	1981	1973	1981	1973	1981
Africa	100.00	100.00	9.22	10.72	14.38	18.92
Algeria	8.15	8.79	8.34	9.21	13.00	15.73
Angola	2.19	0.53	6.94	3.99	11.35	5.77
Benin	0.30	0.17	7.92	6.65	14.18	11.10
Botswana	0.11	0.35	5.31	11.84	8.42	20.13
Burkina Faso	0.72	0.62	13.83	13.86	22.57	23.54
Burundi	0.33	0.31	10.83	11.54	14.26	15.41
Cameroon	2.08	2.24	10.16	11.36	21.39	22.75
Cape Verde	0.03	0.03	6.07	6.10	13.32	13.04
Central African Republic	0.37	0.24	12.92	13.13	22.40	21.19
Chad	0.43	0.19	11.51	7.53	19.17	12.84
Comoros	0.04	0.02	7.07	5.34	10.16	8.54
Congo	0.41	0.29	7.14	7.63	14.16	14.58
Côte d'Ivoire	3.12	3.94	12.97	15.59	29.04	28.21
Egypt	14.42	17.77	17.85	17.31	37.41	34.43
Equatorial Guinea	0.04	0.01	5.49	5.28	7.83	9.32
Ethiopia	2.24	1.89	10.73	10.74	15.74	16.72
Gabon	0.63	1.15	6.21	9.41	7.75	12.67
Gambia	0.07	0.02	6.48	2.52	14.14	5.58
Ghana	4.58	2.88	12.95	14.09	17.81	21.03
Guinea	0.33	0.25	4.37	3.76	6.08	5.65
Guinea-Bissau	0.01	0.01	1.37	1.53	2.31	2.63
Kenya	2.64	2.76	11.77	13.34	21.56	25.75
Lesotho	0.07	0.06	5.69	5.11	12.92	11.24

continued

Table 7 (continued)

Country or area	Contribution to African manufacturing value added		Share of manufacturing value added in gross domestic product		Share of manufacturing value added in gross domestic product less services	
	1973	1981	1973	1981	1973	1981
Liberia	0.22	0.19	4.88	5.63	6.63	8.05
Libyan Arab Jamahiriya	1.26	2.28	1.21	3.52	1.47	6.38
Madagascar	1.53	0.91	11.65	10.05	19.65	16.21
Malawi	0.52	0.54	12.23	12.55	17.91	19.39
Mali	0.36	0.31	9.66	8.64	20.73	19.91
Mauritania	0.14	0.14	5.04	6.29	7.82	11.34
Mauritius	0.57	0.83	13.91	20.43	21.05	35.44
Morocco	9.74	10.74	16.89	17.58	31.45	38.67
Mozambique	3.04	1.19	9.85	7.35	16.97	13.33
Namibia	0.56	0.53	6.43	6.65	10.22	10.55
Niger	0.49	0.36	10.61	6.69	16.21	9.45
Nigeria	12.30	18.31	4.74	8.17	6.70	13.25
Réunion	0.33	0.29	3.86	3.63	15.01	15.52
Rwanda	0.12	0.47	3.97	13.45	5.50	19.51
Senegal	1.64	1.15	13.37	13.75	24.20	24.03
Sierra Leone	0.33	0.23	7.17	6.46	12.07	11.89
Somalia	0.32	0.26	9.48	9.67	17.01	17.78
Sudan	5.16	2.40	15.30	7.83	27.43	18.32
Swaziland	0.30	0.58	22.19	23.86	34.75	36.70
Togo	0.37	0.21	9.23	6.87	16.85	15.53
Tunisia	2.65	3.90	10.24	13.36	19.74	27.33
Uganda	1.62	0.69	7.37	4.29	9.09	5.15
United Republic of Tanzania	1.92	0.83	11.09	5.79	18.34	11.24
Zaire	2.47	0.97	8.26	6.18	14.90	11.18
Zambia	2.89	1.89	18.57	16.93	32.93	32.15
Zimbabwe	5.82	5.28	25.10	26.72	42.09	47.06

Source: UNIDO data base.

countries. Five countries - Egypt, Kenya, Morocco, Tunisia and Zambia - accounted for 83 per cent of African manufacturing exports in 1981. In three of these countries, the share of manufacturing in total exports declined over the period 1973-1981.

Stagnant export levels have been accompanied by rising import levels in most African countries - at least until the time when stabilization programmes induced drastic import cut-backs. An important part of these imports consists of inputs (raw materials, intermediate and capital goods) for industry. If the great majority of African industries are of the import-substituting kind, this refers to the final product rather than the inputs. The cut-backs, therefore, have had a large negative impact on growth and capacity utilization within African manufacturing due to the high import dependence of many industrial branches.

UNIDO has recently compiled data for over 40 African countries for the time periods 1972-1974 and 1979-1981 on the share of domestic production and imports in apparent consumption (defined as domestic production plus imports less exports) for over 100 commodities. The main features are summarized in table 8, which, however, is incomplete, primarily because it excludes all products in category 38 of the International Standard Industrial Classification of All Economic Activities (category 17 of the Standard International Trade Classification), i.e. metal products, machinery and transport equipment. As shown above, domestic production in precisely these branches grew significantly during the period 1973-1981 in some countries; however, since an overwhelmingly large proportion of this production is of an assembly character, its import content is likely to be high and broadly in line with trends portrayed in table 8.

Table 8 presents a truly alarming picture of the extent of Africa's import dependence as far as manufacturing industry is concerned. Although these figures refer to national imports, it is clear that an overwhelmingly large proportion of these imports are obtained from outside Africa. Exports of manufactures from African countries are very small - representing less than one per cent of world manufactures' export. Food manufacturing and textiles are the only branches in which the import to apparent consumption ratio is below 25 per cent for the majority of countries for which data are available. Soap is the only chemical product within this category. Two other chemical products (liquified petroleum gas and distillate fuels) have import to apparent consumption ratios below 50 per cent for the majority of African countries. Motor gasoline in the period 1979-1981 may also be regarded as a borderline case. Eighteen of the 41 countries for which data are available had ratios above 50 per cent.

Of all the items, 54 per cent had import to apparent consumption ratios approaching 100 per cent for all or almost all African countries. For another 28 items (12 per cent of the total), the majority of African countries had import ratios approaching 100 per cent. These two categories included virtually the whole range of intermediate industrial inputs (including most chemicals, all mineral processed products and even wood, pulp and paper) necessary for the development of an integrated industrial structure.

Another feature of African industrial sectors revealed in table 8 is the surprisingly small change that took place in import ratios between the periods 1972-1974 and 1979-1981. Out of the 43 commodities included in category 1 (i.e. with import ratios approaching 100 per cent in almost all countries), as many as 38 remained within it in both time periods. Three products (wood pulp sulphate, non-cellulosic staple and lubricating oil)



Table 8. Summary of data on import content of apparent consumption in selected commodities in 40 African countries

Commodities in which ratio <u>a</u> / approaches 100 per cent in all or almost all countries	Commodities in which ratio <u>a</u> / approaches 100 per cent in most countries	Commodities in which ratio <u>a</u> / is not below 75 per cent in most countries	Commodities in which ratio <u>a</u> / is not below 50 per cent in most countries	Commodities in which ratio <u>a</u> / is not below 25 per cent in most countries	Commodities in which ratio <u>a</u> / is below 25 per cent in most countries
Wood pulp <u>b/ c/</u> Pulp from other fibres <u>b/ c/</u> Wood pulp sulphate <u>b/</u> Newsprint <u>b/ c/</u> Methanol <u>b/ c/</u> Glycerine <u>c/</u> Chlorine <u>b/ c/</u> Zinc oxide <u>b/ c/</u> Titanium oxides <u>b/ c/</u> Lead oxides <u>b/ c/</u> Ammonia <u>b/ c/</u> Caustic soda <u>b/ c/</u> Soda ash <u>b/ c/</u> Hydrogen peroxide <u>b/ c/</u> Calcium carbide <u>b/ c/</u> Dyestuffs <u>b/ c/</u> Vegetable tanning extracts <u>b/ c/</u> Activated carbon <u>b/ c/</u> Potassic fertilizers <u>b/ c/</u> Synthetic rubber <u>b/ c/</u> Non-cellulosic staple <u>b/</u> Regenerated cellulose <u>b/ c/</u> Lubricating oil <u>b/</u> Angles, shapes etc. <u>b/ c/</u> Heavy iron plates <u>b/ c/</u> Medium-weight plates <u>b/ c/</u> Plates and sheets <u>b/ c/</u>	Tinned fish <u>b/ c/</u> Malt <u>b/</u> Wood pulp sulphate <u>c/</u> Other printing paper <u>b/ c/</u> Kraft paper <u>b/ c/</u> Machine-made paper <u>b/ c/</u> Glycerine <u>b/</u> Sulphuric acid <u>b/ c/</u> Nitrogenous fertilizers <u>b/ c/</u> Phosphate fertilizers <u>b/ c/</u> Insecticides etc. <u>b/ c/</u> Non-cellulosic staple <u>c/</u> Motor gasoline <u>b/</u> Kerosene <u>b/ c/</u> Distillate fuel <u>b/</u> Lubricating oil <u>c/</u> Pig iron <u>b/</u> Wire rods <u>c/</u> Unwrought lead <u>b/</u> Total: 28 entries <u>d/</u>	Raw sugar <u>b/</u> Malt <u>c/</u> Cotton yarn <u>c/</u> Motor gasoline <u>c/</u> Total: 4 entries <u>d/</u>	Butter <u>b/ c/</u> Distillate fuel <u>c/</u> Liquefied petroleum gas <u>b/</u> Cement <u>b/ c/</u> Total: 6 entries <u>d/</u>	Cheese <u>b/</u> Vegetable oil <u>c/</u> Flour <u>b/ c/</u> Refined sugar <u>b/</u> Footwear <u>c/</u> Particle board <u>b/ c/</u> Liquefied petroleum gas <u>c/</u> Cement <u>b/ c/</u> Total: 11 entries <u>d/</u>	Cheese <u>c/</u> Margarine <u>b/ c/</u> Vegetable oil <u>b/</u> Raw sugar <u>c/</u> Refined sugar <u>c/</u> Animal feed <u>b/ c/</u> Beer <u>b/ c/</u> Soft drinks <u>b/ c/</u> Cigarettes <u>b/ c/</u> Cotton yarn <u>b/</u> Cotton fabric <u>b/ c/</u> Footwear <u>b/</u> Soap <u>b/ c/</u> Total: 20 entries <u>d/</u>

Tin plate b/ c/  
Railway track material b/ c/  
Plain wire b/ c/  
Tubes b/ c/  
Welded tubes b/ c/  
Copper bars etc. b/ c/  
Copper tubes b/ c/  
Unwrought aluminium b/ c/  
Aluminium rods b/ c/  
Aluminium plates b/ c/  
Aluminium tubes b/ c/  
Unwrought lead c/  
Unwrought zinc b/ c/  
Zinc plates b/ c/  
Unwrought tin b/ c/  
Tin plates b/ c/

Total: 81 entries d/

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Source: "Africa in figures" (UNIDO/IS.517, 6 February 1985), table 7.

a/ Import to apparent consumption ratio.

b/ During the period 1972-1974.

c/ During the period 1979-1981.

d/ Each commodity is counted twice: once for the period 1972-1974 and once for the period 1979-1981.

moved down one category and had import ratios approaching 100 per cent in the majority of African countries. Two products (glycerine and unwrought lead) moved up to category 1. By 1981, all African countries had an import ratio of 100 per cent in these commodities.

The picture at the other end of the list is more complex. Five of the 13 commodities included in the lowest category (with import ratios below 25 per cent for the majority of countries) have moved; but only three (cheese, raw sugar and refined sugar) have moved in the "right" direction and achieved a lowering of their import to apparent consumption ratios vis-à-vis the period 1972-1981. Movement in the intermediate categories is also limited. Seven products (malt, motor gasoline, distillate fuel, raw sugar, liquid petroleum gas, cheese and refined sugar) out of a total of 23 moved in the "right" direction. The overall impression, therefore, must be that the pace of import substitution and domestic integration of production somewhat slackened during the 1970s and remained largely confined to the food processing branches. Some movement is also discernible in terms of petroleum-based products. No progress whatsoever has been made in terms of the major categories of industrial intermediates or in the production of fertilizers. In all fertilizer categories, the majority of the African countries continued to have import to apparent consumption ratios of approximately 100 per cent during the 1970s.

The key issue, of course, is that Africa is rich in both agricultural and mineral resources. Africa has vast potential for the development of manganese, phosphates, iron ore, bauxite, tin, copper and diamond-based industries, yet exploration and product development in these branches is virtually at a standstill. The region continues to import an increasing proportion of processed mineral intermediate products, and the ample potential for increased utilization of intra-industry linkages remains unexploited.

#### The context of the industry/debt problem

Statistics on the subject reveal that, while industrial transformation has been and remains a key issue in Africa, the debt phenomenon is a recent one, with the explosion dating from the end of the 1970s. Since industry, at least in the form of large projects utilizing modern technology, has always been dependent on the availability of foreign exchange for investment expansion and indeed current production, the limitation of foreign exchange is a permanent feature of industrial organization. But debt has acted as a constraint only in the past few years, and its consequences for industrial policy are being realized only gradually. Much of the debt problem is undoubtedly due to the deterioration of the international environment of which Africa is a part and, in particular, to the fall in export earnings, the rise in the value of the dollar (the currency in which, for most African countries, the majority of transactions is denominated) and the worsening of the terms of loans, especially the interest rate. Some part of the present difficulties nevertheless also stems from poor use of foreign exchange obtained in the past: those funds have made far less of a contribution than they ought to have towards altering the relationship of African economies to the international system. Theoretically, Africa could have struck a balance between integration of investment and markets between African countries themselves and the separate integration of each country with the international system. Despite various attempts in the former direction, actual practice has weighed heavily in favour of the latter - and even attempts at somehow mixing the two approaches have depended greatly on the power of initiative of economic actors in developed countries. The policy space has been heavily determined not only by the general internal and external environment but, more impor-

tantly, by specific economic and political entities such as private and multilateral and bilateral public financing agencies. Therefore it is not surprising that the actors should have reached a modus vivendi which, though subject to frequent stresses and strains, has served to maintain the traditional structure of Africa's relations with the international economy.

In the period up to the beginning of the 1980s, international financing agencies seemed primarily concerned with project organization and evaluation. The severe and economy-wide difficulties of the past three to four years, however, have induced them to pay greater attention to broader macro-economic issues. External financing in industry is now even more conditional on African countries following the general policies recommended by the multilateral financing organizations. While African Governments and international financiers agree on the need to improve efficiency within the industrial projects and to concentrate investment in the most promising cases, there is little consensus on the type of industrial restructuring that is required or on the criteria on which the selection of projects should be based. It is widely recognized that the emphasis on efficiency and strengthening project organization will lead to important foreign exchange savings in the short run. In the longer term, nevertheless, an efficient reorganization of projects that can currently generate substantial amounts of foreign exchange earnings is unlikely to bring about the type of changes required for reducing structural weaknesses within African industry. Unless some capability to reproduce productive capacity at home, i.e. some capability to strengthen the metal-working and engineering industries, can be developed, the already notable deficiencies in input-output relations (and thus the chronic import dependence of current production) will certainly be exacerbated. The price for shorter-term alleviation of some of the debt pressures could be even greater long-term dependency. The following sections of the report are an attempt to elucidate the dilemma in greater detail and make some suggestions on how to respond to it.

#### Financial mechanisms and their impact on industry

##### The State as a domestic resource mobilizer and industrial entrepreneur

The involvement of the State in industrial investment and operational processes in Africa was necessary in the first years after independence. In the pre-independence period, industrial investment came almost exclusively from foreign sources: local private entrepreneurs did not possess the resources and experience and could not bear the risk exposure required by complex industrial projects. The decision to increase public investment in industry was facilitated by the Government's ability to raise taxes on expanding agricultural and mineral exports - the world prices of which were rising through most of the 1960s and 1970s. Most of the State's financial resources for industrial and general economic development have to be supplied by taxing Africa's traditional exports: agricultural and (in a number of countries) mining products. Reduced export crop production and declining international commodity prices have in recent years led to considerable reductions in agricultural export earnings of African States, while receipts from the mining sector were also reduced by low commodity prices. In both cases, the inability of individual African countries to influence price fluctuations in the world market has been painfully obvious. An additional problem which is becoming a serious barrier to government earnings on primary commodities is the rapid erosion of the natural resource base which has become dramatically visible in the Sahel countries. These developments have drastically reduced resources available to the public sector for investment in industry.

Even in the best of years, however, the low level of development in any sector of the economy forces the African States, as the major entrepreneurs, to rely on foreign financial and material resources. The State continues to be crucial in decisions regarding the role of foreign investment in domestic manufacturing; the State acts as buyer not only for certain basic industrial commodities but also for many intermediates; the State, through fiscal and financial policy as well as trade policy, can determine the potential profitability of industrial activities; and the State, though not directly involved in the industrial learning process of private entrepreneurs, can nevertheless encourage that process through local content measures.

Table 9 shows the share of the public sector in manufacturing investment, value added, output and employment for those African countries for which reliable data could be obtained. While the numbers are fragmentary, they do permit a few tentative generalizations. First, the emphasis on the public sector in Algeria, Egypt and Somalia comes through strongly. Secondly, those countries of sub-Saharan Africa that are shown, while frequently cited as striking examples of state involvement, do not in fact exhibit such high proportions - for example, none of the figures for the United Republic of Tanzania reaches 50 per cent. Thirdly, there is some indication that investment shares exceed output shares. This may be explained in part by the tendency (and indeed necessity) for the public sector to become involved in activities where the incremental capital output ratio is significantly above the average, in part by investment out-running output (in Algeria, where many projects were started towards the end of the 1970s, the gross investment figures were several times larger than those corresponding to projects where production had actually begun, due to the long gestation periods), and in part by low utilization of installed capacity.

Table 9. Share of public sector in manufacturing investment, value added, output and employment (latest available year)

Percentage share	Investment	Value added	Output	Employment
80-89	Egypt (81.4)	Algeria (84.9)	Somalia (85.1)	Algeria (81.0)
70-79	Somalia (79.9)		Algeria (79.1)	Egypt (70.0)
60-69	Zambia (64.0)	Egypt (66.7)		Somalia (65.3)
50-59	Tunisia (53.7)	Zambia (51.0)		
40-49				United Republic of Tanzania (47.3)
				Zambia (42.5)
30-39	United Republic of Tanzania (39.0)	United Republic of Tanzania (33.6)	Ghana (32.9)	
	Morocco (34.8)			
20-29		Senegal (21.1)		
10-19	Côte d'Ivoire (19.3)			
	Nigeria (17.7)			

The international financial structure and African industry

In the first section of the report, the sharply deteriorating debt position of African countries was outlined. The corollary of this has been a growing dependence of the domestic payments system on acceptance by the international financial system of reorganization of cash flows. Table 10 summarizes the debt renegotiations, with both public and private creditors, concluded by African countries in the period 1980-1983 - the rise in both numbers of countries and amounts at stake is clearly noticeable in 1983. Those renegotiations have become increasingly intertwined with other arrangements involving the provision of finance and conditional upon changes in both economic policy and economic structure. Table 11 demonstrates that no fewer than 29 African countries concluded arrangements embodying fairly stringent conditioning of policy over the period ranging from the end of the 1970s to (in some cases) mid-1984; in several instances these arrangements (especially stand-by loans from the International Monetary Fund) were multiple, one often overlapping another, and the table indicates a few countries where both International Monetary Fund and World Bank lending have been prominent. To a steadily growing degree, the possibilities for renegotiation are becoming a function of acceptance by the country of the (by now) fairly standard terms involved in the provision of short- to medium-term foreign exchange by the International Monetary Fund. Consequently, it is becoming more and more difficult to assume that private and public loan capital will continue to be forthcoming regardless of a country's general economic policy; instead, that policy must conform to a deflationary package whose principal elements are invariably a quick and pronounced reduction in the public sector deficit, currency devaluation and (increasingly) an effort to encourage greater foreign private capital inflow. The intensity of International Monetary Fund arrangements and their relatively limited duration are now beginning to generate an additional effect: Africa is becoming a debtor to the International Monetary Fund. In 1985, payments under "repurchase obligations" may total over \$700 million and will exceed receipts from the International Monetary Fund in the absence of fresh loans. The tendency, then, is for domestic resource management to be brought under constant supervision.

In these circumstances the flow of finance to the industrial sector from external sources assumes particular significance - it represents the "direct" access the sector has to foreign exchange notwithstanding the crisis. The source of such funds is official development assistance (both bilateral and multilateral) coming from countries and organizations belonging to the Development Assistance Committee reporting system; and non-concessional finance, composed of export credits, other official flows, direct foreign investment and portfolio investment.

Official development assistance

The most favourable source for funds is undoubtedly official development assistance due to its concessional component. Table 12 shows the behaviour of these funds in recent years.

Aggregate flows have fluctuated appreciably - present indications are that 1984 transfers were well below those in earlier years of the present decade. A closer look at the numbers reveals several additional points:

Table 10. Official multilateral and private creditor debt renegotiations  
of African countries, 1980-1983  
(Millions of dollars)

Type of debt renegotiation	1980	1981	1982	1983
Official multilateral	Liberia (30) Sierra Leone (39) Zaire (606)	Central African Republic (55) Liberia (25) Madagascar (142) Senegal (77) Togo (92) Uganda (27)	Madagascar (103) Malawi (42) Senegal (84) Sudan (174) Uganda (10)	Central African Republic (13) Liberia (25) Malawi (30) Morocco (1 200) Niger (29) Senegal (81) Sudan (550) Togo (300) Zaire (1 600) Zambia (320)
Private creditor	Togo (68)	Sudan (553)	Liberia (27)	Madagascar (195) Malawi (57) Nigeria (1 830) Senegal (92). Sudan (646) Togo (84)

Source: Robert Wood, "The aid regime and international debt: crisis and structural adjustment", Development and Change, 1985, p. 193.

Table 11. High conditionality agreements with the International Monetary Fund  
made by African Governments, fiscal years 1980-1983

Country	International Monetary Fund stand-by arrangements		Extended fund		World Bank Group structural adjustment loans		
	Dates	Amount (millions of special drawing rights)	Dates	Amount (millions of special drawing rights)	Year	Agency	Amount (millions of dollars)
Central African Republic	Feb. 1980-Feb. 1981	4.0					
	Apr. 1981-Dec. 1981	10.4					
	Apr. 1983-Apr. 1984	18.0					
Congo	Apr. 1979-Apr. 1980	4.0					
Côte d'Ivoire			Feb. 1981-Feb. 1984	484.5	1982	IBRD	150.0
Egypt			July 1978-July 1981	600.0			
Equatorial Guinea	July 1980-June 1981	5.5					
Ethiopia	May 1981-June 1982	67.5					
Gabon			June 1980-Dec. 1982	34.0			
Gambia	Nov. 1979-Nov. 1980	1.6					
	Feb. 1982-Feb. 1983	16.9					
Ghana	Jan. 1979-Jan 1980	53.0					
Guinea	Dec. 1982-Nov. 1983	25.0			1980	IDA	55.0
Kenya	Aug. 1979-Aug. 1981	122.5			1983	IBRD	60.9
	Oct. 1980-Oct. 1982	241.5					
	Jan. 1982-Jan. 1983	151.5					
	Mar. 1983-Sept. 1984	175.9					
Liberia	Mar. 1979-Mar. 1980	9.2					
	Sept. 1980-Sept. 1982	65.0					
	Aug. 1981-Sept. 1982	55.0					
	Sept. 1982-Sept. 1983	55.0					
Madagascar	June 1980-June 1982	64.4					
	Apr. 1981-June 1982	76.7					
	July 1982-July 1983	51.0					
Malawi	Oct. 1979-Dec. 1981	26.3			1981	IBRD	45.0
	May 1980-Feb 1982	49.9					
	Aug. 1982-Aug. 1983	22.0					
Mali	May 1982-May 1983	30.4					
Mauritania	July 1980-May 1982	29.7					
	June 1981-Mar. 1982	25.8					

continued



Table 11 (continued)

Country	International Monetary Fund stand-by arrangements		Extended fund		World Bank Group structural adjustment loans		
	Dates	Amount (millions of special drawing rights)	Dates	Amount (millions of special drawing rights)	Year	Agency	Amount (millions of dollars)
Mauritius	Oct. 1979-Oct. 1981	73.0			1981	IBRD	15.0
Morocco	Sept. 1980-Sept. 1981	35.0	Oct. 1980-Oct. 1983	810.0			
	April 1982-April 1983	281.2	Mar. 1981-Oct. 1983	817.0			
Rwanda	Oct. 1979-Oct. 1980	5.0	Aug. 1980-Aug. 1983	184.8	1981	IBRD	30.0
Senegal	Mar. 1979-Mar. 1980	10.5			1981	IDA	30.0
	Sept. 1981-Sept. 1982	63.0					
Sierra Leone	Nov. 1982-Nov. 1983	47.2	Mar. 1981-Feb. 1984	186.0			
	Nov. 1979-Nov. 1980	17.0					
Somalia	Feb. 1980-Feb. 1981	11.5					
	July 1981-July 1982	43.1					
Sudan	July 1982-Jan. 1984	60.0	May 1979-May 1982	427.0			
	Feb. 1982-Feb. 1983	198.0					
Togo	Feb. 1983-Feb. 1984	170.0					
	June 1979-Dec. 1980	15.0					
Uganda	Feb. 1981-Feb. 1983	47.5					
	Mar. 1983-Apr. 1984	21.4					
United Republic of Tanzania	Jan. 1980-Dec. 1980	12.5					
	June 1981-June 1982	112.5					
Zaire	Aug. 1982-Aug. 1983	112.5					
	Sept. 1980-June 1982	179.6	June 1981-June 1984	912.0			
Zambia	Aug. 1979-Feb. 1981	118.0	May 1981-May 1984	800.0			
Zimbabwe	Apr. 1978-Apr. 1980	250.0					
	Apr. 1983-Apr. 1984	211.5					
	Apr. 1981-Sept. 1984	300.0					

Sources: International Monetary Fund, Annual Report 1980 (Washington, D.C.); International Monetary Fund, Annual Report 1981 (Washington, D.C.); International Monetary Fund, Annual Report 1982 (Washington, D.C.); International Monetary Fund, Annual Report 1983 (Washington, D.C.); World Bank, The World Bank Annual Report 1980 (Washington, D.C.); World Bank, The World Bank Annual Report 1981 (Washington, D.C.); World Bank, The World Bank Annual Report 1982 (Washington, D.C.); World Bank, The World Bank Annual Report 1983 (Washington, D.C.).

Note: IBRD: International Bank for Reconstruction and Development; IDA: International Development Association.

Table 12. Official development assistance grant and loan commitments in industry in sub-Saharan Africa, 1980, 1982, 1983 and 1984

Year	Total official development assistance commitments	Average grant element (percentage)	Grace period (years)	Maturity (years)	Interest rate (percentage)
1980	225.9	73.4	9.1	41.0	1.50
1982	208.7	68.5	8.1	38.1	1.88
1983	279.8	62.2	6.1	32.0	1.84
1984 <sup>a/</sup>	73.6	53.8	6.1	25.0	2.64

Source: Unpublished data of the Organisation for Economic Co-operation and Development.

<sup>a/</sup> Data for 1984 refer to bilateral commitments only, i.e. excluding those to the European Economic Community, the International Development Association (an affiliate of the World Bank) and the African Development Fund.

(a) Deterioration in the average terms and conditions of official development assistance has been quite pronounced in the first half of the 1980s. One major reason has been the sharp reduction in the multilateral share of total official development assistance (from 67.4 per cent in 1980 to 36.5 per cent in 1983) since multilateral agencies tend to offer better terms than bilateral agencies;\*

(b) The donor set is dominated at the individual country level by France, the Federal Republic of Germany and (to a lesser extent) the Netherlands. The United Kingdom does not figure at all in the data for the period 1980-1984, while there is only one example of official development assistance from the United States of America. On the other hand, Italy has recently become very active, beginning with relatively small commitments in countries of traditional interest (Ethiopia and the Sudan) and expanding to much larger project involvement in the more industrialized countries of East and West Africa;

(c) Taking the whole period 1980-1984, 35 countries in sub-Saharan Africa have received official development assistance funds. Commitments to the more industrialized States have been somewhat limited, with Côte d'Ivoire and Nigeria receiving just one loan each. Zimbabwe has figured more prominently, while Kenya was a large recipient of funds in 1980.

\*Loans from the International Development Association (an affiliate of the World Bank) and the African Development Fund all have a 50-year maturity, a 10-year grace period and a grant element of 83.1 per cent. European Economic Community loans exhibit a much wider range, with the grant portion running from about 30 to 80 per cent, but are also on the whole more favourable than many of the bilateral offers.

On the whole, the leading recipients have been the "middle of the order" countries (viewed from the industry perspective), e.g. Senegal, the United Republic of Tanzania and Zambia. The least industrialized countries have received little in absolute terms, though in some cases (e.g. Burundi, Mauritius and Togo) these loans may have been significant, relative to existing industrial investments. These observations suggest the following hypothesis: a direct correlation exists between the extent of industrialization in a country, as measured by gross value of industrial output, and the share of non-concessional sources in total external finance to the industrial sector. In other words, the more industrialized the African country, the less it can rely on official development assistance to meet its foreign exchange needs. This is consistent with the general philosophy which appears to underpin the whole aid approach regarding industry, i.e. non-commercial sources of funds should be provided for some years as "industrial seed money" to make the terrain conducive for commercial cash investments later on. But the question is "Can all countries of sub-Saharan Africa follow such a path?" As things stand at present, sub-Saharan Africa might be roughly divided into three groups: the four countries expected to establish themselves on the international industrial map (Côte d'Ivoire, Kenya, Nigeria and Zimbabwe); an intermediate group whose prospects are very unclear (Cameroon, Ghana, Senegal, the United Republic of Tanzania, Zaire and Zambia); and the remaining countries (representing the majority by number but a fairly small share of the population of sub-Saharan Africa), where industrial transformation does not figure as a strategic objective during the next 15 to 20 years. This division, of course, cuts across the more traditional ways of viewing sub-Saharan Africa;

(d) Among countries, the United Republic of Tanzania has been a big recipient: in 1983 it alone received more than \$100 million in official development assistance; and, over the whole period 1980-1984, it obtained some 20-25 per cent of all official development assistance. Among activities, there are two kinds of loans which stand out. First, several sizeable loans have been given to industrial development banks or industrial development in general; in other words, foreign exchange has been provided to domestic institutions which in turn allocate funds to industries established (or to be established) in the country. Secondly, there is some evidence indicating that the largest and most troublesome industrial projects have continued to enjoy substantial injections of official development assistance. Thus, in 1983, a cement venture involving Côte d'Ivoire, Ghana, Ghana and Togo obtained a total of nearly \$21 million from both bilateral and multilateral sources, while a controversial pulp and paper mill in the United Republic of Tanzania received another \$18 million. Taken together, therefore, these two projects (which may well be the most problematic industrial projects in sub-Saharan Africa) obtained about 14 per cent of all official development assistance to the region in a year when the aggregate volume of such financing was high. These numbers raise doubts concerning the effectiveness of resource allocation. It may conceivably be argued that these projects are about to reach their "break even" points. To those who find this argument implausible, continuing support of such projects represents a reluctance on the part of donors to abandon "lost causes". The concept of industrial rehabilitation seems to be unduly stretched if new investments continue to be directed to inefficient projects which are mainly of symbolic significance.

These observations suggest that official development assistance to the industrial sector is certainly not increasing, that - while still offering more attractive conditions than other financial sources - its relative advantage is decreasing, and that it is ever more aimed towards the "intermediate" countries of the region. How does official development assistance

appear in relation to other sources of foreign exchange for industry? Estimates must necessarily be tentative since aggregates often fail to specify what share actually goes to industry. Using approximate figures derived from other studies, however, the picture is that shown in table 13.

The level of official development assistance to the sector from all sources has virtually stagnated in nominal terms since 1980, having risen sharply until then. The relative share of Development Assistance Committee aid in total official development assistance has hardly changed since 1980. Looking further down the table to total financial flows to industry, however, the picture is more dramatic. These total flows grew at an average of 17.3 per cent over the period 1978-1982, doubling in four years. Over three quarters of those gains were lost in 1983, with total financial flows falling from \$2,200 million to \$1,470 million. As has already been noted, official development assistance remained about the same, and the real losses were in the area of direct investment and portfolio investment, both of which fell to levels below those attained in 1978. The effect of this is to increase further the importance of official development assistance in total flows, with its share rising from 36.5 per cent in 1978 to 43.5 per cent in 1983. If, in addition, it is noted that export credits are usually under substantial government control, then it can be said that no less than 77 per cent of financial flows to the manufacturing sector in sub-Saharan Africa require some government involvement. National policies in donor countries of the Organisation for Economic Co-operation and Development can thus play an important part in restructuring industrial investment in Africa.

Table 13. Estimated net flow of foreign finance to the manufacturing sector in sub-Saharan Africa, 1980, 1981, 1982 and 1983 (Millions of dollars)

Source	1980	1981	1982	1983
Official development assistance	627	628	624	612
Of which Development Assistance Committee countries	(401)	(408)	(408)	(397)
Non-official development assistance	1 254	1 362	1 576	795
Of which export credits	(664)	(514)	(560)	(474)
Of which direct investments	(287)	(571)	(642)	(118)
Total	1 881	1 990	2 200	1 407
Percentage of all financial flows to sub-Saharan Africa	14	14	15	12

Source: G. Dancet, "Official development assistance to manufacturing industry in sub-Saharan Africa" (UNIDO, forthcoming).

### Export credit

It is clear from table 13 that export credit plays a key role, alongside official development assistance, in the total provision of finance to industry in sub-Saharan Africa. The crisis conditions of the 1980s have led to significant shifts in the policies of the main trade credit agencies, which are grouped together in the Berne Union. While these shifts are by no means exclusively concerned with Africa, they all have implications for the financing position of the continent. First, assessments of political and commercial risk made by the trade credit agencies tend to be much gloomier than they used to be. As a result, the costs of risk insurance have shot up - by around 100 per cent during the present decade.

Secondly, the size of the debt has led the agencies to impose limits on the value of projects they will cover. Consequently, larger deals now tend to be managed through risk-sharing systems in which several entities participate. If the co-participants are private organizations (for example, banks and insurance companies) of the same country as the trade credit agency, the chances are that the latter will be left with the more vulnerable part of the deal. If there are other trade credit agencies abroad, there may well have to be some project unpackaging to entice them in.

Thirdly, the extent of existing debt can easily act against the implementation of projects that promise to yield foreign exchange. The reason is simply that current creditors may insist on having first claim to any funds generated by the project, thereby cutting out the project sponsors (or at best relegating them to the queue). To confront this obstacle, some efforts have been made to "cordon off" projects generating foreign revenue from the burden of meeting prior claims due to the perilous debt position of the country as a whole. One example of this type appears to be the urea factory constructed to use the natural gas resources at Songo Songo in the United Republic of Tanzania.

Fourthly, the competitive struggle in the developed countries to promote sales of capital goods, together with the fact that aid contracts with a grant element of at least 25 per cent are not subject to the rules of the General Agreement on Tariffs and Trade controlling the use of interest subsidies, has stimulated the growth of mixed credits (i.e. contracts in which aid and trade are mixed together). Consequently, the temptation is to employ grant money as a lever with which to strengthen the pull of trade finance (by making it available on better terms). While this has some advantage on the trade side, it ties the aid and trade aspects together and thus tends to reduce the real value of the grant element.

Fifthly, the Berne Union rules are quite restrictive as far as trade credit terms for purchases of spare parts and materials are concerned. They significantly complicate the organization of rehabilitation programmes. At present, the World Bank and Export Credit agencies are discussing means by which co-financing arrangements can be made that would circumvent some of these problems.

Sixthly, while there has always existed fairly close collaboration among the Berne Union, the International Monetary Fund, the World Bank and developed countries, the signs are that the co-operation is even closer in the crisis period. Thus, the "Brau report" notes that "most agencies regarded the existence of Fund-supported adjustment programs as evidence of credible efforts and compliance with performance criteria as demonstration of economic progress" (Brau and Puckahtikom [1], p. 9). Moreover, the same

document notes that some agencies, in their search for project screening methods which would allow them to avoid imbrication in dubious ventures, are trying to identify ways "in which the soundness of an overall investment plan, including its project selection, could be assessed by an international organization, particularly the IBRD" (Bran and Puckahtikom [1], p. 12).

#### The prospects of industrial finance

These points, while not an exhaustive coverage of changes now occurring in the trade credit system, are sufficient to highlight the relevance of an understanding of that system to the short- and medium-term prospects of industrial finance in Africa. While it is not easy to provide strong evidence on the point, the impression is that countries of the region could profitably equip themselves with more detailed and up-to-date knowledge of the functioning of the various sources of industrial finance.

The trends described in regard to official development assistance and trade credit both illustrate the extent to which the manoeuvrability of countries has gradually become more circumscribed. But the influence of alterations to multilateral lending practices on the domestic financial system for industry appears still more vividly if reference is made to the recent draft of the Policy and Operational Guidelines for the Industrial Sector prepared by the African Development Bank group.

The crucial aspect of the approach is the African Development Bank's concern to strengthen the role of small- and medium-scale enterprises in the industrial network. In the past, almost 45 per cent of African Development Bank industrial funding did go to this type of firm but always via the intermediation of domestic financing corporations, entities themselves owned and managed by the State. The African Development Bank argues that domestic financing corporations in general have become one of the major casualties of the economic crisis and that many of them are suffering from mismanagement. It follows that institutional rehabilitation (of the domestic industrial credit system) will have to be one of the medium-term objectives of the Bank. This rehabilitation, it is stressed, will be done in the light of an assessment of the overall industrial credit requirements of the economy which may lead, the report notes, to one of two broad results: on the one hand, where domestic financing corporation problems have become chronic and irreversible, they will have to be liquidated; if, on the other hand, the review shows that a domestic financing corporation is necessary but is operating poorly, measures may include not only reorganization of the domestic financing corporation itself but also structural adjustment measures to eliminate economic distortions.

The pattern is thus indicative of the desire to strengthen the domestic sub-contracting dimension of the industrial system, while emphasizing that this cannot be accomplished satisfactorily given the present institutional framework. The African Development Bank clearly recognizes that, for some economies, the prospective volume of business just does not warrant the maintenance of the local intermediating institution, while, for others, macro-economic changes may be an integral part of a rehabilitation programme. Though we do not have data on the proportion of domestic financing corporation funds stemming from the African Development Bank, it is very likely that in this period of financial stringency, few if any Governments of sub-Saharan Africa could afford to replenish either equity capital or loans of domestic financing corporations from their own resources. Since these institutions are rarely very profitable (in terms

of, for example, returns on equity holdings), their prospects for raising capital on the market (if one exists) are likewise not bright. It follows that financing the growth of small- to medium-scale enterprises will not be easy, and without the support of the African Development Bank the task is likely to be onerous indeed. Hence, even a Government which is ready and willing to shift the balance of industry structure towards complementarity of large, State-owned projects and smaller, private ones, has a difficult task as far as financing is concerned.

The evidence reviewed in this section shows that the sheer weight of the debt burden has induced a growing number of countries to accept agreements which essentially buy time in return for acceptance by the country of a series of quite firm guidelines for macro-economic management. The content of the policies points towards the need to substantially improve the performance of public enterprises, to alter macro-economic policies in the direction of encouraging both greater domestic private enterprise and more inflows of foreign capital, and to orient production in the direction of export promotion. Unless these conditions are met, there is a considerable likelihood that the process of deindustrialization will continue to gather momentum. The following section focuses on observed project performance and attempts to analyse what has been the interplay of factors, domestic and foreign, which has shaped observed results.

#### The performance of industrial projects

The industrial sector as it presently exists has come under severe criticism in recent years. The criticisms are diverse and not always internally consistent, nor is it readily apparent which yardsticks of comparison the sector is being compared with. What is fairly obvious, however, is who is being judged: African policy makers and managers. Until very recently, harmony rather than conflict was the keynote of relations among the principal groups involved in the organization of industrial projects, those groups being the African industrial élite (both public and private sectors), official development assistance agencies and developed countries' firms engaged in the supply of goods and services to African industry; and in general, none of them (viewed as groups) stood to lose anything from risky decisions. The situation is now changing. The current stress is on accountability of both African economic policy makers and industrial managers. That accountability is to be forged by squeezing the supply of foreign capital (as described above) and shifting domestic pricing policy, trade régimes and access to investible resources in the direction of much greater play for market forces. Yet everyone agrees that the existing industrial set-up is the product of, among other things, strong intervention by foreign public and private entities, multilateral and bilateral. To whom are they accountable? If Africa undertakes reforms, what assurances does it have that significant improvements will also be made by external agencies? To date, these questions have not been posed with the insistence they deserve. Although this report cannot provide answers to these questions, the evidence presented in this section is pertinent to any assessment of how much improvement, and of what kind, can reasonably be anticipated if African performance in projects is strengthened.

The observations made here are limited in various ways:

(a) It has not been possible to obtain thorough cost-benefit analyses of important projects or to compare ex-ante with ex-post assessments. It is known that some exercises of this kind have been carried out recently by certain official development assistance agencies, but those studies remain strictly confidential;

(b) In no sense has it been possible to conduct any systematic sampling of existing projects; instead, pieces of information have been gleaned from documents made available by official and private agencies in certain developed countries. In particular, analyses giving an African perspective on the performance of individual projects seem very scarce;

(c) Data (qualitative as well as quantitative) tend to be less complete and/or less specific on matters not related to the actual technical operation of a given plant. This may be due in part to the sensitivity of information regarding how and why certain industrial operations actually began, to a misplaced perspective whereby insufficient attention is given to the formative phases of a project, and to the allegedly "pragmatic" view that only the actual operating process can be corrected anyway. The trouble with the latter, however, is that it ignores the key question of how learning is to be built into the project set-up;

(d) Most projects on which information is available today were initiated several years ago. Since it is difficult to obtain regular "snapshots" of the progress of a project, data suffer from two deficiencies: first, within any given project, it is not possible, without more detailed work, to evaluate whether project performance has been improving or deteriorating over time; secondly, the lack of material on projects started recently implies that comparisons of the same type of activity initiated at different points in time cannot be made;

(e) The sketchy remarks here cannot substitute for the examination of detailed case histories. The problem is that the various parties involved in the successive phases of a project, from initiation to decline, tend to leave the stage as soon as they have performed their part. An awareness of this problem, which cannot be swept away by implementing a series of technical measures, may be itself a clue to improved project performance in Africa;

(f) Perhaps inevitably, the project information pertains to fairly large activities in which developed countries' donors and entrepreneurs participate on a substantial scale. There is, for the moment, little evidence on how small- to medium-scale enterprise projects function. Comments on African industry usually imply that such activities would perform much better, and a priori reasoning suggests this ought to be the case (especially as far as foreign exchange use goes) - but firm evidence is still absent;

(g) As the information pertains to existing projects, it is concerned with import substitution activities\* linked to domestic demand - data for export-oriented projects are few and far between.

#### Evaluation of selected industrial projects

The annex brings together data on eight countries of sub-Saharan Africa: Benin, Gabon, Ghana, Nigeria, Senegal, Sierra Leone, Zaire and Zimbabwe. It covers both individual plants and, in some cases, collections of plants within the same industrial branch in a given country. Since the data could not be classified by project size, ownership, financial aspects or starting date, detailed analysis of differences in observed results cannot be made; yet the data do provide the following tentative findings:

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\*The substitution is for final products: their imports have been replaced by import of equipment and intermediates.



(a) Problems begin at the beginning. In those instances where information on pre investment studies is available, the pattern is to regard them (ex post) as unsatisfactory. For Gabon, this classification holds for four of the seven activities listed; for Nigeria, a rating of "good" was given in only one of eight cases; for Senegal, in two of six. Any pre investment study is, of course, never expected to be fully accurate; on the contrary, its task is to provide orientation to the parties considering participation in the project. In many cases its real function goes further, viz. to act as a promotional document to strengthen the position of one or more of the entities involved. What is disturbing is the extreme scarcity of good pre-investment reports, meaning those which have provided orientation in the right direction and within an acceptable margin of error;

(b) Contract negotiation seems to be a more or less universal weakness. Of the nine cases cited for Nigeria (including the Nigerian/Beninese joint cement factory), and the three for Zaire, not one of them yielded a satisfactory contract. The only exception to the pattern appears to be the chewing gum factory in Zimbabwe. The value of a negotiation, like that of a pre-investment study, is to a certain extent in the eyes of the beholder - a good contract for one party may be a poor one for the other. All the same, the tenor of the evidence strongly suggests that the pre-construction and operational phases of industrial projects are not at all handled carefully from the perspective of the interests of African countries. Two major implications flow from this finding. First, efficient operation of a poorly conceived project may entail unnecessary costs for the African country. Secondly, the least that can be said about poor negotiation is that the country, rather than equipment suppliers, foreign managers or foreign financing agencies, is likely to bear the costs when things go wrong. In a period of severe debt problems, such costs may be by no means negligible;

(c) Within the operations phase, the issue which has been at the centre of debate has been raw material supply. For Ghana, the lack of materials is a chronic weakness in almost all of the branches listed, due chiefly (though not entirely) to the unavailability of foreign exchange.\* In Nigeria, the raw material shortage adversely affects project performance in most of the activities cited and the same litany of shortage of foreign exchange, lack of raw materials and low capacity utilization can be found in virtually all other countries and branches for which data are available. These findings at the project level confirm the tremendous import dependence of most industrial branches, as signalled above in the first section. The fact remains, however, that while the scarcity of raw materials adversely affects project performance, the control over this situation may not be, and most probably is not, in the hands of project managers. This is reflected in the fact that projects (or products) have been chosen which have very little relation to the domestic industrial structure;

(d) With very few exceptions the technology performance of plants has been poor. The main reason seems to be over-capacity in relation to domestic demand, which in turn should be associated with the initial project studies. (Either demand was largely overestimated to begin with

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\*Even if foreign exchange were available, the costs of many materials are likely to be prohibitive, given that the cedi has been devalued some 3,500 per cent since the early 1970s and that most investments in industrial capacity pre-date that period.

and/or smaller plants could not be obtained.) The existence of over-capacity is not in itself a symptom of operating difficulties. Projects have also been found wanting in other aspects, including the following: a product range unsuitable for the domestic market; supply of equipment which was old and in poor repair; poor location of the plant, affecting material supplies; and problems related to infrastructure (e.g. breakdowns in electricity supply) which raise production costs. Though the annex deals in qualitative rather than numerical terms, the net impact of these production difficulties is to drive up unit costs well above that which could have been suggested in the feasibility studies. It does not necessarily follow that such plants have failed to make a commercial profit (for, even with unit costs and prices far in excess of those initially estimated, there might be buyers); but it does mean that wasted resources have been, and continue to be, considerable;

(e) The results on management are quite mixed. For Ghana, the findings are poor to average. The Senegalese plants show bad results in the two fish processing factories and the wood processing enterprise, yet they do well in the two smaller companies engaged in printing and paper products (in one of these cases, a long-established family business is involved, an indication at the microlevel of the importance of an "industrial culture"). In Sierra Leone, the assessments cover the full range, including a foreign-owned company where management is thought to have performed well, along with another in which the expatriate management appears to have functioned badly. Information on two plants in Zaire and one in Zimbabwe pertains to foreign-controlled firms, and in each case performance is judged good. Foreign management, however, does not always come out well either. Taken as a whole, management performance does not appear to be something about which quick and easy statements can be made: results vary substantially from case to case. Judgements on management should be passed with its objectives and the environment in which it operates in mind. It may be suspected that assertions of "bad management" in State-owned industries are really aimed at the choice of macro-economic policy. Given the thrust of current policy debates about African industry, the mixed findings on management do have bite since they cast doubt on the extent to which project difficulties can sensibly be located at the project level.

#### Findings of a survey by the Institut de l'entreprise/Centre Nord-Sud

The annex and the deductions which can be made from it provide nothing more than a broad introduction to the issue of industrial project performance. Before going into greater depth, however, it is useful to present another, up-to-date (May 1985) survey of the reasons for low capacity utilization. The survey, conducted by a research institute linked with French entrepreneurs (and thus working from a perspective different from that characterizing the sources for the annex) and drawing on data for 345 plants throughout Africa, where some French interests exist, looked at both low capacity utilization (defined here as 70 per cent, a figure notably higher than the cutoff points used in studies by official organizations) and plant closures (of which there were 79 in the whole sample). The results are summarized in table 14.

The project phase breakdown used by the survey is somewhat distinct from that employed in the annex. No reference is made to negotiations, and technology is classified as a planning variable, while the operational phase focuses on marketing and financial issues, as well as production and maintenance. The text of the survey makes it clear that raw material supply difficulties are subsumed in the term "production". Table 14 also

Table 14. Reasons for low capacity utilization and plant closure in selected African industries

Industry	Project phase							Nature of the failure of most projects			
	Planning			Construction		Operational		Single cause	Combination of causes		
	Economically unjustified	Bad location	Wrong technology	Bad construction	Bureaucracy etc.	Absence of local infrastructure etc.	Maintenance and production problems			Sales problems	Administrative and financial problems
Cement	..	**	**	..	**	**	***	**	*	..	***
Wood products	..	..	*	..	..	*	***	***	*	..	..
Paper	**	*	**	*	**	**	***	*	*	***	..
Textiles	..	*	..	..	..	**	*	***	**	**	..
Sugar	**	..	**	*	*	**	***	**	**	..	..
Vegetable oil	..	*	..	*	..	*	***	*	***	..	..
Flour milling	*	..	*	*	..	*	**	**	***	..	..
Canning	*	*	*	..	..	*	***	*	*	***	..
Brewing	..	..	*	..	..	**	*	*	**	***	..
Dairy products	***	*	**	..	*	*	**	*	**	***	..

Key: \* Marginal or infrequent cause  
 \*\* Important or frequent cause  
 \*\*\* Major or general cause

Source: Adapted from Pour un vrai partenariat industriel avec l'Afrique (Paris, Institut de l'entreprise/Centre Nord-Sud, May 1985).

differs from the earlier ones in that all results are aggregated into 10 industrial branches. What are revealed, then, are "typical" characteristics of a project in the branch in question. The following are the main conclusions:

(a) Most information is available for the operational phase, and it is there where the problems are concentrated (i.e. it has the highest incidence of major causes for failures of performance). Maintenance and production difficulties are frequent to major for 8 of the 10 branches, whereas the sales and financing problems are appreciably less severe (affecting five and six of the branches respectively);

(b) Against this clustering of obstacles, the French entrepreneurs judge planning and construction variables to have only a limited impact on project performance. In the first six columns of the table (those which pertain to these phases), there is but one entry signifying a key cause of poor performance (namely, lack of economic justification for daily products). A few instances of improper technology choice and the absence of acceptable local infrastructure are given, but in no case are they believed to be major factors generating project breakdowns;

(c) Although no straightforward association of project variables with specific groups of decision makers can be made, table 14 certainly gives the impression that many more problems - problems of greater severity - are encountered regarding those aspects of projects over which domestic authorities in Africa have more control. The last four columns are the only ones fully populated, and all of them could be said to involve domestic decision makers on a substantial scale. In areas which almost certainly fall under the category of foreign decision-making, the problems are held to be far less common and severe;

(d) Examining table 14 by industrial branch tends to confirm impressions gained from other project inquiries in Africa. Cement plants, paper plants and sugar factories often run into a multiplicity of problems, several of them fairly serious. Interestingly enough, it is in the cement, paper and sugar industries (along with the dairy industry) that poor planning and construction are known to contribute considerably towards unsatisfactory performance. Breweries, on the other hand, fare well (19 of the 43 plants examined were regularly functioning at more than 70 per cent capacity);

(e) On a branch basis, there seem to be notable differences as to whether industrial performance could be strengthened simply by tackling a single problem area. In the three important branches mentioned in the preceding paragraph, a single target approach would probably not be sufficient. But in other industries, including textiles and canning, French partners believe that tackling a single bottle-neck ("maintenance and production") would be sufficient to activate the system. The mixed nature of these findings implies that it is unwise to accept too simplistic an explanation of production problems in all branches.

#### Project performance and industrial development planning

Examination of project performance has to be set in the broader context of industrial decision-making. Drawing on background work for the present report, the following observations can be made:

(a) There has been little evidence of effective (i.e. operationally oriented) industrial planning in Africa. Whatever the form taken, Governments in Africa have been reticent to refuse offers of foreign exchange tied to the establishment of industrial projects. The assumption seems to have been, at least until very recently, that the existence of such a project would itself guarantee a continued inflow of foreign exchange to support the project even if it were running into trouble. The result is a situation in which a surfeit of projects coexists with a shortage of foreign exchange. Given the present financial circumstances of depressed markets for primary commodity exports, a growing debt service burden, inadequate provision of international liquidity to retain purchasing power over imports, and constraints on the flow of foreign exchange under concessional terms, it is scarcely surprising that the allocation effort has now shifted away from opening up new activities in favour of re-examining those presently in place;

(b) Since the majority of projects, even those with a high overall foreign-exchange-saving component, depend on some inputs financed with convertible currency, most Governments are faced with acute and permanent problems in rationing foreign exchange. Those projects receiving more or less adequate allowances can register fair performance while the allowance lasts but are then likely to cut back production. One consequence is that interindustry deliveries may fluctuate wildly, contributing to the general instability of the sector;

(c) Crisis periods are known as potential stimulators of self-reliant activity. To date, however, if there has been an increase in African domestic capabilities regarding repair and maintenance of equipment on the one hand and raw material substitution (local for imported) on the other, it has yet to make much impact on industrial performance. There is little evidence of the emergence of a coherent domestic economic framework in which industry can operate;

(d) The reliance on the aid régime as the motor for industrial expansion has meant, implicitly as well as explicitly, the constant presence of foreign organizations in the implementation (if not the elaboration) of industrial decisions. It is therefore at best disingenuous, and at worst downright misleading, to act as if the sole responsibility for errors in decision-making belongs to African groups. In the fundamental sense that these groups could, had they opted for another path, have acted on their own, the comment has something to it. In fact, however, the option consciously pursued by both African and foreign groups was to tie expansion of local industry to the international financial assistance vehicle. Now that this option is faltering, it is the responsibility of all participants who have benefited to shoulder part of the responsibility and costs;

(e) The emphasis on streamlining industry has, among others, two important corollaries: the concern for rehabilitation and the growing stress on financial and foreign exchange criteria in making rehabilitation decisions. Though, interpreted broadly, the Lagos Plan of Action does offer some pointers on these issues, there is an urgent need for African authorities to spell out approaches on these matters. At present there is a risk that implementation work, if not the policy debate itself, will in practice be conducted by groups who consult with national Governments but are not subservient to them;

(f) The concern with industrial performance has been focused almost entirely on the supply side, i.e. with the tacit assumption that the problems are simply those of production. Demand, however, is currently in as much need of rehabilitation as is supply. Per capita gross national product in sub-Saharan Africa fell by 11 per cent from 1981 to 1983, a drop sufficiently large to offset gains made during the previous decade. Unless income redistribution takes on more egalitarian forms, which is not probable in a downward spiral, the chances are that, after rehabilitation, there may be difficulties in selling the output of a fair number of projects. Existing arguments assume pent-up assets which would come into the effective demand realm as soon as industrially produced commodities were more readily available. This comment is enough to warn against the dangers of too much restraint - demand as well as supply is affected;

(g) While much has been made of the "locomotive" phenomenon in relation to industry in other developing regions, especially with regard to the pull of the United States market for leading Asian industrial producers, the argument is largely irrelevant as far as African policy makers are concerned. Industry in the region cannot rely on the market pull of developed core countries to generate recovery - that would only happen if Africa could gain a sizeable share of developed countries' industrial imports, and that can certainly not be achieved in a brief period. Hence the pull needed is of a different and much more specific kind: foreign exchange flows. As noted earlier, however, expectations on that score cannot be too high.

In this section, an attempt has been made to show that the frequent castigation of industrial projects and performance is in reality a much more complex business than it appears to be. Performance is inseparable from the broader consequences of the international financial régime in which industry has been expanded (at any rate, in terms of project numbers). Moreover, that very régime has been intimately linked to the conception of industrial projects and, in many instances, to their implementation. Now that the bases on which expansion might have continued to take place have been torn asunder, the problem of accountability has at last appeared in its starkest form. The issue is whether African Governments and external agencies can work jointly for joint accountability, or whether the present offensive aimed at accountability only for the former will carry the day. To shed more light on this matter, some evidence relative to policies and attitudes in some developed countries will be examined in the next section.

#### Perspectives of donor countries

The aim of this section is to offer impressionistic evidence on certain important trends in official policies of donor countries and multilateral institutions towards the debt/industry situation of African countries. No attempt is made to provide a complete picture of current tendencies; instead, the aim is to capture key elements of an emerging canvas.

#### Debt and financial flows

Since the middle to late 1970s, Development Assistance Committee member countries have cancelled appreciable amounts of debt outstanding from the least developed countries (which include much of sub-Saharan Africa). Though the proportions specifically pertaining to industry are not known, such debt relief does lighten pressures on the sector, both directly and indirectly. Debt relief measures taken by the Federal Republic of Germany from 1979 to date are shown in table 15. Approximately

\$1 billion of debt was cancelled, with close to one half of this relating to just three countries: the Sudan, Togo and the United Republic of Tanzania. Most of the cancellations took place in 1979; during the present decade, one additional country per year has been added to the list. The Federal Republic of Germany has adopted a case-by-case approach to avoid automaticity; and, in order to prevent a simple recurrence of past difficulties, financial assistance to least developed countries is now exclusively in grant form. Similar findings hold for the United Kingdom, where, by March 1985, total cancellations for sub-Saharan Africa were just over £226 million: the remaining outstanding official debt of the industrial sector was approximately £25 million, nearly all of which was owed by Egypt.

Table 15. Debt relief measures of the Federal Republic of Germany vis-à-vis least developed countries in Africa

Country	Date of agreement	Amount (millions of deutsche mark)
Botswana	22 March 1979	61.8
Sudan	11 April 1979	434.5
Lesotho	24 April 1979	22.0
Rwanda	7 May 1979	103.1
Burkina Faso	8 May 1979	170.0
Malawi	25 May 1979	90.0
Burundi	7 June 1979	55.2
Benin	8 June 1979	37.4
Niger	13 June 1979	179.7
Guinea	18 June 1979	43.2
Somalia	28 June 1979	104.1
Mali	6 July 1979	171.9
Gambia	14 August 1979	20.0
United Republic of Tanzania	27 December 1979	345.5
Uganda	26 November 1981	60.1
Central African Republic	21 October 1982	32.2
Chad	13 May 1983	15.7
Togo	6 July 1984	287.7
Sierra Leone	7 March 1985	157.7
(1) Africa total		2 391.7
(2) Total of least developed countries		3 540.4
(1) as a percentage of (2)		67.6

Source: Internal information provided by the Ministry of Economic Co-operation, Bonn.

Debt cancellation measures represent a favourable move towards alleviating the foreign exchange pressures affecting the poorest African economies. Those measures, however, have been offset by marked shifts in the pattern of new financial flows. First, donor countries have placed much greater control over their funding of major multilateral institutions. Thus, the January 1983 replenishment of \$9 billion to the International Development Association, an affiliate of the World Bank, fell way below the figure (\$12 billion) that would have been necessary if disbursements were to be maintained in real terms. The World Bank has noted that even if sub-Saharan Africa's share of future International Development Association disbursements were to rise by 5 per cent, the reduction in real terms due to the overall contraction would still be 21 per cent. In relation to the International Monetary Fund, developments have likewise been adverse; access limits for the Compensatory Financing Facility have been revised downwards quite sharply (the "normal" figure has been reduced from 150 per cent of quota to 102 per cent), and the earlier situation whereby up to 50 per cent of quota was obtainable on low conditionality has now been removed, meaning that compensatory finance is now locked into high conditionality; the overall quota expansion of 47.5 per cent was not matched by that for sub-Saharan Africa, where the average was 35 per cent; and countries of sub-Saharan Africa are effectively excluded from access to the General Arrangements to Borrow on the Saudi Loan.

Secondly, there has been a sharp increase in public/private co-financing of export credits, as evidenced by the growth of mixed credits referred to in the second section. The commercial element of aid has always been evident through tie-in clauses, but this is now being taken further in as much as aid is being used as a lever to win primarily commercial contracts. This change is an outcome of the increased competition among developed countries as they struggle to expand market shares in a world economy where most parts are growing slowly. Tabulations presented earlier in this report show how official development assistance and trade credit, added together, represent a major part of recent financial flows to manufacturing industry in sub-Saharan Africa. A trend towards competitively associating the two is likely to commercialize official development assistance without generating any increase in net flows.

Thirdly, the association of official agencies with the promotion of direct foreign investment is growing stronger in this phase of sharpening external competition and commercialization. Thus, the Commonwealth Development Corporation, which had expenditure on industrial projects in sub-Saharan Africa amounting to some 31.8 million during the period 1983-1984, is quite heavily involved with British firms. When the Commonwealth Development Corporation is a minor lender, the project appraisal work is carried out by other partners, most often the British firms. There is some evidence (gleaned from documents and through conversations with interested parties) to suggest that project initiation in such cases may come through contacts among transnational corporations, British diplomats and ministry officials in African countries, with the former carrying out the background studies and Commonwealth Development Corporation chipping in with some equity capital. In effect, the Commonwealth Development Corporation is assisting foreign investors with some provision of risk capital, while the Export Credits Guarantee Department is providing funds for public sector imports of industrial products.

In Canada, a similar emphasis on support activities can be found. While the total volume of Canadian International Development Agency industry projects is quite small, with annual flows for financing them around 5 million Canadian dollars during the period 1980-1984, official



resources to support feasibility and other preparatory studies for possible ventures between Canadian and African private partners seem to be growing in relative importance: during the period 1979-1983, the annual average was about \$Can 3.4 million, whereas in 1984 it rose to over \$Can 12 million. Likewise, the German Development Company in the Federal Republic of Germany, with a capital stock of roughly 1 billion deutsche mark, concentrates on providing equity participation and long-term loans to support joint ventures involving the Federal Republic of Germany and African countries; these financial inputs can also be supplemented by advisory assistance. By the end of 1983, about 58 per cent of German Development Company funds had been committed to projects in Africa, and of these at least one half went to manufacturing industry (with only rather small amounts going to the north African countries). Since Africa's share of the total foreign investments of the Federal Republic of Germany was much smaller, around 16 per cent, the implication is that German Development Company capital is to serve a seed money function. The distribution of these funds over the past decade is shown in table 16.

These arguments point to the growing orientation of official finance towards the support of private industrial activity and to the coincidence of this trend with a growing severity of the terms and amounts of multi-lateral finance. The private funding can be understood better, however, by briefly reviewing prevailing opinions in some developed donor countries regarding project organization and market possibilities.

#### Industrial project organization and market prospects

The third section of this report emphasized the severe weaknesses of project conception and pre-investment studies in relation to industry in Africa. The initial analyses that are carried out rarely involve African agencies, official or private, and still fewer are the monitoring or evaluation exercises for projects which are already functioning. Given this paucity of systematic examination by African agencies of the likely impact of individual projects, it is particularly important to clarify the approaches followed by those external groups who are responsible for such studies.

The dominant tendency nowadays is for the project assessments to be undertaken by commercial organizations, whether they be separate consultancy firms, equipment suppliers or the actual corporations which will design and execute the projects. Official bilateral agencies play a minor role. The multilateral bodies, particularly the World Bank and the European Economic Community, have a much greater say in project assessment, but their activities are increasingly geared towards promoting the participation of commercial capital. Evaluations must therefore take account of the needs of individual projects. The essential shift of emphasis, then, is towards commercial criteria as the primary determinant of industrial project choice. Social cost-benefit analysis, where used, seems increasingly to involve relatively minor adjustments to results derived on the basis of private rate of return figures. To some extent, this may be explained by the growing conflict over what is in the social interest; after all, the main thrust of current prescriptions for change in Africa is in the direction of a closer equation of public and private objectives. The emphasis, however, is on the creation of profits with income distributional and other broader matters occupying only a minimal place in overall assessments.

Table 16. Yearly financing activity of the German Development Company  
in Africa, by country and sector, 1975-1984

Country or sectoral structure	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
	<u>Millions of deutsche mark</u>									
Botswana	--	--	0.8	--	--	--	--	--	1.2	--
Burundi	0.2	--	--	--	0.5	--	--	--	--	--
Cameroon	6.9	--	12.2	3.3	--	--	--	--	0.1	--
Chad	--	--	--	--	--	1.5	--	--	--	--
Congo	--	2.5	--	--	--	--	--	--	--	--
Côte d'Ivoire	5.0	1.0	5.0	7.7	5.7	--	6.8	--	2.0	0.9
Egypt	--	--	--	5.6	12.0	1.0	--	2.0	0.7	1.5
Gabon	--	2.8	--	0.1	--	--	--	--	--	--
Gambia	--	2.7	--	--	0.4	--	--	--	0.3	0.1
Ghana	--	--	--	--	--	1.0	--	--	--	--
Kenya	6.7	6.0	--	6.5	0.3	0.1	15.0	5.5	3.6	5.1
Liberia	0.2	0.7	--	0.1	--	0.1	--	3.0	1.4	0.4
Madagascar	--	--	4.0	--	--	--	--	--	--	--
Malawi	--	3.2	7.9	2.5	--	0.5	2.0	--	--	--
Mali	--	--	--	--	--	--	--	2.0	--	--
Mauritius	2.3	--	--	--	--	--	--	--	--	--
Morocco	--	--	2.7	--	--	--	--	3.2	--	0.7
Niger	--	--	--	0.8	--	--	--	--	0.1	--
Nigeria	2.5	--	0.3	9.0	24.0	--	--	1.0	5.9	--
Rwanda	--	--	--	0.4	--	--	--	--	1.5	--
Senegal	0.6	--	--	--	--	--	--	--	10.0	0.3
Seychelles	--	--	--	--	--	--	--	1.5	--	--
Somalia	--	--	--	--	--	0.7	0.2	--	--	--
Sudan	6.2	--	--	--	0.2	--	--	1.7	--	--

continued

Table 16 (continued)

Country or sectoral structure	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
	<u>Millions of deutsche mark</u>									
Swaziland	--	--	11.2	--	16.5	4.1	--	2.2	3.3	--
Togo	--	--	--	1.0	--	--	--	--	--	--
Tunisia	0.9	6.8	--	--	--	--	0.6	0.1	1.8	5.2
Uganda	--	--	--	--	--	--	--	--	1.8	1.0
United Republic of Tanzania	--	--	1.7	5.5	--	--	4.0	--	--	4.6
Zaire	--	15.4	--	0.8	--	4.0	--	0.3	--	1.0
Zambia	14.1	--	--	--	--	6.0	--	--	4.3	--
Zimbabwe	--	--	--	--	--	--	--	--	3.8	--
Agriculture	--	--	5.0	--	--	--	6.7	0.9	5.6	7.5
Manufacturing	22.8	21.7	29.8	19.0	59.1	11.3	6.7	10.3	20.3	9.7
Development banks	18.6	19.4	5.2	39.3	0.5	16.0	15.0	20.8	11.4	4.8
Other services	4.7	--	5.8	--	--	0.7	0.2	2.3	0.2	3.1
(1) Africa total	46.1	41.1	45.8	58.3	59.6	28.0	28.6	34.3	37.5	25.1
(2) Total activity of the German Development Company	84.3	74.8	110.8	112.2	107.5	128.9	150.8	120.8	107.7	60.2
Ratio of (1) to (2)	55	55	41	52	<u>Percentage</u>		19	28	35	42
					55	22				

The tendency to highlight private returns does not necessarily mean, however, that public costs will be any lower. First, in the case of several larger projects, the interdependence of the industry and its infrastructure is receiving greater attention. The focus is on creating relatively self contained complexes where adequate ancillary services for the main activity are ensured. To the extent that the State pays for these, costs will be kept up. Secondly, the effort to attract investment yielding a commercial return will most probably involve, in several instances, an increase of subsidies and/or a reduction of company taxes; either way, the public budget is affected. Thirdly, to the extent that such commercially successful projects follow the route used in, say, Latin America in the past, i.e. investment by local borrowings and/or reinvestment of earnings, followed by repatriation of earnings, the longer-term foreign exchange impact may be far less positive than it seems at first.

Export-oriented industry: is it an option?

At a time when the debt burden weighs heavily and most manufacturing activities, as well as the industrial sector as a whole, are net users of foreign exchange (both in terms of interest on loans for importing capital equipment and for current production), there is a great temptation to promote export-oriented activities. It is not always clear whether advocates of industrial exports predicate the encouragement of individual projects or whether they are arguing for a whole strategy, i.e. export-led industrial development. The impression is often given that it is the latter which is really meant, an impression reinforced by frequent references in the literature on the subject to the experience of some of the more prominent Asian countries. Those references, however, are not easy to translate to the current African environment. Strong states providing powerful public organizational as well as fiscal/financial support have been at the centre of those manufactured export drives; and in the larger of those economies, for example, the Republic of Korea, the export expansion has grown from a successfully implemented import substitution policy in industry. In certain Asian countries where such conditions have not existed (for example, in Sri Lanka), the export bubble that was inflated by encouraging footloose foreign investment has burst quite quickly. It is also germane to ask what markets the exports have been directed at. Although certain products have penetrated some of the markets of the European Economic Community, the magnet for manufactured trade both in the early 1970s and in the present decade has emphatically been the United States of America. In Europe, which for historical and geographical reasons is of more immediate relevance to possible exports from Africa, growth rates have been much slower and protectionism is generally more marked and, despite recent comments (made at the time of the Bonn summit conference in May 1985) hinting that Europe should (or perhaps could) adopt a more dynamic posture, there is no strong reason to suppose that this is in fact likely to happen. Consequently, African exports, were they to be forthcoming, would have to compete for shares of very low growth markets against the opposition of exporters from other developing countries.

These preliminary observations underline the care which must be exercised in postulating the possibility of an export-led industrial growth strategy - to argue by inference and through the example of other countries is not logically tenable. To examine the matter further, we turn to some empirical findings which allow the potential export map to be charted more carefully.

The share of manufactures in total exports is less than 10 per cent for the majority of sub-Saharan Africa against an average of 35 per cent for all developing countries that are not members of the Organization of Petroleum Exporting Countries. In fact, Africa's share of world manufacturing exports fell from 0.48 per cent in 1970 to 0.36 per cent in 1980 - moreover, the bulk of these exports (more than 80 per cent) originated from just five countries, of which Kenya and Zambia were the only countries of sub-Saharan Africa. The relative similarity of production structures among African countries suggests that not all of them could succeed simultaneously. Even if the argument that export expansion by one country could not be repeated by all did not hold (and it almost certainly does, given the external market conditions noted above), the markets would almost certainly go to those with the lowest unit costs of production and/or some other special advantages.

It is often asserted that Africa could take up some export market segments as they are vacated by other developing countries moving into new products. Alternatively, Africa could generate competitive advantages which would allow some countries of the region to capture shares from other developing country sellers. Though it is unclear to what extent market shifting by established exporters is in fact taking place, the capacity of Africa to develop a competitive edge certainly could not be developed quickly. To begin with, the slow growth of internal markets does not provide much base for cutting costs by using large-scale production. This implies that export-oriented output would most probably have to be geared explicitly towards external markets. Since African countries (even the most industrialized of them) are exceptionally weak, any export drive would have to rely heavily on the production and marketing command of transnational corporations - at least for quite some time. In essence this means two types of operation: greater local processing of natural resources, particularly minerals; and encouraging the entry of footloose industries. The first type of operation has been on the agenda for a long time, but only limited progress has been made: in present international market circumstances, there is little to suggest that transnational corporations can be tempted to go any further than they already have. As far as the second type of operation is concerned, a recent Group of Thirty survey of 52 major international companies [2] concluded that the idea of using African developing countries as export bases was not attractive to most companies.

There is increasing pressure on African Governments to enhance incentive schemes for attracting foreign investment. The general efficacy of such measures has been widely questioned in the literature on the subject. In a recent study by the Organisation for Economic Development and Co-operation, it was noted that "experience has shown that measures undertaken by home and host governments to improve the flow of foreign direct investment or to direct it to specific sectors influence investment decisions only marginally" ([3], p. 8). The Group of Thirty survey referred to above also found that "fiscal incentives were regarded as unimportant influences on investment decisions ... (by) ... the companies ... (themselves)" ([2], p. 32). Another survey undertaken in Great Britain during 1984 found that direct foreign investors were primarily influenced by the size of the market and its recent and expected performance. The survey notes that in the case of some South-East Asian countries which introduced new incentives when the first ones began to expire, "the inertia of investment suggests that incentives for keeping investment in a country are unlikely to be cost effective" (Page [4], p. 104). It is often the case, as one investor whose views are reported in the survey said, "that once an investment was under

consideration he included the available incentives in working out the appraisal but that they were not the reason for going into a country: an investment had to look viable ... (on its own)" (Page [4], p. 105).

In a World Bank study of foreign manufacturing activity in 10 countries,\* it was found that the 10 countries competed for foreign investment (Guisinger [5]). Assessing the evidence for this survey, Helleiner ([6], p. 17) has written that "none of this evidence offers any guidance as to whether increased incentives will increase the aggregate flow of direct foreign investment to developing countries. Increased incentives inevitably matched by others, may simply reduce their earnings without increasing its flow." In other words, countries at a roughly similar level of development and with similar market sizes are engaging in "negative" (not zero) sum games when they compete for foreign investment by enhancing incentives.

It is therefore not unreasonable to conclude that prospects for attracting foreign investment through generalized liberalization policies are not bright for most African countries. Even in Zimbabwe, where at least 70 per cent of capital stock in manufacturing is foreign-owned, company response to liberalization initiatives has been weak. A recent survey shows that, in addition to the fact that almost none of the companies present in Zimbabwe are injecting additional external capital into the country at this time, none have expressed a strong desire to do so.

There is, furthermore, an additional query as to the type of export activity to be promoted. In those countries where international subcontracting has expanded, there have usually been important attractions as far as the foreign enterprise was concerned. Either real wage levels were low compared to alternative locations or transport costs were low or special tariff incentives were available. In the case of Africa, it is not obvious that these attractions are available. Though nominal wages may be comparatively low in certain locations, productivity is not at levels which compete with those observed in possible developing country competitors. Mauritius has opted fully for export-oriented manufacturing, and it is interesting to note that significant proportions of the foreign investment there came from Asian countries (particularly Hong Kong) as they sought to escape quota limits on their trade to developed countries. Even in that case, however, the advantage of being a "quota haven" has been difficult to maintain and requires constant shifting of product lines and a search for new investors. Electronics, for instance, accounted for 19 per cent of total export earnings in 1976, yet it had dwindled to nothing by 1982.

The effort to attract export-oriented trade through the formation of a processing zone has not had a good history in Africa. Only one such zone exists in the mainland of sub-Saharan Africa - that established in 1974 in Senegal. By 1981 a mere five firms had been attracted, of which only three are currently operational. In the planning period 1981-1985, the aim was to bring in a further five projects which would account for 16 per cent of total industrial investment; by mid-1984, only one of these was operational. The promotion efforts continue, however, and it is still possible that more business may be generated. All the same, the incentives have

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\*Kenya was the only African country included in the sample that was used for the study.

always been most generous: total exemption of import duty on all inputs; exemption from all direct and indirect taxation until 1999; and, of course, the basic advantages of the 1981 investment code, which include free transfer of dividends and profits, and of returns from liquidation on sales of assets.

An additional concern needs to be kept in mind when evaluating the export push through direct foreign investment: it is the age-old point that what matters is the net foreign exchange retained in the country after calculation of all trade and financial flows. Account needs to be taken, then, of issues such as transfer pricing, as well as the extent to which repatriation claims can be increased by using equity which in fact came from local rather than foreign sources of funds. Despite the more limited development of local capital markets in sub-Saharan Africa, there is evidence that this behaviour has occurred quite frequently in some of the countries, for example, Côte d'Ivoire, Kenya and Senegal.

All these observations thus cast major doubts on the very possibility, not to mention the profitability in terms of foreign exchange, of export-oriented industrialization based on direct foreign investment. Its consistency with other policy targets is also open to question - in a period when great emphasis is placed on restraining the public budget, the pursuit of policies which forgo government revenue (through fiscal exemptions) and most probably increase government expenditures (due to the infrastructure required by these projects) requires careful evaluation. Finally, there is but a small probability that such projects could be consistent with attempts to develop an integrated industrial structure. Given that they must respond to a changing foreign market environment, the activity mix is likely to alter quite often and in ways not necessarily consistent with maintaining close inter-industry links. This point merely underlines the fact that an export-oriented industry really functions best when it is part of an import substitution approach, as has been the case in the larger Asian countries.

#### Rehabilitation

In the severely depressed state of African industry, rehabilitation has become a keyword for change. The content of rehabilitation measures is not, however, very clear. They could refer to refurbishment of capital equipment which has fallen into disrepair and/or supplementing the current capital stock by introducing some new machines. They could mean a re-organization of management and work processes in a plant, including methods of financial restructuring. They could mean redesigning a plant to produce a different type of product for a different market. So far, it is not obvious where the emphasis is to be placed; it may be that choices will simply be made on a case-by-case basis. Thus, the World Bank's ongoing work in Ghana has stressed the first of the above-mentioned meanings, due to the extreme paucity of industrial investment in that country during the past decade. Loans made by the International Development Association, an affiliate of the World Bank, and others (bilaterals) to the multi-country cement venture mentioned in the second section of this report, however, are clearly aimed at reorganizing a structure which has yet to produce results.

Whatever the difficulties of providing a general definition of rehabilitation, three points do deserve greater examination if "making the best of what exists" is to be the principal guideline for industrial investments during the next period. First, the criteria for choosing activities to be strengthened and those to be left out need to be specified. A second point, one which is closely related, is that there should be an

attempt to link the rehabilitation of different activities so that system improvements can be made - changes in one project can enhance the profitability of changes in others which are linked to it. Thirdly, a priori reasoning suggests it is unlikely that the conversion of plants from import substitution to export orientation can be made at all easily. Location, choice of equipment, type of output, quality control, and marketing mechanisms are all difficulties that might need to be solved if such a switch were to be effected.

African Governments are now confronted with the essentially defensive problem of deciding which industrial activities can be retained. Along with this, there is the task of deciding what steps need to be made to strengthen such activities. As with choosing new investments, the question of who is making the decisions affects the criteria employed. Again, unless African choices are made known, policy-making may be overtaken by others.

#### Towards an African industrial strategy

This report has established that the direct contribution of industry to debt in Africa is relatively small and that only in a couple of countries of sub-Saharan Africa does the industrial sector weigh more heavily than the others. It has also shown, however, that the debt burden has both drastically exposed the fragility of industrial structure in the region, especially the dependence on imported inputs, and provided the setting in which sweeping measures to reduce and reorganize the sector have already begun to be implemented. Since the economic crisis in the developed countries has resulted in a marked increase in the competition for market shares among the member countries, the aid flow, while not showing any stable trend, has increasingly been associated with commercial funds; indeed, the aid flow has become a kind of lever for obtaining industrial contracts.

The commercialization and sheer inadequacy of foreign aid flows have severely affected the domestic financial structure. Pressure on the public budget has sharply constrained the Government's role as a mobilizer of resources and a direct producer. Moreover, there are indications that domestic financing institutions are finding it increasingly difficult to provide resources for the much needed expansion of small- and medium-scale enterprises. There is no convincing evidence to suggest that direct foreign investment oriented towards export is likely to do much to generate fresh resources. Hence the indicators all point firmly towards a severe lack of finance for new industrial investment and growing conditionality of fund provision in general, along with increased tying of specific cash for industry, a shortage of cash to support the growth of small- to medium-scale enterprises, and the remote likelihood of new investment from abroad making much of a contribution to aggregate flows.

In these conditions, criticisms of economic mismanagement at both the policy and project level have grown quickly. If there has been a lack of accountability in relation to industrial projects, however, that criticism is fully applicable to all the principal entities involved, foreign as well as domestic. What is happening now is that the latter are bearing the full brunt of the attacks while there is little evidence that the foreign financing agencies are developing a clearer grasp of the problems. Instead, the accent is placed on either new activities, few of which are yet to be seen, or selective rehabilitation of what exists.



The broad assessments outlined above of course do not apply in the same way to all countries. Indeed, one of the difficulties in examining prospects in Africa is the enormous diversity among the countries. The north African States (Algeria, Egypt, Morocco and Tunisia) are all, in their own ways, strongly involved in industrial production: though they do have major problems, of which the debt burden is definitely one, they are far from being caught in the de-industrialization pressures to the same extent as the countries of sub-Saharan Africa. Within sub-Saharan Africa, three groups of countries may be distinguished. The most industrialized - Côte d'Ivoire, Kenya, Nigeria and Zimbabwe - are now thought to have reached such a degree of industrial/financial maturity that they can proceed with commercial borrowing and avoid too much cutting back of industry. The intermediate group, including such countries as Ghana, Madagascar, Malawi, Senegal, the United Republic of Tanzania, and Zambia, are seen as possible areas of industrial activity but subject to the broad pattern of pressures and disciplines described above. Finally, most of the other African countries are not regarded by developed country agencies as having significant industrial prospects. It follows that most of the real debate and conflicts over implementation are likely to focus on the first two groups of countries.

African Governments could concentrate their own actions at three levels: amendments to the financial system, concentration on industrial branches, and improvements in industrial project handling. The main findings of this report in these three areas are briefly outlined below.

#### Industrial finance

(a) There is a declining tendency in the availability of foreign finance and its commercialization is increasing. The allocation of foreign finance among African industrial projects will increasingly be determined by the short-term commercial viability of these projects. African Governments must assess the contribution such projects can make to African industrial development. There is a need to formulate a clear concept of the process of industrial rehabilitation in Africa. This report argues that successful industrial rehabilitation must involve project selection and development on the basis of criteria that suit Africa's needs and conditions. Rehabilitation should involve the preservation and development of projects which are at least potentially capable of maximizing the utilization of domestic natural resources and which produce essentially (though not exclusively) for the domestic markets. These projects should be oriented towards filling vital "gaps" in the production structure and increasing the overall sectoral integration of African industry. They should be capable of generating significant levels of sub-contracting and employment and stimulating regional trade;

(b) A clearly formulated and operationally viable conception of industrial rehabilitation provides a basis for negotiating financial arrangements with sympathetic donor Governments. As overall financial flows stagnate, concessional finance will increase in importance. Its increased association with non-concessional finance can only be challenged if African Governments identify the inconsistencies in the macro-economic and sector-specific recommendations of multilateral agencies (which has already been discussed in this report) and present alternative criteria for allocating foreign resources in a manner which enhances its long-term development potential;

(c) The scope for negotiating improvements in the availability and structure of industrial finance can be improved by developing a regionally co-ordinated African position on this issue. African bargaining power in the area of international finance has remained modest because African countries have been forced to deal in a bilateral framework. Arguments do exist in favour of removing the strongly discriminatory tendencies against sub-Saharan Africa which have significantly weakened access to international finance. Such arguments are likely to receive a better hearing if they are presented as a part of a coherent strategy of industrial rehabilitation and investment integration at the regional level.

#### Industrial Planning

(a) Industrial planning has remained a relatively underdeveloped art in most countries of sub-Saharan Africa. In particular, there is a need to reduce the emphasis currently placed on the availability of foreign finance as a determining pre-condition of project selection. Instead, project selection should reflect an application of the rehabilitation criteria outlined above. In particular, stress should be placed on increasing the vertical integration of industry and increasing its linkages with the agricultural sector;

(b) Project initiation should be co-ordinated and monitored on a national scale to assess the collective impact of industrial projects on foreign exchange and other resource requirements;

(c) Adequate attention should be given to demand management. Lack of demand has been a major factor limiting industrial growth in Africa. An economic strategy which promotes an equitable distribution of income can stimulate industrial demand and can create scope for developing a broader and more integrated range of industrial activities;

(d) Industrial planning has involved both domestic and international decision makers. The report has shown that the latter have often played a dominant role, particularly in questions related to the distribution of industrial finance. Both groups must share the responsibility for Africa's current economic difficulties and participate in the development of a viable industrial strategy. This requires the emergence of an international consensus on the concept of industrial rehabilitation as applicable in the case of Africa. It also requires a co-ordinated monitoring of changes in the international financial system and of efforts being made to modify this system to meet Africa's needs. Domestic policy adjustment can only succeed if it is complemented by changes in the structure of international financial relations;

(e) A particularly important example of the relationship between domestic and foreign financial policy is the obligation of African Governments to meet debt obligations for the foreign exchange earnings of successful industrial projects. Without a "cordoning off" of new viable industrial projects - i.e. exempting them from surrendering their foreign exchange earnings - industrial rehabilitation is simply impossible;

(f) The "cordoning off" of new projects for a specified time period should be supplemented by a careful monitoring of the overall foreign exchange costs (and benefits) of sustaining industrial development. Such a monitoring will ensure that opportunities for both saving and earning foreign exchange are pursued and that adjustments are made in procurement, operational and sales policies of specific projects in order to reduce unnecessary foreign exchange costs on a continuous basis.

Project development and reorganization

(a) This report emphasizes the need to improve the processes of project preparation and selection. Pre-investment studies are often undertaken by parties which have an investment stake. This has led to grave and often unrectifiable mistakes. Feasibility and pre-investment activities should be conducted as far as possible by neutral agencies. UNIDO can play an important role in this respect;

(b) There is also a need to improve contract negotiation. An effort must be made to reduce the liability of African Governments in the case of delivery hold-ups and construction delays. United Nations agencies can assist in improving African negotiating capacity, and regional co-ordination can also prove beneficial in this respect;

(c) Equipment supplies to African projects have often been sub-standard. A co-ordinated technology acquisition and procurement policy based upon relevant market information should be given high priority by African Governments;

(d) African Governments and international agencies have rarely undertaken project appraisal on a systematic basis, and this neglect has entailed high economic costs. Project monitoring on a continuous basis would be helpful, particularly in view of rapidly changing international price structures;

(e) Finally, there is also a need to improve management performance - although no evidence could be found for the general decline in this respect. Nevertheless, an improvement of management services can make a significant contribution to project rehabilitation in Africa.

On the basis of these recommendations, it is not easy to generalize regarding branches. Nevertheless, it seems the emphasis here should be placed on metalworking activities. There are three main reasons for this. First, repair and maintenance efforts are indispensable for the retention of capital stock and, thus, the productive capacity of the system. Secondly, the learning and further development that accompany industrial experience are best promoted through these industries. Thirdly, small- to medium-scale enterprises tend to be prominent in metalworking; thus, the branch offers an excellent means for tightening the link between public and private sector activities.

To emphasize metalworking does not deny that other areas may be equally promising in some cases and that the further processing of locally available raw materials has much to be said for it. Nevertheless, the essential skill which requires local mastery is the ability to maintain the stock of productive instruments - that must be supported whatever the output of consumer goods may be.

Within projects, it must be recognized that feasibility studies have a damning record of over-optimism in regard to construction and production possibilities. The constant and substantial cost overruns have regularly added to the project burdens for African industry even where responsibility for them rightfully belonged elsewhere. Unless guarantee clauses for this type of problem can be successfully enforced, the rejection of projects (and rehabilitation schemes) will have to be more frequent. Actual management obviously can always be improved, and there is certainly a need to improve the accountability of public sector managers. Governments should take steps to strengthen this aspect of public enterprise performance.

None of what has been said will be of use unless there is a genuine political will to create strength from crisis. When, some years ago, the international environment was much more benign than it is today, insufficient advantage was taken of the possibilities then available. Now the continent is faced with a challenge of responding to adversity - the only assurance is that if it does not do so, developments elsewhere will yield still more adverse results.

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Annex

QUALITATIVE OVERVIEW OF THE PERFORMANCE a/ OF VARIOUS INDUSTRIAL PROJECTS IN SUB-SAHARAN AFRICA

Country and industrial project (or branch)	Pre-investment study	Contract negotiation	Operation			Management	Comments
			Raw materials	Technical aspects	Output		
<u>Gabon</u>							
Sugar factory	Satisfactory	..	Good	..	Good	..	Sugar plantation and plant initially operated and owned by joint venture; the State was later made the full owner, which presumably means that it is also fully responsible in case things go seriously wrong. Initial plans unrealistic; project reduced to half size.
Société des ciments	Poor (?)	..	..	Poor	..	..	Uses local inputs; initial plans based on peak demand for cement in 1978/79; now produces at 40 per cent of capacity. Plans exist to use surplus cement for production of tiles etc.
Somifer (mining)	Good (?)	..	..	..	..	..	Project not implemented. Exploiting the large reserves of high-grade iron ore would require completion of the Transgabonais railway, for which the international organizations involved have refused to make new funds available.
Sogaferro (basic metals)	Poor (?)	..	..	..	..	..	Project not implemented. Waiting for completion of the Transgabonais railway (like the above-mentioned Somifer project) and completion of a 50 billion CFA franc hydropower project to provide energy.

continued

## Annex (continued)

Country and industrial project (or branch)	Pre-investment study	Contract negotiation	Operation			Management	Comments
			Raw materials	Technical aspects	Output		
Agrogabon	Satisfactory	..	Poor	..	..	..	Planned as an integrated agro-industry, but plantations etc. to provide it with resources have only been partly completed. Crude palm oil produced here cannot be used by existing refinery.
Petrol refineries	Poor	..	..	Satisfactory	Satisfactory	..	Over-capacity. Other countries in the region have become competitors. Downstream projects never realized.
Sogacell (paper pulp)	Poor	..	..	..	..	..	"stillborn" - no funds available for roads, water and electricity supply. Only minor parts of the project (dating back to 1969) had been realized when it was given up in 1983.
<u>Ghana</u>							
(Food processing)	..	..	Poor	Poor	Poor	Poor	Some well-managed projects produce at abysmally low levels due to lack of raw materials.
(Vegetable oils and fats)	..	..	Poor	Poor	Poor	..	Some plants are badly located in relation to raw material supply. Growing small-scale soap industry.
(Beverages)	..	..	Poor	Satisfactory	..	Satisfactory	Many small-scale traditional distilleries operate successfully, but product quality is variable.
(Tobacco)	..	..	Poor	Poor	Satisfactory	Good	Excess demand.
(Animal feed)	..	..	Poor	Poor	Poor	Satisfactory	Transport problems. Excess demand.

continued

Annex (continued)

Country and industrial project (or branch)	Pre-investment study	Contract negotiation	Operation			Management	Comments
			Raw materials	Technical aspects	Output		
(Wood processing)	..	..	Poor	Poor	Poor	Satisfactory	Problems with infrastructure.
(Rubber products)	..	..	Poor	Poor	Poor	Poor	Upgrading of rubber plantations and smallholder rubber production very badly needed. Problems with infrastructure.
(Textiles)	..	..	Poor	Poor	Poor	Poor	Raw cotton production very low due to low prices. Training methods of staff inappropriate. Government has not exploited export opportunities.
(Non-metallic material)	..	..	Satisfactory	Poor	Poor	Poor	Problems with infrastructure. Low demand caused by economic downturn.
(Metal and engineering)	..	..	Poor	Poor	Poor	Poor	Product range of some projects not suited for local market. Some basically sound projects with reasonable management cannot meet demand because inputs are unavailable.
<b><u>Nigeria</u></b>							
Delta Steel Plant	Good	..	..	..	..	..	Indian/Nigerian joint venture. Indian consultant (with much expertise in developing countries) considerably improved earlier German/Austrian plans. Foreign partner is in virtual control of everything. Not yet operational.

continued

## Annex (continued)

Country and industrial project (or branch)	Pre-investment study	Contract negotiation	Operation		Output	Management	Comments
			Raw materials	Technical aspects			
Machine Tools Company	Satisfactory (?)	Satisfactory (?)	Satisfactory (?)	Satisfactory (?)	..	..	Indian/Nigerian joint venture. Indian partner highly experienced in third world. "Pioneer machine tool factory ... likely to be one of the most modern machine tool plants in the world". Feasibility study carried out by Indian partner. Apparently reasonably well-run but completely dependent on imports. World Bank: "no doubt, demand will grow". "prospects somewhat better than marginal".
(Textiles)	..	..	Poor	Poor	Poor	..	Huge imports of inputs. Low productivity.
(Cement)	..	..	Good	Poor	Satisfactory	Good	A 20 per cent import duty on cement protects the market; high operating costs, scope for expansion.
Vehicle assembly plants (unspecified)	..	..	Poor	Poor	Poor	..	Problems: securing imports of inputs.
Kwara State metal products plants	..	..	Poor	Poor	Poor	..	Suffer from power cuts, shortage of inputs.
Hydroelectric power plant	Satisfactory	..	Satisfactory	Satisfactory	Satisfactory	..	Regional politics partly determined the type of power generation and the location. Insufficient water supply downstream as a result of this project.

continued



Annex (continued)

Country and industrial project (or branch)	Pre-investment study	Contract negotiation	Operation			Management	Comments
			Raw materials	Technical aspects	Output		
Paper mills	Poor	Poor	Poor	..	..	..	So far, the cost of these as yet largely inoperative projects has doubled. Insufficient attention to forest reserves, local infrastructure, related services. World Bank has made a rather optimistic projection of national demand growth in the near future to partly justify rehabilitation; in the long-term, the project presumably will save foreign exchange.
<u>Nigeria/Benin</u>							
Onigbolo cement factory	Poor	Poor	Poor	Poor	Poor	..	Infrastructure incomplete. Inexperienced Beninese and Nigerian partners fared badly with Danish technical partners.
<u>Senegal</u>							
Société Sénégalaise de Scierie	Satisfactory (?)	..	Poor	..	Poor	Poor	"Ambitious project" which operated efficiently at the start. Bankrupt after three years. Export restrictions on Côte d'Ivoire wood supplies. 30 per cent of available input wasted in production.
Fresh and tinned fish factory	Poor	..	..	..	..	Poor	"Short-term borrowed capital used to finance long-term needs". Well-established small firm before expansion; bankrupt two years after expansion.

continued

## Annex (continued)

Country and industrial project (or branch)	Pre-investment study	Contract negotiation	Operation		Output	Management	Comments
			Raw materials	Technical aspects			
Printing works	Good (?)	..	..	Good	Good	Good	Manager's "know how was transferred to him by his father" - a family tradition in printing. Main debtor: Government.
Paper product factory	..	..	Satisfactory	..	Good	Good	Well-managed, successful small firm, but profits are eroded by high cost of imported inputs.
State-owned fishing company	Poor (?)	..	..	Poor	Poor	Poor	Company bought two unsuitable trawlers for fish transport, with disastrous financial results.
Dry cell battery factory	Poor	Poor (?)	..	Poor	Poor	Poor	"Inferior quality product which could not be marketed domestically despite ... 100 per cent state protection". Excess capacity was installed wherever possible: "several factories within one factory". Factory was reorganized in 1981 and had a high turnover and good prospects in that year (no recent data available).
<u>Sierra Leone</u>							
Foam rubber factory	Good (?)	..	..	..	Good	..	Successful enterprise supplying domestic market, some export; operation stopped in 1983 after fire.

continued

Annex (continued)

Country and industrial project (or branch)	Pre-investment study	Contract negotiation	Operation		Output	Management	Comments
			Raw materials	Technical aspects			
Soap and plastic bag factory	..	..	..	..	Good (?)	Good (?)	Successful, although profits lower than planned. Extension of existing factory.
Ice cream company	..	..	Poor (initially)	..	Poor	Poor	Expansion of existing company.
Rice mill	..	..	Good (?)	Satisfactory	Good (?)	Good (?)	Spare parts problem. High operation costs. Expansion of existing small firm.
Printing works	..	..	Satisfactory	Satisfactory	..	Good (?)	Foreign exchange scarcity, major problems in acquiring inputs; has operated quite profitably.
Jute bag manufacturer	..	..	Poor	Poor	Poor	..	Output initially 2.3 per cent of planned output. Foreign exchange problems; input problem. Attempts to produce jute domestically failed. "... equipment in an irrecoverable state of rust".
Fruit processing company	Poor (?)	..	..	..	Poor	Poor	Low-quality product - totally uncompetitive; closed down.
Fish meal/oil company	..	..	Poor	Poor	Poor	Poor	Run by expatriates (exception in Sierra Leone sample). Inadequate trawlers - inadequate catch; inadequate marketing. Closed down.

continued

## Annex (continued)

Country and industrial project (or branch)	Pre-investment study	Contract negotiation	Operation			Management	Comments
			Raw materials	Technical aspects	Output		
Carbon dioxide plant	Good	..	Poor	Poor	Poor	Good	Predominantly foreign-owned. Replaced obsolete plant. Initial plan rejected by the African Development Bank; revised appraisal report accepted. Foreign exchange problems; lack of inputs. Export market deteriorated.
Confectionery	Good	..	Poor	..	Good	Good	Foreign exchange problems; lack of inputs; good quality products which sell well.
<b>Zaire</b>							
Société textile de Kisangani b/	..	Poor	Good	Good	Good	Good	Linkage effects: increased local cotton production, other inputs. Presidential project (improving stability in separatist region) - few problems in implementing and running the project. Large regional demand. Both machinery and personnel are exploited to the highest possible degree. Technical breakdown will be remedied by French development aid; large-scale social breakdown is quite possible - no remedy is mentioned. No evidence of long-term planning. Plant totally controlled by French-Swiss parties in joint venture.

continued

Annex (continued)

Country and industrial project (or branch)	Pre-investment study	Contract negotiation	Operation			Management	Comments
			Raw materials	Technical aspects	Output		
Minoterie de Watadi	..	Poor	..	..	Good	Good	Very favourable terms for the partner from an industrialized country in this "joint" venture; in effect, 90 per cent of the production cost of flour is subsidized by the Banque Nationale. Total control by the industrialized country.
Cimenterie Nationale	Poor	Poor	Poor	Poor (?)	Poor	..	Ratio of planned construction cost to real construction cost: 1 to 6. Critical assessment of project shelved by Government. Not located near sufficient raw material resources.
<u>Zimbabwe</u>							
Chewing gum factory	..	Good	Satisfactory	Good	Good	Good	Partly export-oriented; export market share more or less guaranteed by Danish parent company. Production/export could be higher if foreign exchange restrictions (imports of raw materials) were relaxed. Danish company may review participation in case of growing political instability.

Sources: For Gabon: material supplied by Université Paris X (1985); for Ghana: drawn from World Bank studies of industrial branches (1985); for the Nigerian/Beninese joint cement factory: O. Akin Abudifa, "The Onigbolo cement story, or how to snatch defeat from the jaws of victory", 1982; for Senegal: assessments made by the African Development Bank (1984); for Sierra Leone: assessment made by the African Development Bank (1984); for Zaire: material supplied by Université Paris X (1985); for Zimbabwe: Roger Riddell, "Foreign investment in Zimbabwe", June 1984.

- a/ The performance indicators - "good", "satisfactory" and "poor" - are assigned on the basis of the remarks made in the primary source material.
- b/ Zaire also acquired 30 complete high-technology textile plants from the United States of America; these have never produced any cloth.

SMALL-SCALE INDUSTRIES IN THE IMPLEMENTATION OF  
A GROWTH CENTRE STRATEGY OF REGIONAL DEVELOPMENT:  
A CASE-STUDY IN GHANA

P.W.K. Yankson\*

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Introduction

The growth pole (and growth centre) approach is one of a variety of spatial development strategies that have been tried in many developed and some developing countries. During the mid-1970s, this strategy was adopted by State planners to promote rural development. A four-tier growth-foci approach was incorporated into the 1975-1980 five-year development plan of Ghana, although to date, the growth-foci idea in Ghana has not been translated into a concrete programme for implementation.

Certain pertinent issues should be examined and settled to ensure the successful implementation of such a strategy. Among the issues that planners need to deal with are the following: first, establishing criteria for identifying and selecting potential growth centres; secondly, stimulating growth and development of these centres to enable them in turn to stimulate their surrounding areas to higher levels of growth; and thirdly, transmitting the growth impulses thus generated in the centres to their surrounding areas, thereby leading to a balanced spatial system. None of these issues has been considered in connection with the attempted growth-foci approach to development in Ghana.

This paper concentrates on the second of the above-mentioned issues. It examines the role small-scale industries can play not only in generating income and employment in potential growth centres, but also in stimulating the wider urban and regional economies of the growth centres. The vast literature on the subject is briefly reviewed, and Ghana's proposed growth-foci approach is highlighted. Employment generation in growth centres is considered, and finally small-scale industries in selected centres are examined to show how these industries operate in urban areas of various sizes. This helps both in determining how the enterprises perform in different urban settings, and in deciding at what level within the urban hierarchy planners should concentrate investments to stimulate the growth of small-scale industries as instruments for regional development.

Growth-pole and growth-centre concepts: a brief review

The French economist Perroux ([1], [2]) is generally credited with initiating these concepts in his theory of growth (development) poles (pôles de croissance), which he defined in relation to abstract economic space. Growth poles were conceived as a field of forces consisting of centres (poles or foci). These forces were essentially economic and their generators mainly firms and industries. Perroux was primarily concerned

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\*Department of Geography, University of Ghana, Legon. This paper is based on the author's doctoral dissertation prepared at the University of Nottingham, United Kingdom of Great Britain and Northern Ireland.

with the process of growth as reflected in the appearance and development of new activities, in other words, growth among firms and industries and their interactions rather than the spatial pattern of economic activity or the geographic implications of economic growth and interindustrial shifts (Hermansen [3], p. 21).

Perroux's growth pole thus corresponds to the leading sector of the economy, the dominance of which is expressed through backward and forward linkages to the manufacturing sector of the spatial economy, but linkages between firms are not considered with respect to geographic location.

Following Perroux's work, attempts have been made by such authors as Myrdal [4], Hirschman [5], Boudeville [6] and Friedmann [7], [8] to incorporate space into Perroux's original idea, and this has given rise to the concept of growth centre and its related body of concepts. The growth-pole concept has also been related to other spatial theories such as the central place theory (Hermansen [3], Parr [9]) and the notion of innovation and diffusion of growth impulses through the urban hierarchy (Berry [10], Pederson [11]).

The application of the pole concept and its related body of concepts has not been very successful, and many criticisms have been raised as a result. These range from semantic problems (Darwent [12], Moseley [13]) through the unresolved issue of the criteria for selecting growth centres (Appalraju and Safier [14], Hansen [15], p. 103, Moseley [13], Toloso and Reiner [16], Weller [17], Brown [18], Nicols [19], Morrill [20], Maki [21], European Trade Association [22]). The issue of the lack of spatial manifestation of the development impulses generated by growth centres has attracted some attention in the literature (Gaile [23], Hansen [15], Johnson [24], Dickson [25]), and Latin American reviewers have criticized the concepts on ideological, theoretical, political and practical grounds (Conroy [26], Richardson and Richardson [27]).

Despite these criticisms, the attraction of the growth pole and its related concepts to spatial development planners is still strong, largely because these concepts can be combined with other space-organizing concepts, such as the central place theory and the diffusion models, to provide a theoretical framework within which spatial development efforts could be organized. This applies especially to investments and the distribution of infrastructure.

#### Ghana's approach to growth pole/growth centre strategy

Ghana began to adopt a growth-foci approach in the early 1970s when government planners advocated its use (Kudiabor [28], [29], [30]) and proposed a four-tier hierarchy of growth foci, comprising growth poles at the national level, growth centres at the regional level, growth points at the district level and development service centres at the local and village levels. The Government incorporated this approach in the 1975-1980 five-year development plan. The growth-foci approach was supposed to be applied to rural agricultural and industrial development. However, the plan document did not go beyond a mere declaration of intent, and nothing further has been done about a growth-foci approach to rural development.

#### Growth-pole and growth-centre concepts in relation to employment generation

In their present state of development the growth-pole and growth-centre concepts leave much to be desired because they provide no guidelines as to how to implement the ideas embodied in them. This is particularly so

with respect to employment generation. The pole (or centre) is expected to develop a network of forward and backward linkages with new and existing industries, leading to direct and indirect creation of wage employment (Mayer [31], pp. 25-95). It is doubtful whether the application of the theory through the setting-up of large-scale industries alone can provide adequate employment within the "poles environment".

Secondly, it is not easy for large-scale capital-intensive industries to be set up away from the major industrial centres, except where they are purely material or power-oriented industries.

The locational requirements of large-scale industries are such that not all the chosen centres can be industrial centres. Granted that location is not a problem, it must be considered that industries need complementary activities to function effectively. Thus, for a growth centre strategy to achieve the objective of regional development there must be a high degree of deliberateness in the planning programme for the sequential location of economic activities (Mabogunje [32]). This calls for an industrial location policy which also has to consider the linkage relationships that may exist between existing industries.

These requirements are not easily met in developing countries like Ghana, beset by serious financial problems which can delay the pace of implementing such a policy. In addition, it is not easy to disperse even the medium-sized and small-scale (modern) industrial units away from the main industrial centres, even with specific development controls and some form of fiscal incentives and financial measures (United Nations [33], pp. 468-474). However, one cannot rely on controls and incentives to achieve substantial success in industrial dispersion in developing countries because such policies have not been backed by complementary policies and programmes (Friedmann [34], pp. 246-247). Those complementary policies include the provision of adequate infrastructural and related services and the removal of constraints facing the location of large and medium-sized industries in underdeveloped regions and centres.

Moreover, the import-substitution industrialization strategy which Ghana and many developing countries have adopted does not augur well for industrial dispersion away from port cities and metropolitan areas. In the late 1950s and early 1960s the central Government attempted to decentralize industries away from the three main industrial centres of Accra-Tema, Kumasi, and Sekondi-Takoradi by proposing to build up to 20 other rural industrial centres. These centres were to be district or local administrative centres or places where raw materials were available. The idea was to establish in them industries which could survive economically outside the larger industrial centres (Ewusi [35], pp. 14-15). This project could not be implemented as part of the government industrialization programme contained in the second five-year development plan (1959-1964) because the plan was abandoned in 1961 in favour of the seven-year development plan (1963-1970). Since the 1960s no clear policy for locating industries outside the main urban centres has been pursued.

Apart from the question of location, the impact of large and medium-sized industries on employment should also be considered. The long-term impact of large-scale capital-intensive industries on employment generation is not encouraging (Morawetz [36]). Throughout the developing world, the creation of new employment opportunities by large-scale industrialization has not kept pace with the growth of the labour force, although it has been suggested that the picture is not totally bleak for Ghana (Ewusi [37]), and



that other avenues for employment generation in prospective growth centres must be considered. In particular, the possible role of small-scale industries in generating local activities in growth centres should be studied.

This approach seems to be supported by some writers. Misra ([38], pp. 141-168) for instance, has attacked the over-emphasis placed on industrial development as the basis for a growth-centre strategy, although he agrees that industrial development is a major contributor to economic growth. He suggests that, in the socio-economic context of developing countries, growth centres should not serve only as industrial centres, but should also be allocated various other functions. This suggestion reflects the conditions existing in many developing countries, where there are obvious growth centres whose economies may be dominated not by any "leading or propulsive" industry, but rather by "a wide range of functionally unconnected small-scale activities which have developed together without any growth industry stimulating the process". The role of these small-scale activities (or industries) has not been given the attention it deserves in growth-centre thinking in developing countries.

In his two-circuit urban economic model, Santos [39] notes that the growth-pole theory takes into account only the "upper circuit" consisting of the modern sector, and has little relevance to the "lower circuit", or traditional sector, consisting of non-capital-intensive industries, servicing and trading.

In their work in Kenya on the selection of growth centres for rural development, Kimani and Taylor [40] refer to the importance of small-scale enterprises in the growth-centre selection process. They stress that one of the important indicators in any growth-centre selection process is the relative growth of informal sector enterprises (that is, small-scale enterprises) over time. Hence there is a need to consider the role of small-scale enterprises, in particular small-scale industries, not only in the growth-centre selection process, as Kimani and Taylor [40] have suggested, but also in the development of growth centres and their environs, especially with regard to income and employment generation.

#### Issues relating to the potential of small-scale industries in regional development in Ghana

Small-scale industries in the urban and rural economies of developing countries are numerous. Most of them are small in terms of the size of the labour force and economic turnover. Some are one-man businesses which have no prospects for employment expansion even when they are doing good business. A knowledge of the growth dynamics of small-scale industries is needed to help development planners determine which enterprises to concentrate development efforts on. It is also necessary to have an idea of the size of the centres or the level in the urban hierarchy where emphasis should be placed in their effort to develop small-scale industries. To help meet these requirements, the following issues need to be considered:

(a) To what extent do small-scale industries as a whole or some of them have the actual capacity or potential for generating "adequate" income and employment in both the short and the long term;

(b) What is the impact of their activities on the local (urban) economy and the wider regional economy? In other words, what is the nature and extent of linkages between small-scale industries and the rest of the economy? Can these linkages be extended to generate more economic activities;

(c) What type of the growth pattern, if any, is found in the small-scale industries;

(d) How do these issues relate to the size of the centres in which the small-scale industries are located?

There has been some academic discussion on the role of small-scale industries in various countries of the third world. In Ghana the work of Steel [41] has thrown some light on the dynamic role the intermediate sector can play in economic growth and employment generation. Other relevant works include those of Aryee [42], [43], Hakam [44], International Labour Organisation/Jobs and Skills Programme for Africa [45] and Kennedy [46], [47]. Most of these studies concentrated on one or a few urban centres, leaving the regional aspects untouched. The present study looks at the issues from a regional standpoint by examining the performance of small-scale industries in a number of centres in one administrative region - the Central Region. It concentrates on the lower three tiers within the four-tier hierarchical structure proposed for regional development in Ghana, ranging from the growth centre at the regional level downwards.

#### Case-study of small-scale industries in the central region of Ghana

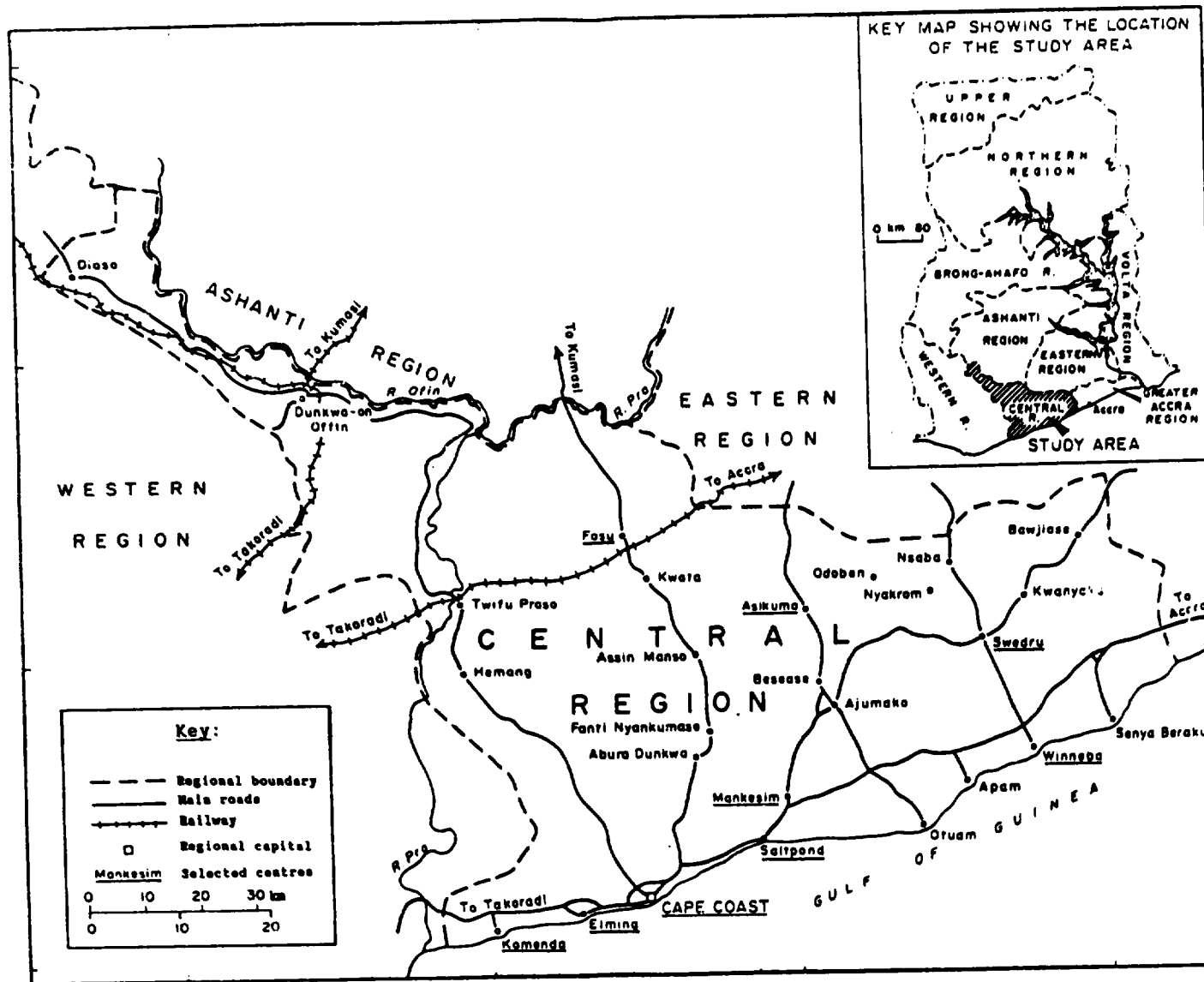
For practical purposes, the study had to be limited to one administrative region and to a number of urban and rural centres within it. In Ghana, the administrative regions are also planning regions. There are ten administrative regions in the country, each consisting of smaller units called districts.

The Central Region (see figure) is in many ways representative of the regions of the country in terms of demographic structure, economic activities, employment structure and the pattern of urban development. In line with the four-tier system of growth foci proposed for Ghana, the study was designed to examine small-scale industries in a regional centre (the regional growth centre), district centres (growth points) and other small urban centres (development centres in rural areas). Nine urban centres were thus selected on the basis of population size, population growth rates between 1960 and 1970, socio-politico-economic functions, accessibility and spatial balance.\* The chosen centres and their 1970 population sizes were the following: Cape Coast (51,653), Winneba (30,778), Swedru (21,522), Saltpond (11,549), Elmina (11,401), Fosu (7,249), Asikuma (6,948), Komenda (5,966) and Mankesim (4,412).\*\* The centres can thus be classified as Cape Coast (potential regional growth centre), Winneba and Swedru (the two medium-sized regional centres as potential growth points) and the others (potential development service centres).

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\*In 1970 there were 24 towns in the Central Region. A town in Ghana is administratively defined as any settlement with 5,000 or more inhabitants.

\*\*The nine centres were categorized as follows: large - centres with a population of 50,000 or more in 1970 (for example, Cape Coast); medium-sized - centres with a population between 20,000 and 50,000 (for example, Winneba and Swedru); small - centres with a population between 5,000 and 20,000 (the remaining centres surveyed fall into this category).



Central Region showing the location of selected centres

Types of activity included in the study

In many developing countries, including Ghana, the data collection machinery for the industrial sector fails to cover most of the small-scale, largely "unorganized" enterprises for many reasons. In general, operators do not co-operate in giving information regarding the operation of their enterprises. Moreover, some of the units have no fixed working places, which makes it difficult to know the exact number of units operating at any particular period. A study of any aspect of the small-scale industries almost invariably must start from a basic survey which is then used to select a sample for more detailed study. Only enterprises with fixed places of work or operation were included in the basic survey which was more or less a head-count exercise.

The enterprises covered in the basic survey included both modern and traditional craft and service units, sandcrete block-making, carpentry, dressmaking, tailoring, metalworking, smithing, automobile repairs, milling, food preparation and repair and other related services such as photography, beautification and watch and shoe repairing. A small-scale industry was simply defined as a largely privately owned production or service industry employing up to thirty people.

The basic survey covered 1,006 enterprises with 2,690 employees. Table 1 gives the enterprise breakdown, 595 units being selected for a more detailed study. A questionnaire survey was then conducted using a proportionate stratified sampling technique involving at least a 50 per cent sample size in each centre. The questions covered a broad range of issues, including the following: background of the business units, employment structure and income; input structure; output and marketing; linkage factors, problems of and prospects for expansion; and background of the operators. A questionnaire consisting of 90 questions was used in the nine centres selected for the study. Some of the sampled operators were requested to obtain additional material to back up the main survey.

Table 1. Total number of enumerated enterprises and employment levels in the petty commodity sector in the selected centres

Centres	Number of enterprises	Number employed
Cape Coast	343	806
Winneba	146	512
Swedru	188	465
Saltpond	88	241
Elmina	86	170
Fosu	40	138
Asikuma	49	200
Komenda	29	70
Mankesim	37	88
Total	1 006	2 690

Source: P.W.K. Yankson, "Planning for the informal sector in the Central Region: implications for growth centres and regional planning in Ghana", Ph.D. dissertation (University of Nottingham, 1979), p. 162, table 6.11.

Quantitative data is difficult to obtain. Operators do not usually keep records of their transactions and tend to be either unable or unwilling to give out figures on expenditures and turnover that would make possible a quantitative assessment of their level of efficiency in the running of their enterprises over a long period of time. Nor is it possible to compute certain important indices such as capital-labour intensities or ratios. At best only a picture of how individual enterprises are performing at a point in time can be obtained through a cross-sectional study. It is difficult to draw firm conclusions from studies of this kind. A study that can be carried out over a longer period of time, involving perhaps a few selected but representative enterprises and recording certain vital statistics, is the best approach to correctly assessing the operating conditions of small-scale enterprises. Such a study could be expensive.

The present study adopted a cross-sectional approach, taking into account some of the above-mentioned problems concerning data generation.

#### Employment and income generation

This aspect of small-scale industries has been dealt with by other writers (Yankson [48]), but its main features will be presented here. To examine these issues, one has to begin by looking at the growth pattern of the small-scale industrial enterprises in the centres surveyed. In Table 2 one notices a sharp increase in the number of enterprises that were established after 1965. Between 1966 and 1975, 66 per cent of all sampled units were set up, whereas the rate of establishment slightly declined between 1975 and 1978. The significant rise in the number of production units after 1966 affected mainly the modern craft activities. These included sandcrete manufacturing (83 per cent), dressmaking (80 per cent), tailoring (63 per cent), electrical repairs (48 per cent), milling (46 per cent) and the service industries such as photography (70 per cent) and hair-styling (83 per cent). On the other hand, most of the traditional craft activities such as smithing, pottery and weaving were set up before 1966. Should this growth pattern continue in the future, it is quite likely that many more modern industrial enterprises will be established, with a corresponding decline in importance of the traditional crafts.

Table 2. Enterprises and period of establishment

Number of enterprises	Period of establishment
58 (9.7)	Before 1960
92 (15.5)	1961-1965
187 (31.4)	1966-1970
206 (34.6)	1971-1975
52 (8.7)	1976-1978
Total	595 (100)

Source: Adapted from P.W.K. Yankson, "Planning for the informal sector in the Central Region: implications for growth centres and regional planning in Ghana", Ph.D. dissertation (University of Nottingham, 1979), p. 173, table 6.6.

Note: Percentages given in parentheses.

In general, the survey showed that most of the enterprises (92 per cent) started with less than 10 employees. Of those sampled, 72 per cent began with less than five employees per enterprise. Over the years the size of the work-force per industrial enterprise does not seem to change significantly. At the time of the survey the average size of the total work-force per enterprise was about four. Apprentices constituted the bulk of full-time workers (66 per cent) in the small-scale industrial units surveyed. Only 35 per cent of the units sampled employed wage labour. Most of the units operate fully for at least nine months of the year. Most of the enterprises experience an average of three months of a downward trend in the business cycle or a closure of business altogether.

Small-scale industries also generate income for the operators and their families. The mean weekly profit of c156 at the time of the survey compared favourably with the national minimum (guaranteed) wage per month of c150. The above figures must be treated with caution, however, since they may be underestimated by operators. The amount of average income generated by small-scale industries seems to relate to the size of the centres in which they operate (table 3). The differences observed among the centres, which have been categorized into large, medium-sized and small according to their population sizes, seemed small though statistically significant. Opportunities for income generation seem to relate therefore to the size of the centres in which the enterprises are located.

Table 3. Mean weekly profit for all enterprises in the nine centres surveyed

Location	Mean weekly profit per enterprise (cedis)	Standard error	Standard deviation	Statistical sample
Cape Coast	236.7	36.99	490.76	176
Winneba	162.06	20.11	185.36	85
Swedru	229.42	41.31	465.56	127
Saltpond	62.43	7.68	50.97	44
Elmina	340.89	196.27	1 301.89	44
Fosu	62.8	13.23	83.67	40
Asikum.	44.47	12.66	188.58	49
Komenda	143.29	29.75	111.33	14
Mankesim	95.5	17.89	71.557	16
All centres	185.8	20.61	563.24	595
Large centres	236.69	36.99	490.76	176
Medium-sized centres	202.57	26.08	379.69	212
Small centres	125.42	42.38	609.77	207

Source: P.W.K. Yankson, "Planning for the informal sector in the Central Region: implications for growth centres and regional planning in Ghana", Ph.D. dissertation (University of Nottingham, 1979), p. 194, table 6.21.

An attempt was made to isolate and examine the factors that may have influenced the employment and income generation observed. Seven main factors were isolated and discussed using simple multiple regression models. But the models only explained less than 20 per cent of the variations observed in both employment and income among the units covered in the survey. The results of the analysis suggest that factors outside the model have greater influence on employment and profit in the small-scale industrial sector. These factors may include the general economic environment, the internal operating characteristics of the enterprises and the economic base of the towns in which the industries operate.

The survey results indicate that the total labour force per enterprise is very small and may remain so in the long run. This suggests that small-scale industries on the whole lack the potential for substantial short-term or long-term expansion. It would be even more interesting to examine labour turnover during a period of time and relate it to the business performance of individual units, but this cannot be done by means of a cross-sectional study such as the present one. Nevertheless, the views of operators and entrepreneurs were sought on this point. They were asked to assess the present and likely future state of their enterprises and their plans for expansion and improvement. The responses received were related to certain characteristics of the entrepreneurs, and differences noted in the responses of operators in different centres and activities were examined.

With respect to business performance, operators were asked whether in the previous five years they had experienced an improvement, a decline or no change in their performances measured in terms of production and sale of goods and services. The survey results indicated that less than a fourth of all operators thought their businesses had experienced a decline.

In general, however, a slightly greater proportion of operators in the large centres (43 per cent) than in the medium-sized (40 per cent) and small centres (41 per cent) thought that over the previous five years their businesses had improved, but these differences in proportions were insignificant. On the other hand, a greater proportion of operators in the small centres (29 per cent) than in the other centres considered their businesses to have declined in output and turnover during the previous five years (table 4).

The reasons generally ascribed to changes in business fortunes were related mainly to the general economic conditions of the country in the previous five years. The operators interviewed found it difficult to pinpoint a single factor responsible for their situation, preferring rather to mention a composite of factors. Thirty per cent of them related an improvement to increased sales or patronage of their goods and services, whereas 5 per cent attributed it to the availability of capital largely from the public or formal sector. Approximately seven per cent of the operators linked the improved performance of their enterprises with decreased competition largely due to shortages of material inputs that must have compelled some operators to wind up their businesses. Lack of materials and spare parts was the major factor for those who experienced a decline.

#### Prospects for expansion, desire to stay in business

Operators were asked whether despite fluctuations in business fortunes in the past and the likely uncertainties in the future, they would like to continue operating their enterprises: 84 per cent of them answered positively (table 5). Asked why they wished to continue, they gave a variety

of answers: 36 per cent of them said they had acquired training and experience in their various fields of activity and preferred to put them to good use; 10 per cent wanted to remain self-employed and be able to control their own businesses as a means of livelihood; 8 per cent did not want to learn a new trade and could not easily change jobs; 28 per cent considered their work to be their only means of subsistence or extra income as well as a visible or tangible legacy to bequeath to their children; and 17 per cent gave various other reasons. Fifty-nine entrepreneurs had no plans to continue operating their businesses. Of these, 29 per cent planned to retire because of advancing years, 75 per cent of such respondents being over 50 years of age; 27 per cent wanted to learn new trades or acquire new skills and work in other occupations; 13 per cent wanted to find employment in public or large-scale private organizations, or what may be termed the formal sector; and 15 per cent wanted to devote themselves to farming.

Table 4. Perception of business fortunes in the petty commodity sector

Centres involved	Operators' assessment of their business fortunes (percentage)				Total sample
	Improved	Same	Declined	Don't know	
Large	43.2 (76)	27.8 (49)	25 (44)	4 (7)	176
Medium-sized	39.6 (84)	56.1 (119)	4.2 (9)	-	212
Small	40.6 (84)	31 (64)	29 (59)	--	207
All centres	40.8 (242)	38.8 (231)	18.3 (109)	1.2 (13)	595

Source: P.W.K. Yankson, "Planning for the informal sector in the Central Region: implications for growth centres and regional planning in Ghana", Ph.D. dissertation (University of Nottingham, 1979), p. 284, table 10.9.

Note: Actual frequencies given in parentheses.

Table 5. Survey of petty commodity enterprises on likelihood of remaining in business

Centres involved	Response of operators (percentage)			Total sample
	Yes	No	Don't know	
Large	73.3 (130)	14.8 (26)	11.4 (20)	176
Medium-sized	89.6 (190)	9.4 (20)	1 (2)	212
Small	87.9 (182)	6.3 (13)	5.8 (12)	207

Source: P.W.K. Yankson, "Planning for the informal sector in the Central Region: implications for growth centres and regional planning in Ghana", Ph.D. dissertation (University of Nottingham, 1979), p. 287, table 10.11.

Note: Actual frequencies given in parentheses.



There were differences in the above responses among operators in different activity areas and different age groups. Table 6 shows that the proportion of operators who wished to stay in business in future was high among all the enterprises studied. Only a few operators, particularly in metalworking, tin-smithing, milling, repair units and the provision of personal services like photography and beauty parlours, were likely to leave their businesses in the future. A cross-tabulation of the age of the operators and their decisions or desires to continue in or leave business showed that the number of operators who were unlikely to continue in business increased with the age of the operators (see table 7).

Table 6. Survey of petty commodity enterprises on their likelihood of remaining in business: breakdown by activity

Type of activity	Response of entrepreneurs (percentage)		
	Yes	No	Don't know
Bakery	89.7 (61)	10.3 (7)	--
Block-making	100 (12)	--	--
Carpentry	80.6 (50)	9.7 (6)	--
Dressmaking	91.5 (54)	3.4 (2)	5.1 (3)
Tailoring	88.6 (109)	4.9 (6)	6.5 (8)
Metalworking	65.4 (17)	30.8 (8)	3.8 (1)
Shoe repairs	78.4 (40)	21.6 (11)	--
Watch repairs	80 (12)	20 (3)	--
Automobile repairs	88.9 (56)	1.6 (1)	9.5 (6)
Electrical repairs	96 (24)	4 (1)	--
Smithing repairs	47.3 (9)	15.8 (3)	36.8 (7)
Food preparation	80.6 (25)	3.2 (1)	16.1 (5)
Milling	61.5 (8)	30.8 (4)	7.7 (1)
Photography	70 (7)	30 (3)	--
Hair-styling	66.7 (4)	33.3 (2)	--
Weaving	85.7 (6)	--	14.3 (1)
Others	72 (8)	28 (3)	--
Total	84.4 (502)	10.3 (61)	5.1 (32)

Source: P.W.K. Yankson, "Planning for the informal sector in the Central Region: implications for growth centres and regional planning in Ghana", Ph.D. dissertation (University of Nottingham, 1979), p. 292, table 10.15a.

Note: Actual frequencies given in parentheses.

It may be inferred from table 7 that operators who are likely to leave their jobs are probably the older rather than the comparatively younger operators. This could adversely affect the future of enterprises dominated by comparatively older entrepreneurs, such as bakery, carpentry and smithing, in which a significant proportion of operators are above the age of 40. On the other hand, problems could be avoided if new enterprises operated by younger entrepreneurs replaced those likely to be wound up by older entrepreneurs.

Table 7. Survey of petty commodity operators on their likelihood of remaining in business: breakdown by age group

Age group	Response of operators (percentage)			Total sample (percentage)
	Yes	No	Don't know	
15-20	66.7	33.3	--	1.5 (9)
21-25	91.5	3.7	4.8	13.8 (82)
26-30	86.4	7.7	5.9	28.4 (169)
31-40	85.6	6.3	8.1	29.2 (174)
41-50	62.2	15.1	2.7	12.3 (73)
51-60	62.5	35.0	2.5	6.7 (40)
Over 60	80	20	--	1.6 (10)
No age given	86.8	5.3	7.9	6.4 (38)
All age groups	84.4 (502)	9.9 (59)	5.7 (34)	100 (595)

Source: P.W.K. Yankson, "Planning for the informal sector in the Central Region: implications for growth centres and regional planning in Ghana", Ph.D. dissertation (University of Nottingham, 1979), p. 288, table 10.13.

Notes: Actual frequencies given in parentheses.

Chi-square = 54.65 with 24 degrees of freedom.

Significance = 0.0004.

#### Entrepreneurs' plans for the future

Operators were queried about likely future changes in their plans for employment generation, physical improvement of their business units and relocation.

#### Employment

Perhaps because of the constraints on production of goods and services, a large proportion of the operators did not wish to increase their work-force in future, although some of them had plans for physical improvements or an expansion of production in their business units. Some differences in the rates of response among operators in the various activity areas need to be noted. The activity areas in which at least 50 per cent of the sampled operators wished to expand employment were carpentry (95 per cent), dressmaking (64 per cent), tailoring (50 per cent) and beauty parlours (67 per cent). At the same time, only a comparatively small number of operators in the older enterprises (that is, those established before 1970) wished to expand their employment (see table 8).

It therefore seems that with the passage of time small-scale industries tend to become labour-saturated, thus limiting their scope for long-term employment expansion except through the creation of new enterprises to add to or replace the older ones. It may thus be tentatively concluded that small-scale industries have potential for both short and long term employment growth, but the latter will be largely determined by the prevailing economic conditions, and that the employment growth pattern is likely to be "involutionary" rather than "evolutionary" in nature.

Table 8. Assessment of need for employment expansion:  
breakdown by age of enterprise

Period of establishment	Response of operators (percentage)		
	Yes	No	Don't know
Before 1960	67.2 (39)	25.9 (15)	6.9 (4)
1961-1965	78.3 (72)	16.3 (15)	5.4 (5)
1966-1970	89.8 (168)	6.4 (12)	3.7 (7)
1971-1975	86.4 (178)	5.8 (12)	7.3 (15)
1976-1978	86.5 (45)	9.6 (5)	3.8 (2)
Total	84.4 (502)	9.9 (59)	5.6 (34)

Source: P.W.K. Yankson, "Planning for the informal sector in the Central Region: implications for growth centres and regional planning in Ghana", Ph.D. dissertation (University of Nottingham, 1979), p. 298, table 10.17.

Note: Actual frequencies given in parentheses.

Differences were also observed among centres. Rather surprisingly a greater proportion of operators in the small rather than in the medium-size and large centres had plans to expand their work-force (table 9), but even among the small centres there were differences in response rate. The proportion was higher among the larger small centres, such as Saltpond and Elmina, than among the other small centres.

#### Physical improvement

The survey shows that a majority of the units were being operated from rented premises, especially for automobile repairs (89 per cent), electrical repairs (60 per cent), metal working and tin-smithing (65 per cent), block manufacturing (92 per cent), tailoring (66 per cent), dressmaking (61 per cent) and carpentry (56 per cent). When asked about their plans for physical improvement of their shops and workshops, only 35 per cent of entrepreneurs said they would like to build new workshops or renovate existing ones. This does not mean, however, that those who had no such plans were satisfied with the state of their workshops. Entrepreneurs were rather more interested in investing in tools than in workshops, for 74 per cent of them wanted to acquire new machines or repair broken-down equipment if parts become available.

#### Relocation

Of the units sampled, 77 per cent were initially established in the selected centres, and 85 per cent in the selected centres and their surrounding villages and areas. Only 11 per cent were originally started in other centres outside the central region, and 7 per cent were initially established in the three main urban centres of the country, namely, the Accra-Tema metropolitan area, Kumasi, and Sekondi-Takoradi (see table 10). An examination of table 10 shows that the proportion of enterprises that migrated from elsewhere into the selected centres is inversely related to

Table 9. Assessment of need for employment expansion:  
breakdown by centre

Centre	Response of operators (percentage)		
	Yes	No	Don't know
Cape Coast	46 (81)	45 (79)	9 (16)
Winneba	23.5 (20)	74.1 (63)	24 (2)
Swedru	35.2 (32)	73.2 (93)	1.6 (2)
Saltpond	75 (33)	25 (11)	--
Elmina	90.9 (40)	4.5 (2)	4.5 (2)
Fosu	27.5 (11)	67.5 (27)	5 (2)
Asikuma	24.5 (12)	75.5 (37)	--
Komenda	50 (7)	50 (7)	--
Mankesim	51.3 (5)	67.7 (11)	--
Large centres	46 (81)	44.9 (79)	9.1 (16)
Medium centres	24.6 (52)	73.6 (156)	1.8 (4)
Small centres	52.2 (108)	45.9 (9)	1.9 (4)

Source: P.W.K. Yankson, "Planning for the informal sector in the Central Region: implications for growth centres and regional planning in Ghana", Ph.D. dissertation (University of Nottingham, 1979), p. 299, table 10.18.

Note: Actual frequencies given in parentheses.

Table 10. Origins of petty commodity enterprises  
in the selected centres

Selected centres	Sampled centre	Original location of enterprises (percentage)				Main urban centres	Total sample
		Towns and villages in district of sampled centre	Towns and villages in region of sampled centre	Towns and villages outside region of sampled centre			
Large	92.6 (163)	0.6 (1)	1.2 (2)	1.1 (2)	4.5 (8)	100 (176)	
Medium-sized	79.2 (168)	4.7 (10)	7.1 (15)	4.7 (10)	4.3 (9)	100 (212)	
Small	66.7 (138)	13.6 (28)	5.8 (12)	5.8 (12)	8.2 (17)	100 (207)	
All centres	77.9 (463)	6.5 (39)	4.9 (29)	4 (24)	6.7 (40)	100 (595)	

Source: P.W.K. Yankson, "Planning for the informal sector in the Central Region: implications for growth centres and regional planning in Ghana", Ph.D. dissertation (University of Nottingham, 1979), p. 301, table 10.19.

Note: Actual frequencies given in parentheses.

the size of a centre. Less than 1 per cent, 4.7 per cent and 13.6 per cent of all sampled enterprises in the large, medium-sized and small centres respectively began operating in or originated from other centres within the various districts of the selected centres. Also noteworthy is the proportion of enterprises in each of the selected centres which were started in the three main centres in the country. This proportion is likewise inversely related to the size of the centres. Such a pattern seems to indicate that the size of migrant enterprises in the selected centres is inversely related to the size range of the centres surveyed.

To ascertain whether enterprises operating in the various centres were stable, that is, whether they tended to stay and operate in one centre for a long period, operators were asked whether they contemplated relocation to other centres or areas in future. It was found that 70 per cent of the operators had not considered moving at all. Only 30 per cent intended to move out of the centres in which they operated their businesses, with 30 per cent and 16 per cent of this figure intending to move to, respectively, Cape Coast and Swedru, the two main commercial centres in the region. Twenty-nine per cent would like to move to any of the three main urban centres of the country. This is especially so for the entrepreneurs operating in Cape Coast (a large centre), where the best opportunities for small-scale industries exist.

The main reasons behind operators' relocation plans were a combination of economic, social and personal factors. For instance, the desire to live and work in one's hometown or where one had lived for a long time seemed very important. The perceived lack of economic opportunities for operating their businesses profitably elsewhere was also a very important reason behind the general unwillingness of operators to move.

#### Impact on local and regional economics: the linkage issue

Small-scale industrial units have an undoubted impact on the economy in which they operate. They generate employment, however small it may be. They perform useful services and produce goods that may otherwise not be produced in the economy, thereby generating income. Another type of impact involves the linkage relationships between these production units and other sectors of the economy.

In the literature on growth centres, the issue of linkages among the economic units operating in a growth centre and between them and others outside and with the wider economy are stressed or demonstrated in an input-output model. To stimulate development, an urban area growth centre must have strong backward and forward linkages with other centres and with its surrounding areas.

The literature on small-scale industries is deficient in studies and methodologies of linkage analysis, with the exception of a few publications (Remy and Weeks [49], ILO [50], Aryee [43]). Because of this deficiency, methods of measuring linkages between the small-scale sector and the total economy and among small-scale operators have not been devised. This makes it difficult quantitatively to assess the influence of small-scale industries in a growth centre. Remy and Weeks [49] used an input-output technique based on strict data requirements, which are hard to meet given the difficulties of data collection and generation in the sector. Examining the nature of linkages between small-scale and large-scale manufacturing in Kumasi, Ghana, Aryee isolated five factors as the main linkage factors, namely fixed capital, employment of skilled labour force, capacity, scale of operation and size of enterprise (Aryee [43], p. 72). Aryee measured

both backward and forward linkages through direct purchases\* and found weak linkages between the two sectors. In this study, linkages are examined from three points of view, namely, capital transfer, product transfer and skill or technology diffusion between the petty commodity and the large-scale (public and private) sector and the agricultural or rural sector.

Linkages between the small-scale industrial sector and the large-scale or public sector

Capital transfer

Direct capital transfer from the large-scale or public sector to the petty commodity sector is limited. In setting up their individual enterprises, most of the operators (or entrepreneurs) met their financial requirements largely from informal sources. Only 4 per cent of those interviewed obtained loans from banks and other formal sector institutions to start their businesses. A large number of operators received financial support from other persons, who may have had some connection with the formal sector, to set up their businesses. This indirect impact of the formal sector is substantial. Altogether, indirect sources of formal sector capital accounted for 30 per cent, while the agricultural sector provided 24 per cent, of the initial capital invested in small-scale industries.

Once enterprises have been established, operators tend to rely more on their own resources than on other sectors of the economy. Of the sampled operators, 65 per cent relied on their own savings to operate their enterprises. Nevertheless, a fairly sizeable proportion of the relatively young operators (those between the ages of 15 and 24) depended more on loans from money-lenders (34 per cent), bank loans and overdrafts (22 per cent) than on their own savings. On the whole, only 4 per cent of the sampled operators used the banking system, while 28 per cent of the operators received help indirectly from the formal sector either through the financial institutions or through individuals or both. The agricultural sector provided 23 per cent of the funds. Sandcrete block makers (58 per cent) were the main operators who had received or tried to obtain bank loans. Others included carpenters (16 per cent), bankers (9 per cent), millers (16 per cent), weavers (28 per cent) and electrical and electronic repairers (16 per cent).

Finally, some of the entrepreneurs (about 8 per cent) interviewed had previously been employed in public or formal sector institutions before setting up their present enterprises. Hence they probably used income saved from their previous work in establishing their own businesses.

Technology and skill transfer

There is evidence of movement of trained personnel between the small-scale industrial sector and the public or formal sector. Surveys conducted

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\*Weeks [5] introduced the concepts of involutory and evolutionary processes of growth into the literature of development studies. He explained involutory process of growth in the petty commodity sector as a process of adaptation to changing conditions which will result in increased labour supply at static or slowly growing output per capita. According to Weeks, the symptoms for this process are a falling average income and low capital accumulation. The evolutionary process involves increased output and income accumulation of wealth.

in Ghana have thrown some light on this process (Hakam [44], Aryee [42], [43]).

In the present study, it was observed that only 2 per cent (9) of the sampled entrepreneurs or operators had received training for their various jobs from formal sector institutions (two carpenters, three automobile repairers, two electrical and electronic repairers, one operator in hair-styling and one in weaving). Of all the respondents, 69 per cent had received their training through the traditional apprenticeship, a system whereby a master craftsman or artisan recruits apprentices as a source of labour and also trains them on the job (see Callaway [52], [53]). Another 4 per cent of the operators had at one time received technical advice from formal sector sources.\* About a third of these operators were in Cape Coast alone, the largest urban centre surveyed.

#### Product transfer

Product transfer relates to sources of essential inputs and sales outlets for small-scale industries. Small-scale operators receive material inputs from a variety of sources: retail shops, large department stores, middlemen or agents. In all the centres surveyed, middlemen were the main source of material inputs. Direct purchases from large public or private institutions accounted for only 22 per cent of all purchases. The very nature of small-scale industries explains this low percentage. Most of the operators are generally unable to buy in bulk directly from large-scale commercial firms, and therefore cannot keep stock against periods of shortage. Moreover, small-scale entrepreneurs usually operate at low capacity, so that much of the trade which should have existed between them and the large-scale sector is controlled by agents and middlemen.

#### Sales outlets

The market area of small-scale industrial enterprises is predominantly local. Of all goods and services produced by these units, 89 per cent are sold in the urban centres surveyed. Only an insignificant proportion of the sampled enterprises sell their products and services to consumers outside their centres of operation. The general public and "ordinary" consumers were reported by 76 per cent of all operators as being their main customers. Direct sales to public or formal sector institutions accounted for only 2 per cent of all sales, much of it to educational institutions (schools and colleges) in the selected centres, bakery and carpentry being the most important production units in this respect.

Transactions with large and medium-sized enterprises in the central region as a whole were mainly in the form of repair services by automobile and electrical repair units, particularly those based in Cape Coast. The low level of transactions with the formal sector may be ascribed to two factors. First, small-scale industries produce goods and services for final consumption mostly by ordinary customers or the general public, and do not produce intermediate goods which can be used as inputs for modern industry. Secondly, technological differences between petty commodity units and the large-scale or formal sector may render products from the petty commodity sector unsuitable for use in modern industry. Their prod-

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\*These were: 4 bakers, 7 carpenters, 2 tailors, 1 dressmaker, 2 shoe repairers, 1 blacksmith, 1 automobile repairer and 1 photographer.

ucts may not satisfy the specification and quality requirements of enterprises in the modern sector. These linkage relationships have implications for the selection of growth centres on the basis of small-scale industries. The more a centre has of enterprises with the necessary linkages, the better are its chances of being selected as a potential growth centre.

How can the low-level linkages be extended and maintained? One possible way is for small-scale production units to develop product lines to suit the tastes of the elite or the rich. This possibility depends however on the performance of the national economy. Enterprises in areas such as carpentry and tailoring could compete effectively with products from large-scale companies or even from abroad, if entrepreneurs in the small-scale units exhibited sufficient ingenuity to be able to cater both for their local markets and clientele, and also for a wider and more sophisticated market, leading to an evolutionary pattern of growth. Such an achievement would require, however, the removal of the obstacles hindering their productive efforts.

#### Linkages with the farming or agricultural sector

Linkages between small-scale industries, a non-farm sector, and the agricultural or rural sector can be examined in terms of product transfer from one sector to another and of cash flow between them. In a study of Northern Nigeria by Remy and Weeks [49], significant forward and backward linkages between the agricultural and the rural non-farm sectors were found to exist. Reviewing studies in the rural non-farm sector in Africa, Liedholm [54] pointed out the importance of this sector in employment generation and linkages with the rural economy as a whole. Although urban centres were mainly covered in the present study, all the small centres (that is, those with less than 10,000 people) surveyed can be described as rural centres, and it would be useful to examine the findings relating to them.

#### Product transfer

Direct purchases by small-scale industries from farmers constituted less than 2 per cent of all purchases made. About 5 per cent of carpenters, 19 per cent of food preparation units and 25 per cent of pottery-makers depended directly on farmers for their material inputs. On the other hand, only a handful of operators made direct sales to farmers, and these were mainly blacksmiths selling hoes and cutlasses and other simple farming implements.

#### Capital transfer

The agricultural sector is very important in the capitalization of small-scale industries. Twenty-one per cent of all the operators said they had previously been farmers. Twenty-three per cent of the operators received capital aid from people who were engaged in primary activities such as farming, fishing and hunting. Above all, the survey showed that the agricultural sector constituted the main secondary activity of the entrepreneurs interviewed. Most of them had their investments in the primary activities in their towns of operation and the surrounding areas. There was a considerable flow of capital between small-scale industries and the primary sector.

#### Linkages within the small-scale industrial sector

Individualism among small-scale operators manifests itself in the lack of co-operation or linkages between them. There was a certain amount of



capital transfer from one small-scale industry to another through the movement of operators from one activity to another and through business diversification within the sector as a whole. Apart from this, no other significant form of links was discerned during the survey.

Subcontracting or work-sharing was not significantly developed in the informal sector. Only 19 per cent of the sampled operators received or gave out work to other artisans when it became necessary to do so, and only 14 per cent of the operators shared tools with other operators. The sharing of tools and other common facilities was unusual among small-scale operators in the central region and most probably in the country as a whole. Operators preferred to be independent of each other and compete among themselves.

An analysis of the linkages showed that linkage with the public or formal sector was weakly developed, largely owing to the nature of the operations of petty commodity enterprises (involving small-scale activities, work to order and non-standardization of products for purely local markets). A significant indirect impact of the formal sector was observed, however, in the form of capital and skill transfer to the small-scale industrial sector. There was also a weak linkage among the small-scale industrial enterprises. The most significant area of linkage was in capital transfer.

#### Summary and conclusions of the case-study

The results of the case-study of the central region show that small-scale industries have some scope for employment generation in the centres surveyed and therefore in urban Ghana as a whole. This conclusion is based on certain facts observed during the survey. First of all, rapid growth occurred in the number of enterprises set up after 1966, and especially after 1970. Secondly, the enterprises set up were operated by comparatively younger and better educated operators who should be able to bring fresh ideas and better management to bear on the operations of their various enterprises. Thirdly, the majority of operators interviewed hoped to continue operating their enterprises despite the problems hindering their progress. The petty commodity sector can therefore, at least in the short run, continue to expand and employ people.

The prospects for long-term employment generation depend on how many of the enterprises survive the initial years of operation. The survey showed that total employment per small-scale industrial unit was small. A majority of the industries covered had less than a total of five workers per enterprise, and small-scale units were unable to expand their work-force significantly over a period of time. Moreover, even the entrepreneurs who planned to continue in business generally had no intention to increase their work-force in the near or distant future, possibly owing to the problems facing the sector.

Most of their problems arose from their inherent weaknesses (small, poorly managed units) and from the general economic difficulties facing the entire national economy (shortages, inflation etc.). Those problems could force some operators to leave the sector or discourage prospective entrepreneurs from investing in it, with serious consequences for long-term production and employment in the sector. Such considerations tend to raise doubts about the ability of small-scale industries to generate long-term employment.

On the other hand, small-scale industries will continue to provide an avenue for self-employment, given the independent nature of the Ghanaian entrepreneur. This source of self-employment is sustained by the traditional apprenticeship scheme of training supplemented by training in the large-scale or the formal sector. The long-term potential for employment does not seem to lie in wage employment. In general, the potential for long-term employment generation in small-scale industries depends very much on the economic environment in which they operate and also on the internal operating conditions of the enterprises themselves. Thus, in selecting potential growth centres in which the role of small-scale industries is to be emphasized, towns or centres with good economic prospects for expansion should be considered.

The results of the survey suggest that no significant differences existed among the centres with respect to the composition of the enterprises enumerated, the mean size of initial work-force and the current work-force per enterprise. Moreover, the proportion of entrepreneurs who wished to or planned to expand their work-force did not relate to the size of centre. It may thus be concluded that opportunities for employment in the petty commodity sector do not vary directly with the population size of a centre, but depend on a host of factors, one of which is certainly the population size. It is therefore necessary to investigate further the particular features of a town that tend to promote or hinder the activities of small-scale industries. In addition, the services needed to promote their development need to be considered as part of the process of selecting potential growth centres in which the small-scale industrial enterprises are expected to play.

#### Conclusion

The case-study involved an examination of certain pertinent issues which are important if small-scale industries are to be considered a serious instrument in the implementation of a growth centre strategy. Urban centres which offer a positive economic environment for the development of small-scale industries are clearly potential growth centres. To appreciate the extent to which they offer scope for the development of small-scale industries, an understanding of urban economic system, among other things, is required. This cannot however be divorced from an appreciation of the working and performance of the entire national economic system. Researchers should therefore devote further attention to this area.

This study has been an exploratory one. Firm conclusions about the potential of small-scale industries in growth centre strategy can be reached only after a fairly long period of systematic study.

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EFFICIENCY AND SOCIAL ANALYSIS OF PROJECTS  
IN THE NEPALESE ECONOMY

Ramesh Adhikari\*

Efficiency and social prices are the link between project appraisal and the macro-economy. Efficiency and social analysis of projects are desirable since they generate useful information that can form the basis for a more proper allocation of scarce resources. In a developing country like Nepal, where domestic market prices of commodity and factor input are distorted on the one hand by the trade restrictionist policies and the structural disequilibrium in the labour market and, on the other, by persistent balance-of-payments problems and acute shortages of capital, studies of this kind are, of course, of special importance and can help to avoid the misallocation of available resources.

The Squire/Van der Tak method permits a cost benefit analysis of projects in two stages - efficiency and social pricing - and evaluates them from the point of view of their contribution towards achieving government socio-economic objectives. The present paper discusses the results of an application of this method in the case of two private sector projects in Nepal - a cotton spinning mill and an international hotel - during the period 1980-1981 (Adhikari [1]).

The first section of the paper provides a background to the Nepalese economy; the second section presents a brief review of the use of shadow prices in Nepal; the third section highlights the concepts of efficiency and social pricing; and the fourth summarizes the results of the estimation of the values of the national parameters for Nepal. Finally, the fifth section discusses the effects of the efficiency and social analysis, while the sixth (and last) section provides some conclusions and policy implications.

Nepalese economy

Nepal is a small, least developed, land-locked country that is heavily dependent on its agriculture. The contribution of the agricultural sector to the national economy is more than 60 per cent, whereas the industry sector contributes only about 12 per cent, of which about two thirds is from cottage and small industries [2, 3]. The industrial sector provides employment to less than 2 per cent of the total labour force [2, 3].

Most of the industries are engaged in the primary processing of agricultural and forest products. The manufacturing sector's share of the gross domestic product is very low; however, its rate of growth has been significant: around 7 per cent per annum at constant prices [4]. Apart

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\*University of Bradford, PPC (Research), West Yorkshire, United Kingdom.

from this, industrial productivity is extremely low, with overall value-added per worker at \$560 [4]. This is partly due to high labour intensity in most of the processes since the value of fixed assets per worker is only \$430. Equally responsible factors include the incidence of temporary closures caused by shortages in raw materials, spare parts, and the supply of electricity, and the low level of managerial and technical skills. The country's principal exports include rice, jute, timber, leather, handi-crafts and carpets.

The main objectives of industrial development in Nepal have been efficiency, growth, income distribution, saving or earning of foreign exchange, and the creation of employment. For this purpose the Government has provided various concessions with regard to custom duties and excise or sales taxes [5, 6, 7].

The tourist sector has grown very rapidly and has become a major source of foreign exchange - in fact, it is the country's second largest foreign exchange earner [8]. Tourism is believed to create employment opportunities and additional markets for domestic products. In order to encourage tourist-based industries, various concessions and tax/duty exemptions have been granted along with various support services. The hotel tax is currently 10 per cent.

Foreign trade [9, 10] is one of the most difficult sectors to develop in Nepal, and its further growth has been limited by two main factors: one is the growth in the domestic production of goods for export, and the other is transport facilities providing access to foreign markets. However, there has been some progress in the diversification of export markets and an increase in export volume despite the given constraints. Nevertheless, the country's export trade structure reveals that unprocessed materials still account for more than 50 per cent of total exports. On the other hand, imports have been growing very fast; manufactured goods and petroleum products account for more than 70 per cent of all imports.

About 50 per cent of the total population of Nepal, is economically active, while about 5.6 per cent is unemployed. About 79 per cent of the economically active population is employed in the agricultural sector. The country's per capita income is around 1,171 Nepal rupees, and about 36 per cent of the total population is below the NRs 730 annual income level, i.e. the subsistence level [11]. Per capita consumption is about NRs 1,060 on average, which indicates an average savings ratio of about 10 per cent. However, the savings ratio in rural areas is less than 2 per cent.

#### Use of shadow prices in Nepal

Although some evidence of the use of shadow prices can be found in certain project planning and appraisal documents prepared (mainly by foreign expatriates) even before the 1970s, their increased empirical importance and use have been acknowledged only after the establishment of two para-statal research and consultancy wings of the Government in the mid 1970s - the Agricultural Projects Services Centre and the Industrial Services Centre [1]. Since then, shadow pricing has frequently been in use in project planning and appraisal in Nepal; however, the methods adopted have been different. The central planning agency, the National Planning Commission, has not yet formally established the values of the national economic and social parameters, nor has it formulated any specific guidelines for project analysis. Therefore the methods of estimating and using the values of the national parameters have been entirely dependent on the



judgement of the analysts involved. It may be said, on the basis of the practices of the Government and the para-statal agencies with respect to project planning and appraisal, that the projects with heavy capital investment are judged from an economic (efficiency) point of view and that the others are always judged from a financial point of view; yet the social aspect is never considered. There is some evidence suggesting that there has been partial adoption of efficiency analysis but none of social analysis in the allocation of resources in a developing country like Nepal, where the commodity and factor market prices do not reflect their real values as a consequence of the protective policy of the Government and the structural disequilibrium in the labour market.

Nevertheless, in 1978, Phillips [12] attempted to estimate the values of the national parameters in Nepal - a pioneering step in this respect. Although it suffered from a lack of both sufficient data and comprehensive-ness from a methodological point of view, this attempt, which was in the form of a guide, included an illustration of public sector projects; it was later published by the Industrial Services Centre. Nevertheless, it turned out to be of only limited use, since it lacked the formal approval of the National Planning Commission and regular updating of the values of the national parameters. The present paper is the outcome of an attempt to revise the values of the national parameters and their use in the appraisal of private sector projects (Adhikari [1]).

#### Efficiency and social pricing

Efficiency pricing examines projects from the point of view of "efficient use of scarce resources". It values all the costs and benefits expected from the project under appraisal at the efficiency prices (with the help of the relevant conversion factors) and determines the net efficiency benefit, which is the incremental output arising from the project at efficiency prices. Moreover, the internal rate of return, which reflects the extent of the expected rate of return on the investment, is also computed and compared with the efficiency discount rate. A value of internal rate of return at least equal to or greater than the value of the efficiency discount rate is the basis for project selection.

Social pricing expands on the above-mentioned efficiency pricing by giving weight to the impact of a project on economic growth and income distribution. To include an objective of economic growth that is more rapid than that permitted by fiscal and monetary policy, a premium is given at this stage to project-generated income that leads to investment rather than consumption. This procedure tends to favour projects that generate more investment and help to overcome the constraint on reaching the desired level of investment and growth targets. The impact of a project on income distribution is estimated by giving weight to the increased consumption of each income group benefiting from the project, including labour. While combining two weighting systems, the analysis tends to favour projects that benefit the poor and those that result in higher savings (investment) and future growth rather than consumption. The following formula expresses these concepts (Squire and Van der Tak [13]):

net social benefit = net economic benefit - net social cost of increased private sector consumption

$$= E - C(\beta - W)$$

$$= E - \beta \Delta C_j (1 - d_j / V \beta),$$

where  $Z$  = net efficiency (economic) benefit = increased output;

$E$  = the factor which converts the national consumption basket from domestic into social prices reflecting the real resource cost of such goods in terms of numeraire, i.e. uncommitted foreign exchange in the hands of the Government;

$\Delta C_j$  = the consumption change of income group  $j$  resulting from the project;

$d_j$  = the consumption weight attached to income group  $j$ ;

$V$  = value of public income

= the marginal social value of foreign exchange in the hands of the Government relative to the private consumption level. It converts consumption increases in terms of numeraire.

To simplify the computation, an estimate is made of the value of the "net social cost of increased private sector consumption" in relation to each income group associated with the project. The income recipients may be project owners, unskilled labour, the Government or financial agents. Since the method used assumes that public consumption is as valuable as public investment, the extra costs of the increased consumption of the Government and public sector financial agents may be taken as equal to unity. This means that just the above-mentioned net social costs of the project owners (only in the case of private sector projects) and labour (only in the case of unskilled labour since the market prices of other types of labour are equal to their opportunity costs) need to be estimated. This may be done by using the following equation (Adhikari [1], Phillips [12]):

$$\begin{aligned} \text{net social cost} &= C\Delta Y(\beta) - CAY(\beta) \frac{d}{V\beta} \\ &= CAY(\beta - \frac{d}{V}), \text{ where } \Delta Y = \text{change in income, and } \beta, \\ &\quad d, V \text{ and } C \text{ are as defined earlier.} \end{aligned}$$

Therefore,

$$\text{net social benefit} = Z - (\text{net social cost}) (\Delta Y),$$

where  $\Delta Y$  = income change = the difference between the market prices and the efficiency prices, and  $Z$  is as defined earlier.

#### Estimation of the values of the national parameters for Nepal

Perhaps the best approach to estimating the values of the national parameters would have been a comprehensive programming model. However, major constraints, such as time, resources and data did not permit this and, a piecemeal approach had to be taken. As regards the principles of shadow pricing, the method suggested by Squire/Van der Tak ([13], Little and Mirrlees [14], Linn [15]) was followed.

The national parameters were grouped into (a) efficiency pricing parameters and (b) social pricing parameters, and a set of conversion factors were estimated. A conversion factor is the surrogate coefficient reflecting the divergence of the domestic market prices of factor and commodity input and output from their respective world prices (efficiency or social).

Estimates of the values of the national parameters for Nepal are presented in table 1.

Effect of efficiency and social analysis

To study the effects of efficiency and social pricing of projects, two projects were chosen from the private sector. With the help of the values of the national parameters and conversion factors, their cost and benefit streams were then revalued at efficiency and social prices, and their net present value and internal rate of return were computed. This section describes the procedure followed and the results obtained at each stage of the analysis.

Table 2 depicts the typical financing pattern of the private sector projects in Nepal, where equity participation does not exceed 30 per cent in fixed capital investment and 50 per cent in working capital. The Industrial Development Bank finances about 70 per cent of the total fixed investment in most of the industrial projects. This means that even if the above-mentioned projects were to be promoted in the private sector, it is likely that about more than two thirds of the capital would come from the public sector.

The employment potential of the projects is as follows:

<u>Type of project</u>	<u>Number of persons employed during the operation</u>
Cotton spinning mill	420
Hotel	83

In addition, the projects would provide employment for skilled and unskilled labour during the construction period.

The financial analysis is the starting point of social cost benefit analysis. The financial profitability of the two projects is analysed in table 3.

The rate of return of the cotton spinning mill project was lower than that of the hotel project, and it did not look sound from the point of view of financial profitability. However, it would have about NRs 4 million (after loan, interest and tax payments are made, but before dividend payments) as residual income. On the other hand, the rate of return of the hotel project was 14.9 per cent, and the residual income for the project came to NRs 15 million. Thus, the hotel project appeared to be more profitable. The main reason for the low profitability of the cotton spinning mill project was the high cost of raw materials (i.e. cotton), which amounted to more than two thirds of its total production cost. In addition, it had a very high capital investment, which would increase the cost streams in the initial years. The cotton spinning mill project was

Table 1. Values of the national parameters for Nepal

Efficiency pricing parameter	Value	Social pricing parameter	Value
Standard conversion factor		Consumption conversion factor	
Trade with India	0.89	Higher income group	0.94
Other foreign trade	0.75	Lower income group	1.04
Total trade	0.81	Average income group	1.00
Conversion factor for sectoral output		Consumption proportion	
Industry	0.98	Higher income group	0.68
Agriculture	1.15	Lower income group	1.00
Conversion factor for non-traded sector		Consumption weights	
Construction (building/civil works)	0.89	Higher income group	0.11
Transport	0.76	Lower income group	0.92
Electricity	0.90	Average income group	1.00
Conversion factor for labour		Value of public income	1.81
Unskilled labour		Marginal propensity to save or reinvest	0.32
Kathmandu	0.43	Social discount rate	0.06
Butwal	0.46		
Nepal	0.38	Net social cost	
Skilled labour (including administrative and managerial)	0.98	Higher income group	0.60
Foreign labour	1.00	Lower income group	0.52
Conversion factor for capital goods	0.98		
Marginal productivity of capital or efficiency discount rate	0.09		

Source: R. B. Adhikari, "Application of Social Cost Benefit Analysis in Nepal", unpublished thesis, School of Planning, University of Bradford, West Yorkshire, United Kingdom, 1981.

very sensitive to its raw material cost: if the raw material cost were to go down by 10 per cent, the internal rate of return would double; if it were to go up by 10 per cent, the internal rate of return would decrease to less than 0 per cent. In the case of the hotel project, profitability would not dwindle much even if capacity utilization were to fall by 10 per cent or the input cost were to go up by 10 per cent.

Table 2. Total investment and financing pattern  
(Millions of Nepal rupees)

	Type of project	
	Cotton spinning mill	Hotel
Fixed investment	148.90	31.55
Working capital	<u>44.20</u>	<u>1.93</u>
Total investment	193.10	33.48
Long-term loan(s)	109.80	21.78
Short-term loan(s)	<u>22.10</u>	<u>1.16</u>
Total loans	131.90	22.94
Equity		
Fixed capital	39.10	9.77
Working capital	<u>22.10</u>	<u>0.77</u>
Total equity	61.20	10.54

Table 3. Financial profitability

Type of project	At a 0 per cent discount rate	At a 15 per cent discount rate	Residual income (millions of Nepal rupees)	Internal rate of return (percentage)
Cotton spinning mill	73	-50	4	5.0
Hotel	47	-1	15	14.9

At this stage the input and output of the projects under investigation were revalued at efficiency prices through the use of the values of the national economic (efficiency) parameters and the respective conversion factors. The conversion factors were the same as those mentioned in the preceding section. Specific conversion factors were, however, also calculated separately when necessary. The net resource flow at efficiency

prices was discounted at the efficiency accounting rate of interest, which was 9 per cent (see table 1). The results are summarized in table 4.

Table 4. Economic profitability

Type of project	Net present value (millions of Nepal rupees)		Internal rate of return (percentage)
	At an 0 per cent discount rate	At a 9 per cent discount rate	
	Cotton spinning mill	81	
Hotel	81	27	26.0

The net present values of the projects looked better at efficiency prices. It was, however, evident from table 4 that there was not a big difference between financial and efficiency net present values at an 0 per cent discount rate in the case of the cotton spinning mill project. This meant that there was not much distortion in the market prices of the input and output involved in this project because there was only a 1 per cent import duty on capital goods and raw materials (cotton) and, in addition to that, the total cost of the project was heavily weighted in favour of them. Besides, nominal protection of output was just 1 per cent, cotton yarn being the principal input to the textile industry. The cost stream was decreased by about 2 per cent and the benefit by about 1 per cent, resulting in an increase of about NRs 8 million in the net present value, which was about 11 per cent of the financial net present value. When discounted at the efficiency discount rate of 9 per cent, its net present value totalled NRs 24 million and the efficiency rate of return amounted to 5.8 per cent.

In the case of the hotel project, the cost stream was reduced by about 11 per cent and the benefit stream was increased by about 10 per cent. The total increase in the net present value was about NRs 34 million, of which NRs 18.6 million was accounted for by the hotel tax and NRs 15.6 million was accounted for by the difference between the efficiency and domestic market prices of the input used by the project. The efficiency net present value was NRs 27 million at a 9 per cent discount rate and the rate of return increased to 26 per cent, which was an increase of 62 per cent over its financial rate of return (14.9 per cent). Thus the efficiency analysis very significantly changed the profitability of the hotel project.

In the social analysis, the efficiency net present values were further adjusted by the net social cost of the increased private sector consumption. The method used, in accordance with the government objective, disfavoured any increase in private sector consumption except at the critical consumption level. Therefore, any increase in private sector consumption was considered a decrease in the social benefit. Conversely,

any decrease in private sector consumption was considered an increase in the social benefit.\*

One major task at this stage was to analyse the income losses or gains. To carry out this analysis, the income-flow analysis described in Professor Hansen's Guide to Practical Project Appraisal, Social Cost Benefit Analysis in Developing Countries was followed [16]. One important assumption in this method is that the additional income loss or gain is equivalent to the distortion between efficiency and actual market prices of each physical input and output; efficiency wage rate and market wage rate in the case of labour; and, in the case of financial transactions, the difference between the price paid and the value received. Another fundamental assumption is that all the losses balance the gains. The economic (efficiency) net present value minus the distortion or the adjustment value gives the financial net present value, and the value of the "distortions" or the "adjustments" are distributed to various income groups associated with the projects. Nevertheless, the income losses or gains out of the project-generated residual income should also be taken into account, although Hansen's guide [16] is not explicit on this point. In this case, the income gain does not find the balancing income as it does in other

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\*This study does not cover the "external effects" aspect. Nevertheless, there may be some external effects of a project in the society which should be included in the overall assessment of its present worth. Such effects may be demonstration and training effects, pollution and congestion, price effects and many others which are created by the project. For instance, training effects may be taken as a benefit to the society since it is an increase in the industrial skill and discipline, whereas pollution and congestion are external costs to it. Apart from this, the project may also lead to higher prices for the input that it uses and lower prices for the output that it produces. Suppliers of the input and consumers of its output may benefit from this. Conversely, other producers may experience losses due to the increased competition created by the project, and in the same way other users of the input may have to pay higher prices (i.e. also experience losses). Thus, a project may create a wide range of effects on demand and prices of the input and output involved in it, which result in losses or gains to producers or suppliers and consumers outside the project. These costs and benefits, which are external but attributable to the project, should be included in its net cash-flow statement. In such an external effects analysis, the analyst must make sure that the external costs or benefits are incremental and that they are due to the project in question. However, in actual practice, it is very difficult to identify and measure them since they are rather intangible and in some cases require additional investigation, which would involve extra time and resources.

In our case as well, the external cost or benefit may be important. For instance, a hotel project may augment additional economic activities such as the production of food, handicrafts and other products. It may also produce a negative impact on local life-styles, social values and culture. A cotton spinning mill project may create some external benefit by ensuring a regular supply of cotton yarn to the local weaving units at a moderate price, which may lead to increased textile production. It may also lead to increased cotton cultivation and production in the long run. However, these aspects have not been included in the present study since they could not be explored given the time and resources available.

cases. For instance, in the case of private sector projects, a residual income after loan, interest, profit tax and dividend payments are made, is the income groups' own net income gain, which tends to increase private sector consumption. This type of project income gain does not have any balancing loser since it is the project-generated income share in the economy. However, such complications may not arise in the case of publicly owned projects. In order to follow the logical consistency of the principles of social cost benefit analysis, we considered all these aspects in our analysis.

Table 5 shows that the projects were the losers in such transactions since they paid higher interest rates, higher wages and various taxes. Had there been high nominal protection of output, the projects could have had excess profits.

Table 5. Income losses and gains  
(Millions of Nepal rupees)

Type of project	Income gains			Income losses
	Government	Financial agents	Unskilled labour	
Cotton spinning mill	24.26	19.59	2.96	-46.81
Hotel	21.07 <u>a/</u>	2.52	3.08	-26.67

a/ This figure excludes the hotel tax amounting to 18.6 million Nepal rupees, which does not directly affect the project since it is paid by foreign tourists to the Government. However, this sum does appear in the project accounts since it is a benefit to the economy and the project collects it on behalf of the Government. This may be considered another exception to Hansen's guide, which assumes that a project is always involved in income loss and gain transaction. Guide to Practical Project Appraisal: Social Benefit-Cost Analysis in Developing Countries (United Nations publication, Sales No. E.78.II.B.3), chap. II.

The net social cost of the increased private sector consumption due to the income changes as analysed above are included in table 6.

As shown in table 6, the total income change brought about by the cotton spinning mill project was NRs 46.81 million, of which NRs 26.51 million was the net social cost of the increased private sector consumption. In the case of the hotel project, the total income change was NRs 26.67 million, and the net social cost of the increased private sector consumption was NRs 14.41 million. In both cases, the net social costs were negative, which means they were added to the economic net present values.

Table 5 clearly reveals that the Government stood to gain the most in both cases: NRs 24.26 million from the cotton spinning mill project and NRs 21.07 million from the hotel project. The financial agents would also make a considerable gain, amounting to NRs 19.6 million from the cotton spinning mill and NRs 2.52 from the hotel project. Both the projects would not benefit unskilled labour much. However, the percentage of income gain allotted to unskilled labour was considerable compared to their tiny share in the total operating cost of the projects.



Table 6. Net social cost of increased private sector consumption  
(Millions of Nepal rupees)

Type of project	Project		Unskilled labour		Total net social cost
	Income change	Net social cost	Income change	Net social cost	
Cotton spinning mill	-46.81	-28.05	2.96	1.54	-26.51
Hotel	-26.67	-16.01	3.08	1.60	-14.41

The ratio of the extra consumption cost (net social cost of the increased private sector consumption) to total income change was 0.60 in the case of project/project owners and 0.52 in the case of unskilled labour, as discussed in the preceding section. The Government, in fact, does not seem to have favoured the unskilled labour's increased consumption much. This is due to the fact that their consumption level was higher than the average consumption level of the rural workers. Had the unskilled labour consumption been close to the critical consumption level, the net social cost of their increased consumption would have been equal to zero. However, the ratio of net social cost was lower in the case of the unskilled labour's increased consumption.

To supplement the above results, the net social cost of the increased private sector consumption out of the projects' residual income was calculated, and the result is shown in table 7.

Table 7. Net social cost of residual income  
(Millions of Nepal rupees)

Type of project	Residual income	Net social cost
Cotton spinning mill	4	--
Hotel	15	9

The residual income of the cotton spinning mill project was about NRs 4 million; in the case of the hotel project, it was NRs 15 million. The net social cost of the hotel project's residual income was NRs 9 million, which reduced the social net present value accordingly. However, in the case of the cotton spinning mill project, since its profitability was low it was assumed that there were no dividend payments involved and no increased consumption whatsoever.

Finally, the resultant impact of the social analysis increased the net present value of the two projects, as summarized in table 8.

Table 8. Results of social analysis

Type of project	Social net present value (millions of Nepal rupees)		Social internal rate of return (percentage)
	At an 0 per cent discount rate	At a 6 per cent discount rate	
Cotton spinning mill	107	12	7.2
Hotel	86	42	28.5

The social net present value of the two projects was increased by the negative social cost of the income changes or the decreased private sector consumption. In the case of the cotton spinning mill project, the first adjustment of the total social cost of the increased private sector consumption, amounting to NRs 3 million of the total income change of NRs 8 million, increased the efficiency net present value from NRs 81 million to NRs 84 million. The second adjustment was the extra consumption cost of the interest payment (NRs 12 million out of NRs 19.6 million, which was the difference between the efficiency accounting rate of interest and the interest rate of the loans for the project) and tax payment (NRs 11 million out of NRs 18.9 million). Both of these items decreased private sector consumption. This resulted in an increase of NRs 23 million in the net present value since the net social cost of these payments was negative. The final net present value at social prices in the case of the cotton spinning mill project was NRs 107 million. When discounted at a 6 per cent social discount rate, it totalled NRs 12 million and the social rate of return amounted to 7.2 per cent. Thus the social pricing increased its net present value by NRs 26 million, yielding an internal rate of return which was higher than the social discount rate.

Similarly, in the case of the hotel project the social net present value also increased. The first adjustment was the net social cost out of the income change, which is the difference between the market and efficiency prices of the inputs. The total social cost of the income change in this case was NRs 7 million, a negative social cost due to the decrease in the private sector consumption. The second adjustment is the extra social cost of interest payment (NRs 1.5 million out of NRs 2.5 million, which is the difference between the efficiency accounting rate of interest and the actual market interest rate at which the project receives loans) and tax payment (NRs 5 million out of NRs 9 million in profit tax paid to the Government). This adjustment resulted in an increase of NRs 7 million in the net present value. The third adjustment was the net social cost of the increased private sector consumption out of the project-generated residual income of NRs 15 million, which resulted in an additional social cost of NRs 9 million and reduced the social net present value accordingly.

Finally, the social net present value of the hotel project was NRs 86 million; when discounted at 6 per cent it totalled NRs 42 million and the social internal rate of return amounted to 28.5 per cent. Thus the efficiency and social pricing almost doubled the net present value and rate of return of the hotel project, from NRs 47 million and 14.9 per cent at market prices to NRs 86 million and 28.5 per cent at social prices respectively.

Table 9 summarizes the effects of efficiency and social pricing on the profitability of the two projects.

Table 9. Effects of efficiency and social pricing

	<u>Type of project</u>	
	<u>Cotton spinning mill</u>	<u>Hctel</u>
	<u>Millions of Nepal rupees</u>	
Financial net present value		
At an 0 per cent discount rate	73	47
At a 15 per cent discount rate	50	-1
	<u>Percentage</u>	
Financial internal rate of return	50	14.9
	<u>Millions of Nepal rupees</u>	
Efficiency net present value		
At an 0 per cent discount rate	81	81
At a 15 per cent discount rate	-24	27
	<u>Percentage</u>	
Efficiency internal rate of return	5.8	26.0
	<u>Millions of Nepal rupees</u>	
Social net present value		
At an 0 per cent discount rate	107	86
At a 6 per cent discount rate	12	42
	<u>Percentage</u>	
Social internal rate of return	7.2	28.5

#### Sensitivity analysis

The cotton spinning mill project was very sensitive to its raw material cost. Therefore a sensitivity test was carried out assuming a 10 per cent increase or decrease in the raw material cost. In contrast to this, the hotel project was not very sensitive to a 10 per cent increase or decrease in its input cost or capacity utilization. The social net present value decreased considerably, however, when it was assumed that the arrivals at the hotel were not all foreign tourists attracted by the added

facilities. Therefore, a sensitivity analysis was performed assuming that 20 per cent of all the arrivals in the hotel were not a direct result of the increase in the available hotel accommodations; that is, they would have arrived anyway even without the project and stayed in the already existing hotels.

As shown in table 10, a 10 per cent rise in the raw material cost would not affect the social net present value much. However, the financial net present value would become negative and the economic net present value would fall to NRs 3 million even at an 0 per cent discount rate. Conversely, a 10 per cent drop in the raw material cost would bring about a tremendous change in the profitability of the project, i.e. financial and economic net present values double. However, the social net present value would decrease if the dividend payment and residual income would be treated as increased income due to high profitability.

The social net present value of the hotel project would decline drastically if 20 per cent of the tourist arrivals could not be attributed to the hotel project (see table 11). In other words, its social net present value would drop by about NRs 41 million at an 0 per cent discount rate and by about NRs 24 million at a 6 per cent discount rate. Financial profitability would not change and economic profitability would decline slightly. Nevertheless, the hotel project still looked socially profitable under this assumption as well.

#### Effects of change in the ownership pattern

What would have been the social net present values of the two projects if they had been promoted in the public sector? To examine the effects of change in the ownership pattern of the projects on their social profitability, a test was carried out assuming both the projects were promoted in the public sector. The results of this test are summarized in table 11.

Had the projects been promoted in the public sector, there would not have been any change in their financial and economic profitability. However, the social profitability of the projects would have changed significantly since there would have been a major adjustment, i.e. net social cost of the increased private sector consumption as a result of the increased income of the unskilled labour. This is because of the fact that the projects are in the public sector and there are no other social costs involved, and the fundamental assumption that increased public consumption is as valuable as public investment.

As shown in table 12, the social net present value of the cotton spinning mill project was reduced to NRs 79 million from its efficiency net present value of NRs 81 million, where the difference is the social cost of increased private sector consumption out of the income gain of the unskilled labour, which amounted to about NRs 3 million. Similarly, in the hotel project, the social net present value declined to NRs 79 million from its efficiency net present value of NRs 81 million, due to the extra social cost of the increased consumption on the part of the unskilled labour.

It is evident from table 12 that from a social standpoint the projects would look more profitable under private sector ownership. Of course there would also be some practical reasons involved because the social net present value of the projects would, in fact, be increased by the negative social cost under private ownership. For instance, in the case of the cotton spin-

ning mill project, the negative social cost was NRs 26.5 million, due to various transactions between the project and the Government, financial agents and unskilled labour (compared to a positive social cost of the increased consumption of the unskilled labour under public ownership amounting to NRs 1.5 million). Similarly, in the case of the hotel project, the negative social cost was NRs 5 million under private ownership as against a positive social cost of NRs 1.6 million under public ownership.

Table 10. Sensitivity test results: cotton spinning mill project

	<u>Change in raw material cost</u>	
	10 per cent increase	10 per cent increase
	<u>Millions of Nepal rupees</u>	
Financial net present value		
At an 0 per cent discount rate	-6	151
At a 15 per cent discount rate	-72	-29
	<u>Percentage</u>	
Financial internal rate of return	--	9.6
	<u>Millions of Nepal rupees</u>	
Efficiency net present value		
At an 0 per cent discount rate	3	158
At a 15 per cent discount rate	-58	10
	<u>Percentage</u>	
Efficiency internal rate of return	--	13.0
	<u>Millions of Nepal rupees</u>	
Social net present value		
At an 0 per cent discount rate	108 <sup>a/</sup>	64 <sup>b/</sup>
At a 6 per cent discount rate	12	-9
	<u>Percentage</u>	
Social internal rate of return	7.5	5.0

<sup>a/</sup> Social net present value becomes even higher if the project owners have to commit more private capital because of the cash-flow problem, which would lead to a decrease in private consumption.

<sup>b/</sup> This includes social cost of profit tax, dividend and residual income due to high profits as a result of a decrease in the raw material cost. If we assume that there is no significant incremental income gain for the shareholders out of the dividend payments, the social net present value and internal rate of return become much higher.

Table 11. Sensitivity test results: hotel project

		Assumption: 20 per cent of the foreign guest arrivals were not a result of the increase in available accommodations	
		<u>Millions of Nepal rupees</u>	
Financial net present value			
	At an 0 per cent discount rate		47
	At a 15 per cent discount rate		-1
		<u>Percentage</u>	
Financial internal rate of return			14.9
		<u>Millions of Nepal rupees</u>	
Efficiency net present value			
	At an 0 per cent discount rate		77
	At a 9 per cent discount rate		25
		<u>Percentage</u>	
Efficiency internal rate of return			25.0
		<u>Millions of Nepal rupees</u>	
Social net present value			
	At an 0 per cent discount rate		45
	At a 15 per cent discount rate		18
		<u>Percentage</u>	
Social internal rate of return			15.0

Table 12. Change in profitability due to change in ownership pattern

Type of project	Ownership	Social net present value (millions of Nepal rupees)		Social internal rate of return (percentage)
		At an 0 per cent discount rate	At a 6 per cent discount rate	
Cotton spinning mill	Public	79	-4	5.5
	Private	107	12	7.2
Hotel	Public	79	38	27.6
	Private	86	42	28.5

Conclusions and policy implications

Our empirical study produced the following conclusions and policy implications:

(a) The calculation of national economic and social parameters could be carried out using a reasonable amount of time and resources. Available data, although of scanty nature owing to the poor data bank system and limited research in this area, were adequate for such an exercise;

(b) Using the estimated national parameters in the appraisal of two private sector projects, various degrees of the net socioeconomic profitability of the two projects emerged;

(c) The impact of the efficiency pricing was higher in the tourist project (hotel) than in the manufacturing project (cotton spinning mill) owing to the differential rates of effective protection;

(d) The impact of social pricing in both cases appeared to be higher because both projects were in the private sector and both involved creating additional social cost in terms of increased or decreased private sector consumption above the critical consumption level;

(e) The internal rates of return, however, tended to be higher at both efficiency and social prices in the private sector projects in relation to the public sector projects, although theoretically net efficiency (economic) benefit should be higher than net social benefit; but in circumstances where the net social cost of increased private sector consumption was negative, the net socio-economic benefit naturally went up, since the major adjustment in social pricing was the inclusion of the net social cost of increased private sector consumption;

(f) A change in the ownership pattern showed that the public sector projects would yield a lower net socio-economic benefit, since the higher the commitment or involvement of private sector capital, the higher the benefit would be from a social standpoint;

(g) The study revealed that the Squire/Van der Tak method of social cost benefit analysis is applicable and useful in Nepal;

(h) The income-flow format described in Hansen's guide [16] does not seem to have included the project-generated income, which is very substantial in private sector projects. In some cases, an income-gain may not find a balancing income-loser. In other words, it may not work out according to Hansen's guide, which assumes a double entry system. Besides, a project may not necessarily involve an income loss or gain transaction - take, for example, a hotel tax paid by foreign tourists;

(i) Nevertheless, both methods should prove to be equally useful in other developing countries. It may, however, be necessary to modify them according to the location, nature, and objective of the projects. Moreover, the implementation of such a methodology would help to avoid misleading judgements in project appraisal carried out according to conventional methods. In actual practice, the specialized agencies involved in project planning and appraisal in Nepal, such as the Industrial Services Centre and the Agriculture Projects Services Centre, have enough trained manpower to easily perform this task without any substantial extra cost;

(j) The Squire/Van der Tak method has specific usefulness in the public appraisal of private sector projects in the least developed countries. Since the private sector projects are provided with various fiscal and monetary facilities as a result of the government policy to augment their participation in the industrialization process, the Government also naturally expects them to make a positive contribution towards achieving its own socioeconomic objectives. Besides this, private capital has a high propensity to increase consumption as it may not all be saved or reinvested but may instead be spent on imported luxury goods or for other socially undesirable purposes. Particularly in private sector projects, it is very likely that the social cost of increased or decreased private sector consumption is high. As the case studies demonstrate, this aspect can be incorporated in the public appraisal of private sector projects;

(k) There appears to be one more policy implication in appraising private sector projects from the point of view of profitability at the national level. For instance, the cotton spinning mill project, originally less profitable from a commercial point of view, turned out to be socially profitable. But the question is, who would take it up? No private entrepreneur would be interested unless enough subsidies were promised by the Government. Alternatively, it could be promoted in the public sector since it is socially profitable. Or, since the input coefficient is considerably high, alternative spinning technology and a source of cotton supply to ensure high productivity at lower cost may be desirable; for this, however, the project may require some redesigning. Efficiency and social pricing using the Squire/Van der Tak method also generates such useful information for making decisions regarding such projects.

(l) Finally, the study has empirically demonstrated that the economy-wide efficiency and social prices could be the link between project evaluation and macro-economy. The use of such real prices may help to avoid the misallocation of scarce resources, a problem which might easily arise using more conventional methods.

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SOMMAIRE

L'industrie et la dette extérieure en Afrique : analyse préliminaire

Secrétariat de l'ONUDI

L'étude porte sur deux questions : les effets de l'industrialisation sur l'aggravation rapide de l'endettement extérieur de l'Afrique et les effets du service de la dette sur les tendances actuelles et prévisibles de l'industrie en Afrique. L'étude s'attache à un certain nombre de questions clefs : les causes de la structure économique essentiellement dualiste de nombreux pays africains; les relations de l'industrie africaine avec l'étranger; les modifications visant à renforcer la structure interne de l'industrie africaine et sa position dans l'économie internationale; et les possibilités de trouver une solution à la situation actuelle. La deuxième partie examine les mécanismes de financement de l'industrie, alors que la troisième partie a trait à des études de cas et compare les résultats obtenus pour certains projets dans certains pays. Les points de vue caractéristiques des gouvernements d'un certain nombre de pays donateurs sont présentés dans la quatrième partie. La cinquième et dernière partie regroupe les conclusions principales, et fait des propositions de modifications que les pays africains pourraient apporter eux-mêmes afin de réduire la dette et la crise industrielle. L'étude comporte également une annexe exposant les résultats obtenus pour certains projets industriels bien précis.

Le rôle des petites industries dans une stratégie de développement régional reposant sur un centre de croissance :  
étude spécifique du Ghana

P.W.K. Yankson

L'étude examine, à l'aide de la méthode dite d'analyse des "pôles de croissance" comment les petites industries peuvent créer des revenus et des emplois. C'est le Ghana qui a été pris comme exemple. Après un bref examen de la documentation relative aux pôles de croissance et son application au Ghana, on a fait une étude détaillée des petites industries de la région centrale du pays, d'après une enquête menée auprès de 1 006 entreprises dont bon nombre ont répondu à un questionnaire. L'étude montre que ces industries permettent dans une certaine mesure de créer des emplois, bien qu'elles soient souvent mal gérées et doivent faire face à des difficultés économiques telles que pénurie des approvisionnements et inflation. Il ne semble pas qu'il existe des différences importantes entre les divers centres.

Analyse de projets népalais du point de vue économique et social

Ramesh Adhikari

Le document présente les résultats de l'application d'une analyse coût-utilité en deux phases - fixation de prix économiques et fixation de prix sociaux - dans le cas de deux projets népalais du secteur privé, en une filature de coton et un hôtel international. La première partie est une introduction à l'économie népalaise. La deuxième et la troisième parties examinent les notions de prix "fictifs" d'une part et traitent de prix "économiques" et de prix sociaux d'autre part. Un résumé des résultats que l'on obtient si l'on estime la valeur des paramètres nationaux est présenté dans les quatrième et cinquième parties; dans ces parties, on compare les projets en posant des conditions et des hypothèses variées. Dans la dernière partie, l'auteur conclut que le type d'analyse coût-utilité examiné dans l'étude est assez facile à appliquer à une économie telle que l'économie népalaise sans qu'il faille disposer de main-d'oeuvre ou de ressources en statistiques très importantes. De plus, l'utilisation de prix économiques dans l'ensemble du pays permettrait d'établir le lien nécessaire entre l'évaluation du projet et les mesures macro-économiques et de remédier à la mauvaise répartition de ressources peu abondantes.

EXTRACTO

La industria y la deuda exterior en Africa: un análisis preliminar

Secretaría de la ONUDI

El estudio se centra, por un lado, en la forma en que repercute la industrialización sobre el rápido proceso de deterioro de la deuda exterior de Africa y, por otro, en las consecuencias que la carga de la deuda acarrea para las actuales y futuras tendencias de la industrialización de Africa. Se subrayan varios temas fundamentales: las causas de la estructura económica básicamente dual de muchos países africanos; las relaciones externas de la industria africana; los cambios necesarios para fortalecer la estructura interna de la industria africana y su posición en la economía internacional; y las medidas necesarias para buscar una solución a la actual situación. En la segunda parte se examinan los mecanismos de financiación de la industria, y en la tercera se analizan los resultados efectivos de la industria mediante estudios de casos particulares. En la cuarta parte se describen las líneas básicas que definen el pensamiento de los gobiernos de los principales países donantes. En la quinta y última parte se recogen las principales conclusiones y se sugieren cambios que podrían efectuar los propios países africanos para aliviar la carga de la deuda y la crisis industrial. También se incluye un apéndice en que se esbozan los resultados de determinados proyectos industriales.

Las pequeñas industrias y la aplicación de una estrategia  
de desarrollo regional con un centro de crecimiento:  
estudio de un caso en Ghana

P.W.K. Yankson

En el estudio se examinan las posibilidades de la pequeña industria para generar ingresos y empleo, no sólo en centros de crecimiento sino también en el ámbito más amplio de las economías urbana y regional, utilizando el método de análisis de "polos de crecimiento". El objeto del análisis empírico se sitúa en Ghana. Después de un breve examen de las publicaciones sobre los polos de crecimiento y su aplicación a Ghana, se hace una evaluación detallada de la pequeña industria en la región central del país, partiendo del análisis de 1.006 empresas y las respuestas de gran parte de ellas a un cuestionario. La investigación muestra que estas industrias tienen algunas posibilidades de generar empleo, aunque muchas veces están mal dirigidas y enfrentan dificultades económicas generales, tales como escasez de medios e inflación. No parece que existan diferencias considerables entre los distintos centros.

La eficiencia y el análisis social de proyectos  
en la economía de Nepal

Ramesh Adhikari

El estudio presenta los resultados de la aplicación del análisis costos-beneficios en dos etapas -eficiencia y costo social- a dos proyectos del sector privado de Nepal: una hilandería de algodón y un hotel internacional. En la primera sección figura una introducción a la economía de Nepal. En la segunda y tercera secciones se examinan la utilización de los precios "sombra" en Nepal, así como los conceptos de eficiencia y costo social. En las secciones cuarta y quinta se presenta un resumen de los resultados obtenidos al estimar el valor de los parámetros nacionales; estas secciones incluyen también una comparación de los proyectos en distintas condiciones y supuestos. En la última sección, el autor llega a la conclusión de que el tipo de análisis costos-beneficios de que trata el estudio es bastante fácil de aplicar a una economía como la del Nepal y no exige mano de obra o medios estadísticos de gran magnitud. Además, la utilización de precios de eficiencia en toda la economía podría servir de vínculo entre la evaluación de proyectos y las medidas de tipo macroeconómico, y podría contribuir a reducir el margen de error en la asignación de recursos escasos.

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