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**THE INDICATIVE INDUSTRIAL PLAN (IIP)**

DP/UGA/90/012

REPUBLIC OF UGANDA

Technical report: Findings and Recommendations\*

Prepared for the Government of The Republic of Uganda by the  
United Nations Industrial Development Organization,  
acting as executing agency for the United Nations Development Programme

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The reports produced by the project are available on request as follows:

Report of Agro Industries Sector - Mr. J. Smedley

Report of Steel Industry and Metal Processing Industries - Dr. J. Behringer

Report of the Non-Metallic Mineral Products Consultant (Part I and Part II) - Mr. Neville R. Hill

Report of the Textile Industries Expert - Mr. Joseph Saary

Report of Metallurgical Consultant - Mr. M.S. Czub

Report of Leather and Leather Products Consultant - Mr. L.M. Woodley

Report of The Packaging Industries (Part I and Part II) - Mr. E.F. Pichler

Report on Pulp, Paper Products and Printing Sub-sector - Mr. I.T. Gordon-Pullar and Clare M. Duncan.

## ACRONYMS

The following acronyms have been used in this document:-

<b>COMESA</b>	<b>Community of Eastern and Southern African States</b>
<b>CTA</b>	<b>Chief Technical Adviser</b>
<b>DFCU</b>	<b>Development Finance Company of Uganda</b>
<b>ERP</b>	<b>Economic Recovery Programme</b>
<b>EU</b>	<b>European Union</b>
<b>GDP</b>	<b>Gross Domestic Product</b>
<b>IIP</b>	<b>Indicative Industrial Plan</b>
<b>MAAIF</b>	<b>Ministry of Agriculture Animal Industry and Fisheries</b>
<b>MEEP</b>	<b>Ministry of Finance and Economic Planning</b>
<b>MNR</b>	<b>Ministry of Natural Resources</b>
<b>MTI</b>	<b>Ministry of Trade and Industry</b>
<b>NEMA</b>	<b>Natural Environment Management Authority</b>
<b>NIC</b>	<b>Newly Industrialized Country</b>
<b>PEC</b>	<b>Presidential Economic Council</b>
<b>RDP</b>	<b>Rehabilitation Development Programme</b>
<b>SMID</b>	<b>Strategic Management of Industrial Development</b>
<b>SSI</b>	<b>Small Scale Industry</b>
<b>UDB</b>	<b>Uganda Development Bank</b>
<b>UEB</b>	<b>Uganda Electricity Board</b>
<b>UIA</b>	<b>Uganda Investment Authority</b>
<b>UNBS</b>	<b>Uganda National Bureau of Standards</b>
<b>UNDP</b>	<b>United Nations Development Programme</b>
<b>UNIDO</b>	<b>United Nations Industrial Development Organization</b>

### Executive Summary

The IIP is not a masterplan nor a blueprint for industrial development. It is a strategic vision of the future to which Uganda may aspire for its manufacturing sector and of the means of getting there. The plan proposals have been developed in a consultative process between the Government (spearheaded by the MTI) and business, in which constraints which impede the development of industries which can transform the manufacturing sector have been identified, strategies and policies to address these constraints have been advanced, and lines of action formulated to initiate the transformation. In this light, the IIP aims to provide guidance to Government and business on a development strategy for the manufacturing sector and its constituent subsectors.

The preparation of the IIP was undertaken through a series of diagnostic studies of the individual subsectors; conduct of these studies included on-site in-plant visits to manufacturing facilities. This field work was an integral part of the consultation with producers and linked businesses on the performance, problems and prospects of individual businesses and the industry as a whole, which characterized plan preparation. However, the studies were not enterprise performance focussed and therefore did not concentrate on rehabilitation needs when this issue arose. Further Small Scale Industries (SSIs) and the informal sector were outside the scope of the studies.

Findings of the studies of several subsectors were reviewed at consultative subsectoral workshops in which representatives of business Government stakeholders participated and were encouraged to reach consensus on the diagnosis of the problems of the subsector on the recommended action programmes. The model of the Strategic Approach to the Management of Industrial Development (SMID) was adopted to the extent possible.

The studies revealed and the consultations confirmed that the basic constraints which impair competitiveness and productivity in the manufacturing sector can be grouped as follows:-

- Outdated/Obsolete plant and equipment
- Unreliability/scarcity of Production Inputs, viz
  - \* raw materials and complementary inputs
  - \* utilities and
  - \* infrastructure bottlenecks

- Substandard manpower inputs or the Quality of Human Capital, evidenced by
  - \* inadequate management capability and
  - \* shortage of technical skills
- Restricted access to financing
- Unavailability of Industrial Information
- Inadequate institutional support to the private sector.

In its vision of manufacturing sector development, the IIP recognizes that industrialization is a long-term process of structural transformation of a country and its production processes. In the case of Uganda, the transformation from a rural agricultural economy to a modern industrialized economy will extend well beyond the Plan period. Accordingly, the strategic vision appropriate to this period was defined as follows:

initiating the dynamic transformation of production structures into competitive manufacturing unit which have backward and forward linkages with the domestic economy and are geared to high growth.

Realization of this vision will, however, be seriously influenced by developments in both the domestic environment and the external (not least in the region and subregion) environment which give rise to opportunities for growth and development as well as to threats. It is therefore imperative that manufacturing industries in Uganda make themselves competitive to remain in business and to take advantage of export opportunities in regional and international markets.

In this connection, the subsectoral studies confirmed the findings made by consultants to the UIA who undertook a specific examination on resource endowment and comparative advantage, that Uganda's comparative advantage emanates mainly from its natural resources and their processing, with the attendant potential for inter and intra industry linkages. Unskilled labour, and more particularly the associated low labour costs and the potential for supplying ample quantities of energy at competitive rates constitute additional bases of comparative advantages, with some provisos.

The determination of priority subsectors and their development prospects rested on the above assumptions which indicated that priority should be given to:

- resource-based industries
- the creation of inter and intra industry linkages and linkages with the rest of the economy



- the maximization of local value added through secondary and tertiary processing
- the capacity for foreign exchange earnings and/or net savings.

On this basis, industries were ranked in the following order of priority:

**CATEGORY I:**

Manufacture of Non-Metallic Mineral Products.

Manufacture of Basic Iron and Steel Products

Manufacture of Fabricated Metal Products (Metallurgical Industries)

**CATEGORY II:**

**A:** Processing of Agricultural raw materials with emphasis on

- \* Manufacture of Sugar
- \* Processing of Fish Products
- \* Manufacture of Grain Mill Products

**B:** Forest-based industries, particularly

- \* Manufacture of Wood and Wood Products and Furniture
- \* Manufacture of Pulp, Paper and Paper Products and Printing

**C:** Manufacture of Leather and Leather Products.

**CATEGORY III:**

Manufacture of Garments for export.

**SPECIAL CATEGORY:**

Manufacture of Packaging Products.

Strategies and Policies and Action Programmes for the manufacturing sector as a whole and its constituent subsectors follow. For the sector as a whole they address:

- \* Mobilization of Investment
- \* Infrastructure
- \* Institutional Support
- \* Human Resources Development
- \* Industrial Financing
- \* Standardization and Quality Control
- \* Environment
- \* Technology Development and
- \* Energy

The overarching development strategy is stated in the following terms:

1. Promoting productivity and competitiveness of the priority subsectors at subregional, regional and international levels, in the framework of an open market economy.
2. Harmonization of industrial development policies with national objectives through an institutionalized consultation process between Government and the private sector.
3. Promoting the development of the physical infrastructure.
4. Providing institutional support to the private sector through sectoral and subsectoral associations and institutions in the areas of training, information, standardization and quality control, technology development and related endeavors.
5. Providing an enabling environment conducive to dynamic private sector initiatives to modernize and transform the manufacturing sector.
6. Reducing Government's role in the ownership and control of public industrial enterprises through a programme of privatization and divestiture.
7. Promoting the application of environmentally sustainable industrial development (ESID) policies as an integral part of industrial development policy.

For the individual subsectors, specific development strategies, policies and action programmes are presented; they are too lengthy to include herein. The subsectoral action programmes features sixty four project proposals; it is a private sector oriented programme in so far as there are forty four proposals, the implementation of which will demand initiatives of business interests, both existing and new ventures. Above all, an investment oriented programme has been achieved which should provide answers for the foreseeable future, for the often raised question about the priority areas in which investment is sought in Uganda.

Finally, the issue of implementation of the IIP is addressed. It is emphasized that implementation of the IIP will demand action by the various stakeholders - the manufacturing community, the Government, represented by the relevant Ministry or Agency, official development institutions, and linked financial and commercial institutions. All of these interests have shared in the preparation of the Plan by their contributions during individual meetings and during subsectoral workshops.

An implementation mechanism must be created which perpetuates this degree of national involvement but which does not trespass on the commercial interests of individual operators. In this the MTI AND MEEP have special roles and so do the private sector interests, whether represented by Industry Association or in their individual capacities. The objective should be to establish a national consensus on the way ahead after the Plan is in the nation's hands.

UNIDO's SMID approach should be seriously considered as a vehicle for implementation.

The international organizations which have contributed to the preparation of the IIP are very concerned that the nation will ensure that this will not turn out to have been a sterile exercise. Indeed they are ready and willing to support the actions which will be taken to follow up the IIP proposals, if and when requested to do so. There are at least four such initiatives already in the pipeline.

## INTRODUCTION

### 1. OBJECTIVES AND PHILOSOPHY OF THE PROJECT

The preparation of the IIP was undertaken under a UNDP financed UNIDO executed direct support project of technical assistance to the Government of Uganda. The objective of the project was to fill what was conceived as a gap in the government's policy making, namely that prior to this initiative comprehensive strategies and policies for the development of the manufacturing sector as a whole, and its constituent sub-sectors had not been designed.

The concept of an IIP replaced that of a MASTER PLAN following the decision of Government, in its macroeconomic management to relinquish central control and direction of the production and investment functions in the economy. Instead private enterprise initiatives and decisions were recognized as the main determinants of economic growth and development, on the understanding that the State would promote and support business development by creating conditions conducive to a vigorous competitive business sector. This changed dispensation requires the two main actors to cultivate new ways of thinking and acting towards each other, perceiving themselves as partners in development, working jointly towards agreed national goals.

Accordingly, the plan of action of the project contemplated a high degree of interaction between the project personnel (representing the Ministry responsible for industry) and the manufacturing community, (both private enterprises and parastatals) and linked interests. In practice this principle was reinforced by the application, in some measure, of the UNIDO Strategic Approach to the Management of Industrial Development (SMID) in the consultation process through which the IIP proposals were developed.

The project was implemented through a series of studies of the economic viability and growth prospects of the individual manufacturing subsectors leading to the identification of enabling strategies and policies for each subsector. In the determination of the related work programme Small Scale Industries (SSIs) were deemed to be outside the scope of the project. In this the project was guided by the official definition of SSIs, namely, establishments employing 10 workers or less, with a capital investment of US\$100,000 or less. It was also clarified that the studies would focus on the evaluation of the performance of subsectors and therefore would not be enterprise performance focussed, particularly that of public industrial enterprises and their rehabilitation needs.

The studies were conducted by a team of international experts headed by a CTA and made up of specialists in different manufacturing activities, who were supported by a National Industrial Economist recruited to the project and national counterparts assigned by the Ministry from its staff. The information gathering and research involved in completing these studies was extensive and included previous reports where available, discussions with relevant contact persons in both the public and private sectors and support institutions and visits to plants of manufacturers, input suppliers and linked operators. These plant visits were important not only as a source of primary data but also as a first opportunity for consultation with producers on the performance and prospects of their enterprises and that of the industry as a whole, and on strategies and policies which might assist them to do better.

The survey of manufacturing units in each of the subsectors was conducted selectively because time and resources did not permit full coverage. A total of 240 enterprises and their subsidiaries were visited. In order to update and expand the data base of industrial statistics in and available to the MTI, a formal questionnaire was developed to aid discussions during the plant visits. Generally, considerable difficulty was experienced in obtaining from respondents reliable quantitative data on key elements in the production and marketing chain which record performance. The absence of updated statistical data (including data which would normally be expected from official sources), imposed certain limitations on the results of the studies.

Where public industrial enterprises were encountered the process could not be as thorough as desired, in view of the general uncertainty over-hanging the ownership and control of these businesses which at the time were awaiting decisions on divestiture or repossession of Custodian Board properties and/or the outcomes of negotiations to that end. Managements were unable to look beyond the immediate crises of the day. In those subsectors in which public industrial enterprises are the dominant 'players' (say, as in the Textile Subsector) professional judgement was made of an appropriate development strategy, independent of inputs from the management.

The whole exercise was characterized by a strategic planning approach similar to that which enlightened managements now undertake at critical junctures of an organization's life. Thus, the studies took account of the strategic environment in which Uganda's manufacturing sector must manoeuvre during the Plan period 1992-1997 and immediately beyond and the

nature of the resources and capabilities on which a strong manufacturing sector could be developed. Strategic constraints which impede the competitiveness and growth of the sector, as evidenced by the record of performance of the enterprises operating in the various subsectors, were identified. Thereafter in the light of analysis of strengths, weaknesses, opportunities and risks, judgements were made on the strategic directions or development prospects for each of the subsectors and the manufacturing sector as a whole.

The findings and conclusions of the studies were subjected to extensive scrutiny in the series of consultative subsectoral workshops to which participants were invited from the network of economic agents in both private and public sectors who have a stake in the performance of the manufacturing sector. This exercise in dialogue was to be one of the distinguishing features of the preparation of the IIP. The outcome was the proposals on strategies and policies for the manufacturing sector as a whole and the individual subsectors and related action programmes which have now been consolidated and integrated in this document - the IIP.

It is emphasized that the Plan is not a 'blueprint' to be followed rigidly but serves to provide guidance to both the government and business on the strategic directions which the manufacturing sector may take in future, on the strategies and policies which may be required to realize those aims, on the priorities among the competing production possibilities and on a related action programme.

## 2. OVERVIEW OF THE ECONOMY OF UGANDA

Agriculture is the mainstay of the economy of Uganda accounting for 55% of GDP, more or less. By contrast the share of manufacturing in GDP is in the order of 5% and that of Industry (defined as the sum of Mining and Quarrying, Electricity and Water and Construction) is approximately 7%. In the period 1988/89 to 1992/93 the share of agriculture in GDP was virtually constant, while there were slight increases in the respective shares of Manufacturing and Industry, as shown in TABLE I - Sectoral Composition of GDP. The rate of growth of Total GDP in this period was fairly impressive; significantly, however, manufacturing registered the lowest growth of the three sectors under comparison.

Table I - Sectoral Composition of GD774P at Factor Cost at constant 1991 prices fiscal years

(U.Shs. million)

	Total GDP	Agriculture	Manufacturing	Industry	Non-Monetary
1988/1989	1,799,584	1,003,548(56%)	73,023(4%)	112,394(6%)	635,300(35%)
89/90	1,905,152	1,055,729(55%)	78,729(4%)	124,479(6%)	665,054(35%)
90/91	1,980,208	1,083,177(55%)	82,549(4%)	138,071(7%)	679,477(33%)
91/92	2,015,462	1,067,284(52%)	95,580(5%)	142,354(7%)	671,269(33%)
92/93	2,157,055	1,165,155(54%)	98,827(5%)	151,180(7%)	728,444(34%)

Source: *Statistics Department, Ministry of Finance and Economic Planning. Background to the Budget 1993/1994.*

Figure in brackets are shares of total GDP

With a population estimated at 17.787 million at June 1993, GDP per capita was about U.sh. 196,678 or approximately US\$ 170 which is among the lowest in Africa. Of relevance to industrialization policies is the fact that non-monetary GDP accounts for one third of total GDP which reflects the importance of non-tradeables in the economy, particularly in the agricultural sector where much of the activity is at subsistence levels on small farm holdings. A thriving small scale enterprise sector exists in the urban and peri-

urban areas of the country, but since only 11% the population lives in the areas so classified in the Population and Housing Census, it remains the case that Uganda has a largely rural economy with its welfare based on the agriculture sector.

Consequently, the domestic market is relatively small and with personal incomes generally low (wages and salaries in both the public and private sector) effective demand continues to be at low levels. Indeed domestic savings have been estimated at about 3% of GDP, which explains, in part, the relatively low level of private domestic investment.

Uganda's external sector has been adversely affected by two factors, principally, namely:-

- (i) the steady fall in its export earnings since 1989 and
- (ii) the size and composition of its External Debt

As regards the first factor export earnings from coffee the principal export staple, have declined by 70% from US\$ 263m in 1989 to US\$ 97m in 1992. Despite that decline, coffee still constitutes 70% of Uganda's export earnings. While there have been increases in earnings from non-coffee exports (namely such non-traditional exports as fisheries products and sesame seeds) these increases have not compensated for the loss of earnings from coffee exports. Consequently, Uganda's balance of visible trade has worsened as revealed in Table II.

Table II - Summary of visible trade

(US\$ 000)

YEAR	IMPORTS	EXPORTS	TRADE SURPLUS
1988	531,801	300,091	-231,710
1989	578,827	298,133	-280,154
1990	551,095	190,102	-360,993
1991	522,689	196,009	-326,680
1992	524,433	171,353	-353,080

Source: *Statistics Department, Ministry of Finance and Economic Planning. Background to the Budget 1993/1994*



On the capital account, the obligations arising from principal maturities on an ever increasing stock of debt have resulted in rising outflows. However, major inflows of donor assistance, both import support and project aid, have created a surplus on the capital account, which has compensated, to some degree, for the deficit on the current account. In summary, Uganda's balance of payments continues to be in deficit and has been financed by a combination of net borrowing from the IMF, and by increases in arrears and in the overall stock of debt. Total external public sector debt at the end of June 1992 was equivalent to 108% of GDP.

External assistance is also critical to the public finances of Uganda. Since the 1980's the national Budget has been externally supported to a level in excess of 50% of current expenditure and the Government has relied on the sale of import support funds to finance the budget deficit. However, in fiscal 1993/94 the ratio of import support to current expenditure is projected to decline from 50% to 40% which evidences the discomfort of the Government at this dependence and its efforts to reduce it.

The total budget deficit in this fiscal year has been targeted at 11.9% of GDP which is expected to be an improvement on the previous year, when the deficit was 14.4% of GDP.

The present state of the economy as reported in the Government's Macro economic and Sectoral Policy Statement, is that steady progress has been made in macroeconomic stabilization since the launching of the Economic Recovery Programme(ERP) in early 1987. While the fiscal situation remains weak, resort to monetary expansion to finance the deficit has declined, leading to a significant fall in the rate of inflation. Considerable progress has been made towards achieving the Government's objective of a competitive exchange rate and an efficient system of foreign exchange allocation and making the shilling fully convertible.

The foundation is being laid, therefore, for accelerated economic growth.

## **PART I: THE MANUFACTURING SECTOR**

### **1. SCOPE OF THE STUDY**

The definitions of the manufacturing sector and the individual subsectors used in the preparation of the IIP are those contained in the Third Revision of the International Standard Industrial Classification of economic activities (ISIC) in which twenty one (21) subsectors are identified. (The original, and still more widely known version was limited to nine (9) subsectors only). The fact that the Rev.3 classifications had already been introduced in the national industrial statistics compiled by the Statistics Department facilitated standardization in the presentation and analysis of information on the sector.

Accordingly, the following are the manufacturing subsectors which were examined, taking account of those product groups which are appropriate to Uganda:

- Manufacture of Food Products and Beverages
- Manufacture of Tobacco Products
- Manufacture of Textiles
- Manufacture of Wearing Apparel
- Tanning and Dressing of Leather, and Manufacture of Handbags, Sadlery, Footwear and Luggage
- Manufacture of Non-Metallic Mineral Product
- Manufacture of Basic Metal
- Manufacture of Fabricated Metal Products except Machinery and Equipment
- Manufacture of Machinery and Equipment (N.E.C)
- Manufacture of Electrical Machinery and Apparatus N.E.C.
- Manufacture of Radio, Television and Communication Equipment and Apparatus
- Manufacture of Motor Vehicles, Trailers and Semi-Trailers
- Manufacture of other Transport Equipment
- Manufacture of Wood and Wood Products, except Furniture
- Manufacture of Paper and Paper Products
- Publishing, Printing (and Reproduction of Recorded Media)
- Manufacture of Furniture

In addition two special separate studies were undertaken of:

- Foundry Industries (as a critical subset of the Metal Products subsector - Metallurgical Industries);
- The Packaging Industry (the products of which are manufactured under several subsectors)

The coverage described above excludes the following subsectors for which comprehensive studies were not conducted:-

- Manufacture of Coke, Refined Products and Nuclear Fuel (for reasons that are obvious)
- Manufacture of Chemicals and Chemical Products
- Manufacture of Rubber and Plastic Products

In the Chemicals and Chemical Products subsector the operative considerations were:-

- (i) As regards Fertilizers, in which Uganda has a definite interest in view of its natural resource endowment of phosphate deposits, preparatory work on the feasibility of establishing a Triple Super Phosphate (TSP) plant has been on-going for sometime. Duplication of this effort was not necessary. However attention given was to other uses of these deposits in the production of fertilizers within the study of the Non-Metallic Mineral Products Subsector.
- (ii) Current operations in the manufacture of other agrochemical products, paints and varnishes, pharmaceuticals and toilet preparations, are all predominantly import dependent and were therefore considered outside the main thrust of the IIP. However, within the study of the Non-Metallic Mineral Products subsector, the prospects for import substitution of certain inputs e.g. kaolin utilized in these industries.
- (iii) As regards manufacture of rubber and plastic products, the plastic products industries were extensively examined in the context of the study on packaging industries.

## 2. THE STRUCTURE AND PERFORMANCE OF THE MANUFACTURING SECTOR

The formation of the sector dates back to the 1960's and in accordance with the policy prevailing internationally at that time, was import substitution inspired for the production of basic consumer goods. Characteristically, the manufacturing activities relied heavily on imported raw materials and intermediates, and were supported by measures of protection introduced by the Government. Under these policies the sector achieved some vigour measured by the fact that its contribution to GDP then grew to about 12%.

The development of the sector was disrupted during the civil war and political upheavals of the seventies and eighties; indeed, retrogression set in caused by the attendant destruction of infrastructure and industrial plant, by the expulsion of the owner/managers of these plants and their takeover by government and the general economic mismanagement of the period.

With the launching of the ERP in 1987 a fresh start had to be made, as it were, in which emphasis was first placed on the 'rehabilitation' of a sector which had become virtually of state owned. Uganda therefore continues to be in the early stages of industrialization and typically the main manufacturing activities cluster around the production of consumer goods. Of these the principal product group is Food, Beverages and Tobacco; and the product groups Textiles and Garments and Building Materials are also important.

Below is a TABLE extracted from the Report of the Census of Business Establishments, Uganda 1989 which presents the main indicators for the manufacturing sector, in summary form. The Census was designed to collect data for the year 1989 from establishments employing five or more employees. It therefore included in establishments that part of the SSI sector which employ between five to ten persons.

The results of the census confirms that the Food Beverages and Tobacco product group makes the greatest contribution to manufacturing in Uganda in terms of all the economic indicators listed. However, it is significant for the strategic direction of the sector in the future that value added as a percentage of gross output is the lowest for this product group. Manufacturing value added in the other agro-processing product groups, namely textile and garments and leather and leather products combined is double that of the Food Beverages and Tobacco Product group. It is also the case that manufacturing value added in each of the two products groups relating to the processing of metals is higher than that achieved on the Food, Beverages and Tobacco Product group.

**Table III - Selected Main Indicators of the Manufacturer's Sector**

DIVISION	SUB-SECTOR	NO. OF ESTABLISHMENTS	TOTAL EMPLOYMENT	EMPLOYEE COMPENSATION	GROSS OUTPUT (GO)	VALUE ADDED	VA/GO <sub>s</sub>
15-16	Food Beverages and Tobacco	636 (45.2)	23,989 (47.5)	7,966,504	107,227,629 (73.1)	22,004,821 (61.1)	20.5
17-19	Textile Garments Leather	95 (6.8)	9,219 (18.3)	2,6992,326	10,042,407 (6.8)	4,260479 (11.8)	42.4
20-22	Wood Products and Paper Products	123 (8.7)	4,253 (8.4)	1,107,419	5,305,264 (3.6)	1,496,446 (4.2)	28.4
23-25	Chemicals Rubber and Plastics	38 (2.7)	1563 (3.1)	1,036,808	8,468,767 (5.6)	2,401,411 (6.7)	28.4
26	Non Metallic Mineral Products	60 (4.3)	2,715 (5.4)	732,196	2,348,085 (1.6)	870,403 (2.4)	37.1
27-35	Steel and Metal Products	186 (13.2)	5,141 (10.2)	1,320,893	10,489,596 (7.1)	3,566,667 (9.9)	34.1
36	Furniture	268 (19.1)	3,579 (7.1)	822,261	4,346,898 (2.1)	1,392,547 (3.9)	32.0
TOTAL		1406 (100)	50,459 (100)	15,678,407	148,228,646 (100)	35,992,774 (100)	24.3

*Source: Statistics Department, Ministry of Finance and Economic Planning.  
Consensus of Business Establishments 1989  
Figures in brackets are percentages of Total*

As reflected in TABLE I the share of manufacturing in Uganda's GDP has remained initially constant in the period 1988/89 - 1992/93 at the very low level of four to five percent. It is evident therefore that the manufacturing base continues to be quite small and has made no gains. In fact in the latest fiscal year 1992/93 the sector recorded its lowest growth rate since 1986 namely 0.3%. While that particular performance may be regarded as abnormally low because of a combination of adverse factors in the year, the underlying condition of the manufacturing sector is a picture of weakness.

A revealing indicator is the information on capacity utilisation in the production of manufactured commodities of selected establishments published by the Statistics Department. While it is conceded that there is need to refine the definition and measurement of capacity utilisation utilized in the preparation of that data, nevertheless its validity as an indication of the state of affairs is considered acceptable. The following TABLE has been derived from that data to shed some light on capacity utilisation in each manufacturing subsector.

**Table IV - Sub-Sector Production of Manufactured Commodities of selected establishments - 1989 - 1992 (Average Percentage Capacity Utilisation)**

DIVISION	SUB-SECTOR	1989	1990	1991	1992
15-16	Food Beverages and Tobacco	27.3	28.8	32.2	30.9
17-19	Textile Garments and Leather	12.7	13.9	9.7	10.5
20-22	Wood Products and Paper Products	12.0	10.6	15.0	14.2
23-25	Chemicals Rubber and Plastics	17.8	17.0	23.9	32.4
26	Non-Metallic Mineral Products	26.5	5.9	28.2	35.7
27-35	Steel and Metal Products	17.5	17.2	22.3	28.1
36	Furniture	-	-	-	-

Source: *Statistics Department, Ministry of Finance and Economic Planning. Background to the Budget 1993/1994.*

The above results are consistent with observable facts namely that capacity utilisation is generally below 40% and may be as low as 10% in certain industries. The strategic factors which have been found in the course of the subsectoral studies to account for the pervasive under-utilisation of installed plant capacities will be addressed in another section of this document.

The question of what can and should be done to restore the manufacturing sector to at least the level of contribution to the national economy which it had achieved in the 1960's is indeed the substance of the IIP.

### 3. IMPACT OF CURRENT POLICIES ON THE MANUFACTURING SECTOR

The macro-economic policies adopted by the Government to ensure sustainable growth and development may be summarized as follows:-

- prudent non-inflationary, allied to reforms of tax policy and tax administration;
- stabilizing the foreign exchange rate of the Uganda shilling at competitive levels for export;
- trade and exchange liberalization;
- strengthening the balance of payments position; and
- promotion of export led growth.

These policies have yielded positive results for the Uganda economy as a whole - inflation has been reduced to manageable levels, restrictions on transaction in foreign currencies are no longer in place, the value of the Uganda shilling has, for the past year, been fluctuating within narrow bands (save for a recent shortlived appreciation triggered by unusual circumstances), many price distortions in the market have been removed and marketing monopolies abolished. Institutionally, the Uganda Investment Authority (UIA) has got off the ground and has initiated a vigorous investment promotion campaign, at home and abroad, armed with the provisions of the Investment Code and the Uganda Revenue Authority (URA) has been delivering on its mandate of improved revenue collection.

For the manufacturing sector, foreign exchange stability and foreign exchange liberalization measures have been unquestionably advantageous as have been price liberalisation measures. On the other hand, while lower rates of inflation must be welcome, some of the contributory measures such as tight control over the money supply by reduction

of government borrowing from the Central Bank and the severe reduction in government expenditures on both wages and salaries have caused significant contraction in the demand for some domestic manufactures.

The impact of fiscal measures has been uneven. For example, the objective of promoting the use of domestic inputs as widely as possible in manufacturing processes, by imposing import duties on the foreign equivalent is a welcome development. However, the removal of all duty exemptions on inputs to industry, whether they can be produced in Uganda at all or in the foreseeable future, (not least on plant and equipment which is urgently required for the upgrading and modernization of production processes) cannot be regarded as supportive of manufacturing. Where this facility has been abused, it should not be beyond the competence of the administration (in consultation with manufacturers) to devise means of plugging the loophole. This principle applies equally to the change introduced in the Investment Code, which removed the tax incentives on additional investments made by existing enterprises.

In the policy shift of the burden of taxes to expenditure and income taxes and away from trade taxes, there appears to be room for fine-tuning the instruments of the rates of sales and excise taxes on domestic manufactures to avoid diminishing revenue returns.

The trade liberalization measures are generally in tune with the policy objective of encouraging only efficient import substitution industries. However, in order to discourage unfair access to the Ugandan market of competitive imports countervailing measures to deal with dumping by foreign exporters and more vigorous anti-smuggling administration should be put in place and enforced. Measures to make exporting less cumbersome should benefit manufacturers, but there is need to ensure that all interested parties know what facilities are available.

A further important pillar in the governments macro-economic management of the economy is the privatization and divestiture programmes of its shareholdings in public industrial enterprises. In the long run, it is expected that the takeover of those enterprises which have viable prospects by new owners who will inject the capital and management expertise which are required to transform them enterprises, will contribute to the revitalization and growth of the manufacturing sector. For the time being, it is too early to predict the extent to which this objective is likely to be achieved.



On the whole, the lesson of recent years is that, in policy making, careful thought must be given to the trade-off between providing and strengthening the fiscal incentives which the manufacturing sector obviously requires to stimulate its growth and transformation and the revenue objectives of Government.

#### 4. BASIC CONSTRAINTS WHICH INHIBIT PRODUCTIVITY AND COMPETITIVENESS.

The findings discussed in this chapter are a consolidation of the conclusions reached in the subsectoral studies, and confirmed at the subsectoral consultative workshops.

Investigations into the root causes of the inefficiencies generally exhibited in manufacturing operations confirmed that there is a number of factors which impair the production and business functions of manufacturing enterprises. These factors contribute, in various degrees of seriousness, to the low capacity utilization which pervades in manufacturing in Uganda and which makes for uncompetitive, low growth operations.

Therefore of the many ways in which these constraints may be analyzed, it is considered pertinent to this study to set them within the framework of the most frequent causes of the high levels of unscheduled downtime experienced in manufacturing plants. ('Down-time' and low capacity utilisation are the opposite sides of the same 'coin'.) These factors have been conveniently grouped as follows:

- A: Outdated/Obsolete industrial plant
- B: Unreliability/Scarcity of Supply of Production Inputs
- C: Sub-standard Manpower Inputs
- D: Restricted access to Financing

Within these broad groupings there are crucial issues which are important in themselves, and are therefore identified separately in some analyses of constraints. However, from a strategic perspective there is virtue in not treating these issues in isolation as it were.

The impact of these basic constraints on productivity and competitiveness is highlighted in the relevant reports on the individual subsectoral studies, and in the reports of the subsectoral consultative workshops where applicable. Therefore in this document only those which are cross-sectoral are addressed, with emphasis on the most critical.

**A: Outdated/Obsolete Industrial Plant**

In general, plant and equipment installed in most subsectors date back to the early days of Uganda's entry into manufacturing, namely the late 1950s and the 1960s. Much of that plant was already not new at installation, but reconditioned/refurbished equipment, in many cases already depreciated in the country of origin. During the social upheavals of the 1970's and 1980's that plant and equipment was run down. It was only when political and economic stability was restored that repairs to and in some cases, replacement of this plant could be contemplated; the evidence is, however, that in these intervening years much of the plant has been poorly maintained, or not maintained at all, for reasons having to do with unavailability of spares or with unavailability of money, or poor management practices.

It is true that under the Rehabilitation and Development Programme substantial investment in upgrading plant and equipment in certain public industrial enterprises was undertaken. However, in many cases, such new plant and equipment has been partially installed and commissioned or worse, not installed at all, and remains crated after many years.

Clearly, one of the fundamental reasons for the high incidence of down time, during which production lines are not running, is the deplorable state of the stock of outdated plant and equipment installed for which spares from original suppliers are no longer available. Further where it has been possible to keep production lines running some of the time, efficiency of production is impaired by the outmoded technologies installed. In competitive terms, other producers in the sub-region have had the advantage of a later start and more stable social conditions which favoured the installation of more up-to-date equipment and more efficient production systems.

On the whole therefore, this aspect of technological backwardness is a major hindrance to productivity competitiveness and growth of the manufacturing sector.

**B: Unreliability/Scarcity of Production Inputs**

Two issues are involved, namely:

- (i) supply of raw materials and complementary inputs; and
- (ii) supply of utilities

Regarding the supply of raw materials and complementary inputs, there are two scenarios - availability of supplies from domestic sources and dependence on imported supplies.

(i) As regards availability from domestic sources, the following factors stood out:

- Non-contractual supply arrangements contribute to erratic deliveries and delivery times, and ambiguities over price and quality. This contrasts with operations where the plant has virtual control of raw materials, for example in vertically integrated businesses, or where there are contractual arrangements, say, with outgrowers.
- Problems associated with the sourcing of locally fabricated spare parts and components needed to remedy equipment breakdowns. Quite apart from the capability factor, the issues of lack of confidence in that capability and the absence of information about existing capability are relevant.
- Inadequacy of information on the quantities and properties of mineral, non-mineral and other natural resources, which may be processed for industrial use. The 'quantification' and 'qualification' of these resources, while not impacting directly on 'downtime' as such, are required to promote more diversified product lines and hence more intensive use of plant and equipment installed.

In the scenario in which raw materials must be imported, a critical issue is inadequate knowledge on the part of plant personnel of international supply conditions, i.e., competing suppliers, supply terms, quality differentiation and related considerations. In the event, many manufacturers find themselves locked into high cost supply arrangements and at the mercy of the suppliers' dictates. Delivery logistics, including the hazards of sea and overland transportation, the high freight costs only aggravate the problems of timeliness of deliveries of imported inputs.

(ii) Supply of utilities

Although some improvement has been registered recently in the delivery of services such as power, water and telephones/tele-communications, it remains the case that the unreliability of these services is a major cause of plant downtime. In order to safeguard against resulting interruptions and to ensure continuity of operations, many manufacturers have been forced into additional capital outlays on free standing standby power generating units and/or on independent boreholes. The capital and operating costs so incurred add a further burden to unit costs of production. Worse, it now appears that manufacturers are

being required to make further adjustments to their cost structures in order to accommodate recent sharp increases in the power (and water) tariffs.

- While the additional costs incurred as a result of deficiencies in supply of utilities are direct costs, manufacturers incur additional indirect costs because of other infrastructure bottlenecks particularly in road and rail transportation. The additional costs so incurred include the cost of delays which at times bring plant operations to a standstill, because of the late delivery of critical inputs.

C: Sub-standard manpower inputs

This constraint is manifested in two respects, viz:

- (i) inadequate management capability and
- (ii) shortage of technical skills

Regarding (i) an adequate management capability, in all the subsectoral studies, the evidence was that management performance, at all levels and in all management functions did not measure up to the standards which assure business efficiency. Weaknesses were marked particularly in Production Management - as to procurement, inventory control, plant maintenance, in Quality Management aggravated by the absence of gazetted Ugandan Standards and associated product certification, in Marketing Management - as to identification of consumer tastes, market research, product testing and sales promotion, and in the Financial Management as regards product costing and pricing, forecasting and budgeting, and cash management.

Any or all of the above management deficiencies have a negative influence on plant down time factors, productivity and competitiveness.

In the absence of performance targets and standards, the evaluation of achievements in relation to these standards and the virtual absence of systems of penalties and rewards related to performance (particularly in the public industrial enterprises), there were no real incentives to the cultivation and maintenance of high standards of management capability.

Regarding (ii) shortage of technical skills, it was universally agreed throughout the surveys and consultations that well trained skilled technical personnel - at both shop floor and supervisory levels - were in short supply. Among the contributory factors identified were inappropriate training of the technical labour force (in part the result of inadequate equipment and training facilities) and limited recognition by manufacturers themselves of the importance

of manpower development. In the plants themselves low levels of remuneration and the absence of incentives were not conducive to attracting and retaining highly skilled personnel. Generally, there was weak collaboration between industry and training institutions in preparing a technical labour force.

These two factors - inadequate management capability and poor quality technical skills - each in itself or in combination, are also significant contributors to the low levels of productivity which characterizes manufacturing operations generally in Uganda.

D: Restricted Access to Financing

There are many who maintain that this factor is the most serious of all which inhibit the productivity competitiveness and growth of manufacturing. Without in any way minimizing its importance, however, it must be stated that critical examination has shown that frequently this is but a facile explanation of the causes of weak performance. To begin with, there is a tendency to gloss over or overlook the history of industrial lending in the not too distant past, a distinguishing feature of which was conspicuous laxity (if not worse) on the part of both lenders and borrowers.

In the current environment in Uganda when efforts are being made to put financial institutions on a sounder footing, lenders are acutely aware of the fact that many prospective borrowers are poorly capitalised, already heavily indebted, have a poor track record and are therefore of doubtful credit-worthiness. In addition many prospective borrowers approach lending institutions with poorly prepared business plans, including statements of cashflow and future profitability which are essential to a critical evaluation of applications for financing. Moreover, the lack of or shortage of working capital to keep plants running can frequently be traced to imprudent use by management of borrowed funds obtained earlier. This fact does not inspire the confidence of lenders.

At the same time, it cannot be denied that the cost of borrowing is high; short-term interest rates to prime clients are in the region of 24%, and long term interest rates between 25% to 29%. It is also the case that the evaluation of industrial projects demands special technical skills and information which are not usually resident in the average commercial bank. All the more important therefore is the role of the financial institutions which specialise in the provision of financing for industrial projects and plant expansions

improvements, namely the Uganda Development Bank (UDB) and the Development Finance Corporation of Uganda (DFCU).

In the final analysis, this thorny issue may be less contentious if there is wider recognition of the need for an equitable balance of interests between the requirements of financing institutions as prudent lenders and the needs and capacities of borrowers.

**E: Other Basic Constraints**

The consultations with stakeholders confirmed other important constraints which bear on general business management more than on plant operations. These relate to:

**(i) Unavailability of Industrial Information:**

There is no national data base of industrial information; neither the public sector or industry associations has established a comprehensive body of facts about the sector, at national, sectoral or even enterprise level. In the circumstances monitoring and analysis of performance and business development planning cannot be undertaken systematically and on a sustained basis. Inefficient decisions are therefore made which lead to poor business results.

**(ii) Inadequate institutional support to the private sector:**

The key issue here is the absence of a coherent set of public policies which establish a stable and assured framework for private sector initiatives.

More explicit support for industrial institutions which provide to the manufacturing sector, consultancy and training services and those which seek to undertake technology development.

In summary the basic constraints which inhibit productivity and competitiveness are deep seated and fundamental and will only be remedied over time, provided that deliberate action is taken to do so. This is a national responsibility in which both the private sector and the public sector - government- share. The private sector embracing existing manufacturers and prospective entrepreneurs, linked businesses in commerce and finance must pursue improvement and upgrading of their business operations and practices to internationally acceptable standards. The Government for its part must accept its responsibility for upgrading the quality of the support which is required to encourage these private initiatives in the manufacturing sector and bring them to fruition. The scope for joint collaborative effort towards these ends is enormous.

## **PART II: VISION OF MANUFACTURING SECTOR DEVELOPMENT**

### **1. STRATEGIC ISSUES**

The underlying proposition is that industrialization - industrial development - involves a long term process of structural transformation of a country and its production structures. No precise estimate of a timespan within which this transformation is achieved is possible; experience varies from country to country. Thus, while it is conceivable that the process may be accelerated with the aid of modern know-how, the time which Uganda at its current level of development will require to appropriate such know-how, and to benefit from the models of successful transformation and their know-what, should not be under-estimated. Therefore it would be injudicious to project that in the relatively short period remaining to the turn of the century Uganda will be transformed to such an extent that it will rank as an NIC, even in terms of the performance achieved at the end of the 1980s by the countries which carry that label.

Yet the strategic vision for Uganda must be the transformation of its agro-based economy into a modern industrialized economy which is capable of self-sustained growth and development. In the medium term, that vision must be tempered by reality and limited to initiating the dynamic transformation of production structures into competitive manufacturing units which have backward and forward linkages with the domestic economy and are geared to high growth, as appropriate to the 1990s and beyond.

The path towards realizing that vision will be conditioned as much by the internal environment as by the external context in which the initiatives for transformation are undertaken. As regards the internal environment it is to Uganda's credit that, through structural adjustment programmes there now exists an economic climate and framework which is conducive to private investment, both domestic and foreign. That is not to say that all constraints on expansion of manufacturing output have been removed; on the contrary, as noted in the previous chapter, there are critical areas in which continuing remedial action is required. Paramount among these are:

- more investment in human resources development;
- the strengthening of the financial infrastructure and associated mobilization of domestic savings for investment in the upgrading of industrial plant; and

- support to a weak private sector.

The most significant features of the external, international environment which will impact on the future prospects of Uganda's manufacturing sector are:

- the 'new world order' of international trade created by
  - (a) the emergence of the European Economic Area combining the European Union (EU) and the European Free Trade Association (EFTA) into the world's largest free trade area;
  - (b) the North American Free Trade Area integrating the markets of the USA, Canada and Mexico;
  - (c) the embryonic pacific Economic Grouping;
  - (d) transitional Economic Zones being established by the NIC's of East Asia, the 'growth triangles'; and not least
  - (e) the GATT accord reached in December 1993 which when ratified will usher in an unprecedented regime of global trade liberalization measures;
- associated with the above, the growing trend towards an integrated global industrial economy leading to even fiercer competition where only the fittest enterprises will survive;
- declining prices of commodity exports;
- growing limitations on the possibility of relying on markets in developed countries for widening the industrial base of developing countries through cheap labour-based standardized export products;
- more and more new technologies, new production methods, new materials, new industries and more and more information services, all widening the technological gap between the developed industrialized countries and the developing world;
- intensified competition for international financial flows in general, and direct foreign investment destined for developing countries.

The environment external to Uganda also includes prospective trading developments within Africa, at regional and sub-regional levels. The most important is likely to be the coming into being of the Community of Eastern and Southern African States (COMESA) which is expected to integrate the free trade areas of PTA and the Community of SADC. The wider market and liberalized flow of resources within COMESA will present both opportunities for manufacturing in Uganda and threats in the form of increased competition



in the Ugandan market. If, as seems inevitable, South Africa becomes a member of COMESA, the technological lead and technical expertise which that country already possesses will reinforce the competition against which Uganda's manufacturing will have to contend. There will be no protection in the Common Market. Those who will be able to operate efficiently and cost effectively will survive, while those who will not be able to do so will be eliminated.

But it may well be that the more immediate challenge is the prospect of the revival of the East African Community as a Sub-Regional grouping, if decisive action is taken to implement the Agreement signed by the Heads of State of Uganda, Kenya and Tanzania, at the end of 1993. Interstate trade in manufactures, among the three countries is not in Uganda's favour; indeed in some products competitors from these countries have captured and retain significant shares of the Ugandan market at the expense of domestic manufacturing.

The implications of these developments, in the short and medium term, are clear enough. Manufacturing industries in Uganda must be and must make themselves internationally competitive in order to remain or become main suppliers to the national market. If and when they do so they may be able to take advantage of export opportunities which may exist or may be created in international and regional markets.

## 2. REVIEW OF COMPARATIVE ADVANTAGES

What then are the manufacturing activities in which Uganda can expect to demonstrate a competitive edge? Put another way, where do Uganda's comparative advantages in manufacturing exist? A 'Study of Resource Endowments and Comparative Advantage' was completed in 1993 for the Uganda Investment Authority (UIA) by consultants MAXWELL STAMP PLC of UK. The general conclusion of the study was that "Uganda's comparative advantage emanates mainly from natural resources and unskilled labour."

This conclusion was based on a review of resource endowment, cost, availability of factors of production and infrastructure in the context of the identification of potential investment opportunities. Analytical techniques utilized included an examination of existing activities to determine which have comparative advantage, and hence long term potential for further development and analysis of the source of Uganda's comparative advantage, identifying activities which use domestic factors of production intensively.

Based on the findings of these analyses the main conclusion drawn were, inter alia:

- "Uganda's existing comparative advantage is heavily concentrated on agriculture, forestry and mineral resources and their primary processing. This implies that there is scope for further development and secondary processing of the resources."
- The study showed that Uganda's source of comparative advantage lie in its natural resources and unskilled labour. This has implications for government policy making to encourage industries which are consistent with Ugandan natural resources and labour."
- "There are a wide range of potential areas of comparative advantage revealed by the analysis. These include potential for both inter-industry and intra-industry diversification."

The findings in the subsectoral studies undertaken for the preparation of the IIP are consistent with these conclusions on sources of comparative advantage. These findings also suggest that energy is an additional natural resource which can provide a base for comparative advantage. There is already evidence that, on account of its abundant water resources, Uganda can harness its immense hydroelectric power potential which is not limited to Jinja.

The above commentary would suggest that, in general, it is those manufacturing activities which originate in and/ or capitalise on the potential comparative advantage that will have the best prospects of attaining internationally competitive standards (all other things being equal) assuming that are able to surmount the strategic constraints identified earlier.

By comparison, in international terms, knowledge and skill intensive manufacturing constitute the leading edge of competitiveness and growth, say in the developed industrialized economies, and of late, in the NICs. For Uganda this is not an option. The strategic direction for manufacturing lies in the pursuit of raw materials and energy intensive industrialization for which the country is well endowed.

As regards the factor of unskilled labour, caution is urged, since reliance on low, relatively cheap, labour costs may prove a risky strategy in the medium term. This is due to some recent international trends which are resulting in changing comparative advantages with regard to this factor of production. For example, automation of simple skills is reducing the importance of low skilled cheap labour in terms of competition within the world economy; global companies now circumvent the low wage cost advantage in this way. There

is also the ever present challenge of new entrants, as the worldwide spread of garment manufacturing for export located in EPZs in developing countries attests. The fact is that low skilled cheap labour is still abundantly available in the developing world and this encourages extreme forms of international competition on the basis of increasingly depreciated wages and prices. In the final analysis labour productivity may prove a more important factor than the absolute cost of labour itself.

Greater reliance on a strategy unequivocally based on secondary and tertiary processing of Uganda's natural resources of agriculture, minerals and forestry, including energy intensive industrial processes as necessary or appropriate, would seem to offer prospects of richer dividends in pursuit of the goal of transforming the manufacturing sector. For it is in the processing and industrial utilisation of these resources that intermediate industrial goods are produced which enter into local production as inputs into user industries thereby replacing imports of such inputs, if price and quality are competitive. This is the real avenue for inter-industry and intra-industry linkages and diversification, significant added value and concomitant export earnings.

### 3. PRIORITY SUBSECTORS AND DEVELOPMENT PROSPECTS

There is today common consent that in the 1990s and beyond, the thrust of industrial development in developing countries should not be propelled by import substitution strategies and policies which were vogue in the 1960s and '70s. In the case of Uganda, a school of thought persists, however, that because the manufacturing base is relatively small and technologically ill-equipped, the obvious alternative strategy in this initial stage of revival of manufacturing activities is to concentrate on the production of basic consumer goods, requiring simple production skills, e.g. food, drinks and tobacco, textiles and clothing, soap and simple building materials. This, it is urged, is the established pattern in all developing countries which have undergone the industrialization process. Uganda, it is added, has the benefit of an agricultural base to contribute to the process. Thus, in this perception, industry in Uganda, for the foreseeable future, must not only be agro-based but also labour intensive.

The results of the IIP subsectoral studies would suggest that this is a conservative vision of the production possibilities in Uganda within the Plan period, which may even be

said to ignore or overlook private sector initiatives already undertaken, with moderate success, to reach beyond these limitations.

**The alternative vision presented herein is that of a manufacturing sector in which growth and diversification are driven by the processing in the country to the maximum extent possible, of the natural resources of the country (of which agriculture may be one, but not necessarily the most important, industrially). The IIP studies indicate that inter-industry and intra-industry linkages can be deliberately achieved and local manufacturing value added maximized through a careful, selective approach to the identification of production possibilities which capitalise on natural resource endowments.**

This option challenges Uganda with a bolder and more imaginative vision of the production horizons on which it may set its sights, and towards which it should commence to advance in the period to 1997-1999. This is the pathway to progress towards achieving the strategic goal of fundamental transformation of the production structures of the country.

Accordingly Uganda should give priority to:

- resource based industries;
- the creation of inter-industry and intra-industry linkages and linkages with the rest of the economy;
- the maximization of local value added through secondary and tertiary processing of domestic raw materials;
- the capacity for foreign exchange earnings and/or net savings.

On this principle, first order of priority is accorded to:

- Manufacture of Non-Metallic Mineral Products;
- Manufacture of Basic Iron and Steel Products, and
- Manufacture of Fabricated Metal Products (Metallurgical Industries).

Second order of priority is accorded to industries undertaking the processing of agricultural and fisheries resources. The product groups which our subsectoral studies have shown as most likely to create inter-industry linkages and added value and which therefore rank as priority within the food and beverages subsector are:

- Manufacture of Sugar;
- Processing of Fish Products;
- Manufacture of Grain Mill Products.

Also in this category are forest based industries namely

- Manufacture of Wood and Wood Products;
- Manufacture of Furniture;
- Manufacture of Pulp, Paper and Paper Products and Printing;
- Manufacture of Leather and Leather Products.

Third order of priority was given to manufacturing activities which create employment for large numbers of relatively low cost labour and are important on that account, the more so if they are export oriented and are net foreign exchange earners. The principal such activity is:

- Manufacture of Garments (for export)

A special place was accorded to:

- Manufacture of Packaging Products

which is undertaken within several subsectors, depending on the raw material from which they are made.

This choice of priority subsectors and manufacturing activities presented above is very close to the selection adopted by the PTA for the industrial programme of the region. The PTA choice is 'metals', engineering, chemicals, agroindustries, building materials'. The inclusion of chemicals is the significant difference between the two selections, and in reality, 'chemicals' in the PTA list concentrates on fertilizers exclusively. However, inasmuch as there is an ongoing commitment by Uganda to the development of the triple super phosphate project (which features in the PTA programme), it was thought unnecessary to include that industry as an area for study in the preparation of the IIP. On the other hand, the range of non metallic mineral products which is envisaged in the IIP includes building materials and more.

The above ranking is not intended to suggest that the manufacturing activities which fall outside the priority areas identified should be discouraged. If investors find them to be financially and economically feasible, then their contribution to manufacturing output and to the economy as a whole should be recognized, always assuming that the activities are internationally competitive.

A brief elaboration on these activities follows to explain the rankings given.

(i) **Non-Metallic Mineral Products**

'Industrial minerals' is the term applied to those non-metallic rocks and minerals which are made use of and consumed in industrial processes and products, as well as in building and civil engineering (building materials), in agriculture and so on. It is evident therefore that processing of these rocks and minerals into intermediate and final products creates a chain of inter-industry and intra-industry linkages, with production for domestic use and foreign markets. What is more significant is the value which is added to the material with each round of processing as exemplified in the following table:-

<b>Raw materials</b>	<b>SILICA-SANDS</b>	<b>LIMESTONE-DOLOMITE</b>	<b>CLAYS</b>
<b>Finished product value</b>			
<b>LEVEL 1</b> 2-10 US\$/T	Extraction Raw and screened material	Extraction Crushed, screened raw aggregates	Extraction Raw clay
<b>LEVEL 2</b> 10-50 US\$/T	Drying, sizing, dedusting, bagging Abrasives, Silica flour	Selective extraction Chemical grey limestone, marble, Micronisation, Soil amendment, flux for steel, Asphalt filler	Preparation, kiln Brick/blocks
<b>LEVEL 3</b> 50-300 US\$/T	Processing Refractory boards (incl. other minerals), Lime-silica bricks	Processing Marble products, Lime + hydrate, Pozzolana cement	Processing Ceramic tiles,
<b>LEVEL 4</b> > 500 US\$/T	Sanitaryware (+ imported resins) Silicium Carbide Glass (hollow, sheet...)	Organic calcium salts, PCC (precipitated calcium carbonate), C.OCl <sub>2</sub> (calcium hypochloride)	Ornamental earthware, Expanded clay, Porcelain

Source: *The Courier Africa - Caribbean - Pacific - European Community (July/August, 1993)*

NB: These three raw materials are also the basic constituents of cement.

Uganda's endowments and their potential industrial utilization are:

<u>Material</u>	<u>Products</u>
Limestone	Cement, Lime Products
Clay	Wall, floor and roof tiles, Bricks, Refractories
Kaolin	Sanitaryware, Ceramics, Paints
Quality Sands	Glassmaking
Phosphate Rock	Fertilizers
Gypsum	Cement

In addition, the potential availability of increasing amounts of electrical energy supplied more reliably than at present and priced more attractively to industrial users, fortifies the prospect that certain pyro-processing industries are feasible. These are the industries that have a high temperature degree in the manufacturing process and are therefore energy intensive.

**(ii) Basic Iron and Steel Products**

Per capita consumption of steel products in Uganda has been estimated at only 2.4 kg in 1991. By comparison, authorities reckon that a threshold consumption of about 50 kg per capita is necessary for meaningful technological take off. Most African countries fall below this threshold; the figures for sub-Saharan Africa are generally below 30 kg. Yet a high per capita steel consumption generally suggests vigorous productive activities especially in those economic sectors linked to industry. Therein lies the evidence of the technological gap between the industrialized developed countries and developing countries. The data also evidence Uganda's lag even in African terms and reinforce the strategic goal of structural transformation of the manufacturing sector.

At present, the demand for steel is met mainly by imports, of which the greatest share is in the form of indirect imports, namely steel contained in manufactures, capital goods, machinery, transport equipment and the like. Other imports are crude steel and semi-finished steel products, import replacement of which is not yet significant in view of the fact that EASCO has remained out of operation since the mid-eighties and Steel Rolling Mills (SRM) started production only in 1989. Another mini-mill is due to commence production later this

year but the combined output of these two plants will not be sufficient to supply the growing market for these products. Reactivation of EASCO will not change this picture substantially, if at all. Moreover there is no domestic production of engineering steel and special steel-making, and at present none of these plants propose to do so.

The mini-mills are fed by scrap metal which is converted into steel ingots and then further processed. A study undertaken in 1987 by international consultants under a UNIDO project for the then Ministry of Industry and Technology concluded that

*"the estimated demand for scrap used for steel making and foundry operations is expected to reach a maximum of 57,539 tons in 1993. If no local supply of scrap is available this raw material essential for steel making will have to be imported. .... If the conditions of supply and demand of metal scrap projected in this report remain valid, then the local available resources of scrap will be exhausted by 1993. Therefore in 1990 or 1991 the Government of Uganda must explore alternatives to ensure the local supply of scrap".*

The most recent estimate is that the amount of scrap required in 1997 (assuming EASCO is in production then) would be of the order of 135,000 MT). Therefore strategic planning for the subsector must address the question, among others, of replacing this raw material preferably by one which can be supplied by alternative domestic resources.

This introduces the longstanding and vexed question of making steel from national iron ores, several deposits of which are known to exist in Uganda. Over more than 25 years studies on the use of these resources have been conducted by teams of national technologists and planners and by international consultants engaged for the purpose. In recent years interest has centred on two well known deposits - the TORORO DEPOSIT and the MUKO DEPOSIT - as the raw material source for an integrated iron and steel complex in which a mix of steel products, semi-finished and finished would be made as market requirements dictate. Such a plant, it is contemplated, should be sized to produce feed material for the existing mills in place of scrap.

The studies have established that conventional blast furnace technologies are not appropriate to Uganda on both technical and economic grounds, and that the technologies of more recent vintage namely, pre-reduction to produce pig iron or direct reduction to produce Direct Reduced Iron (DRI) or Sponge Iron are to be preferred. The snag is that both technologies require a reductant - commonly either coal or natural gas - neither of which



is known to occur in Uganda. Several proposals for overcoming this hurdle have been mooted from time to time. In view of the revived interest by the Governments concerned in reviving subregional economic integration, the most interesting of these proposals would appear to be the import of coal from Tanzania.

No further progress will be made until a comprehensive techno-economic feasibility study is undertaken and the viability established or otherwise. If time is of the essence, (and the pursuit of the strategic goal postulated herein would make it so,) and having regard to the more extensive information already available on the TORORO deposits, it would seem that the definitive study which is now required should be commissioned for the establishment of an integrated iron and steel plant based on that deposit.

**(iii) Fabricated Metal Products (Metallurgical Industries)**

In general, the strategic importance of metallurgical industries derives from the fact that they embody the capacity to manufacture machines and spare parts for industry. They are frequently described as the industries which make the machine goods. Therefore the degree of sophistication demonstrated in these industries is an index of the technological capacity acquired and developed in the country.

Metallurgical industries are also outstanding in their intra-industry and inter-industry linkages. The production of machine goods absorbs raw materials from the iron and steel subsector, and the non-metallic mineral products subsector, and in turn the machine goods and spare parts so produced are utilized in other manufacturing activities, for example in agriculture, and construction. In Uganda the range of metal products manufactured includes simple agricultural machinery, simple tools, fixtures and implements, simple transportation equipment, and fabricated structural metal products and sheet metal products. Limited as this range is, it nevertheless demonstrates the pervasive actual and potential linkages to the rest of the economy.

Within the metallurgical industries, foundries occupy a pivotal place, inasmuch as castings constitute roughly 60% of construction parts of most machinery. Currently, Uganda is importing roughly 2,500 TPY of castings at a cost of US\$ 6-8m. These imports are expected to grow to 7,500 TPY by 1999 costing US\$ 20-30 (at today's prices), stimulated by the demand for castings, castparts and cast accessories which priority projects in the RDP 1991/92 -1994/95 will create. In addition, increased demand for castings may be anticipated

in the agricultural sector, including food processing industries and in the construction and housing sectors.

Expert opinion is that a correlation can be made between the foreign exchange expenditures on the import of castings and the investment required to reduce those imports. Thus it is roughly estimated that the allocation of US\$ 1.0m for modern foundry equipment, if combined with the transfer and strict implementation of appropriate foundry technology would result in saving in foreign exchange of equal amount i.e. about US\$1.0m per year.

For all these reasons, the upgrading and development of Uganda's metallurgical industries is an imperative within the plan period. In particular, the modernization of and introduction of new production capacities in the foundry subsector lie at the heart of this development strategy.

#### **(iv) Processing of Agricultural Raw Materials**

It is necessary to identify the product groups which, in accordance with the criteria of maximising inter and intra-industry linkages, and domestic manufacturing value added, are judged to merit priority attention. This is so because of the many production possibilities which qualify on the above criteria only a few seem destined to become realities within the Plan period, even if found to be feasible.

It may disappoint some expectations that the processing of fruits and vegetables is not among the priority product group in the IIP. In view of this, the advice of the expert is quoted in full as follows:

*"Previous reports have mentioned the possibility of establishing factories for canning pineapple, producing frozen or aseptic pulps, juice concentrates, etc from tropical fruits, such as Passion Fruit, Mango, Pineapple and Pawpaw.*

*The landlocked position of Uganda does not lend itself to being internationally competitive in canned products. Because there is no can-making in Uganda, there would be the added expense of importing cans, and after filling, the cost of exporting heavy finished products of low value to the ports.*

*While there is, for the most part, a plentiful all the year availability of excellent fresh produce there is little need to add the cost of the canning operations. The local buying power in Uganda may well be insufficient, at this time, to warrant canning for*

*local consumption, but this position may change with increasing prosperity in a few years. The expert suggests that this be given further consideration in the medium term.*

*The growth of the international markets for tropical juice products, which was so promising a few years ago, has suffered the general decline in consumer spending power in most of the industrialised countries. There is at the present time, a glut of these products.*

*Pineapple growing and processing for producing juice concentrates has been developed on a vast plantation scale, first in Hawaii, then in the Phillipines and Tciwan and more recently in Thailand, Indonesia and Brazil. It would be very difficult indeed for Uganda to become competitive in this product".*

On the other hand, potential projects which would add value to materials which now undergo primary processing only and which are potential foreign exchange earners, have been included in the subsectoral action programme, namely production of decaffeinated tea and production of instant coffee, for export markets. However, on a note of caution, if techno-economic studies demonstrate the feasibility of these project ideas, the active participation of a foreign partner who is established on the international markets for these products will be required for the success of the resultant business ventures.

The justification for the priority ranking accorded to the product group 'manufacture of sugar' lies in the industrial uses to which the by-product, molasses and bagasse can be put. Molasses is the foundation of a number of sucro-chemical products like yeast. Here in Uganda there is already an intra industry linkage created by the supply of molasses for the making of alcoholic beverages and spirits. Of potentially more significance to the national economy is the use of molasses for making ethanol for blending with gasolene in combustion engines, which can result in the reduction of foreign exchange costs of imports of petroleum products. Fortunately, the Ministry of Natural Resources and the sugar companies have reached a fairly advanced stage in the project development and preparation for such a venture. According to information received, it is expected that at maximum production in say, 2002, a foreign exchange saving of US\$4.3m (at current prices) will be realized. Expert opinion is that the target 1996 start-up date may be rendered more achievable if an

international oil company already operating in Uganda which has interests in similar ventures elsewhere, is attracted soon to this venture, as a marketing partner.

The production of particle board from bagasse is also understood to be under active consideration by a sugar producer, but this project is not in an advanced stage of development. Particle board has many applications in the furniture, packaging and construction industries; it is therefore an excellent candidate for creating inter-industry linkages and some displacement of imports.

Molasses and bagasse in their primary form are waste products of the sugar industry, the accumulation of large quantities of which can pose an environmental hazard. Therefore utilization as an industrial raw material not only adds value in the process of domestic manufacturing but also relieves that hazard.

The processing of fish products has the double advantage of being a labour intensive activity and a foreign exchange earner. Current employment in this industry is approximately 1000 workers in seven operating plants. Export Sales of US\$ 7.0m mainly the European market were realized in 1992, accounting for 4.4% total exports, topping the list of non-traditional exports. The Ministry of Agriculture, Animal Industry and Fisheries and the Uganda National Bureau of Standards, in collaboration with the fish processors and the UIA initiated action to ensure that the Uganda industry will be capable of complying with an EC directive concerning the import of fish and fishing products from third countries and thus preserve access to that market.

In the manufacture of grain mill products, there are already substantial intra-industry linkages with the production of animal feeds and baking products. There is a distinct possibility that such linkages may be extended and deepened, if the results of an on-going project on the cultivation of wheat and barley in Uganda continue to show promise and if the techno-economic feasibility studies of substituting these products for imports of wheat and malt confirm international competitiveness. The project is being supported by the Africa Development Bank and the Ugandan stakeholders are UGMC, Uganda Breweries, and Nile Breweries. If realized, benefits are likely to accrue to the national economy in the form of foreign exchange savings and diversification of agricultural output and employment.

**(v) Forest Based Industries**

**(a) Manufacture of Wood and Wood Products and Manufacture of Furniture**

It is the extensive linkages between commercial saw milling, furniture and joinery and building materials supplied to the construction industry that underlie the importance of these subsectors to the economy. In fact total wood production in Uganda in 1992 had a value of Ushs.58b/=, accounting for 3.1% of the GDP.

At present imports of wood products are negligible, however, in order to preserve this virtual self sufficiency in the future while catering to rising consumer expectations on the domestic market and to gain entry into export markets, it will be necessary to effect radical upgrading of production processes and methods and improvements to product quality. Therein lie the opportunities for new and additional investment in these subsectors.

Employment generation is a further ground for including these subsectors among the priorities in the Plan. Estimates of current employment in the various activities are as follows:

in commercial saw milling	6,000	workers
pit sawyers	12,000	workers
in furniture, carpentry and joinery	600	workers

It is not foreseen that the introduction of new technologies advocated for the modernization and advancement of the subsector will alter the labour intensive character of these activities.

A note of caution is considered necessary, however, regarding the supply of raw materials to what could prove to be a vibrant forest products industry. It concerns the need to strike a judicious balance, in forestry management policies and programmes, between the value of natural and plantation forests with respect to environmental protection and tourism and their potential worth for industrial processing.

**(b) Manufacture of Pulp, Paper and Paper Products and Printing**

The pulp and paper industries have an important role to play in the transformation process which Uganda aims to undertake. In all the efforts directed at improving the national economy, paper is seen as one of the likely forces which initiate growth because of its contribution to literacy and communication and of the extensive use of paper-based packaging to ensure safe delivery of goods to consumers.

At present those industries which require paper and board for their converting operations must either compromise quality by resorting to paper which is produced by PAPCO Ltd, or import those grades of paper needed, at quality levels sufficiently high to enable to compete with the finished products which are being imported.

The increasing sophistication of the major end users of paper, namely printers and converters, necessitates the production of higher quality paper than that produced in Uganda at present. It is for these reasons that the concept of developing a pulp and paper industry to meet projected market needs warrants priority consideration within the IIP.

**(vi) Manufacture of Garments**

The manufacture of garments for export is in its infancy in Uganda; yet it is well known that this activity has earned considerable net foreign exchange for developing countries which are technologically backward and has provided employment in large numbers. Many such countries base this industry exclusively on imported textile fabrics. However, in the case of Uganda, expert opinion is that the textile plants should be made capable of supplying fabrics for garment making. For example, denim and shirting material which can be made from locally spun yarn can be made into jeans and shirts for export. Indeed, expert opinion is that a key element of the development strategy for the survival of Uganda's textile industry is a reconfiguration to achieve this complete integration.

**(vii) Manufacture of Packaging Products**

As has been stated earlier, packaging products are manufactured within several subsectors depending on the raw material from which they are made. Thus for example, the manufacture of glass containers is an activity within the non-metallic mineral products subsector; similarly paper and paper board packaging products are made within the paper and paper products and printing subsectors. Moreover, significant inter and intra-industry linkages and value added may be achieved in the manufacture of packaging products.

Summaries of the Conclusions and Recommendations in the reports on subsectors prepared by UNIDO international experts are incorporated at APPENDIX 1 (1.1 to 1.7)

### **PART III: TOWARDS COMPETITIVENESS AND PRODUCTIVITY**

#### **1. PROPOSALS FOR STRATEGIES POLICIES AND ACTIONS FOR THE MANUFACTURING SECTOR**

A restatement of the strategic vision in operational terms is the first step towards establishing the context for the strategies and policies to promote competitiveness and productivity in the manufacturing sector. In consultations with the stakeholders consensus was reached on the following set of national goals:

- To optimize the exploitation and utilization of domestic natural resources.
- To strengthen backward and forward linkages within the manufacturing sector and between that sector and the rest of the economy.
- To ensure that industries are competitive in the domestic market and in export markets, in order to maximize earnings.
- To reduce technological backwardness.
- To create new job opportunities to absorb a fast growing labour force.

In the light of these goals and the Government's often articulated national objective of 'building an independent, integrated, self-sustaining economy, relevant STRATEGIES FOR THE MANUFACTURING SECTOR as a whole, would seem to be:

- Promoting productivity and competitiveness of the priority subsectors at sub-regional, regional and international levels, in the framework of an open market economy.
- Harmonization of industrial development policies with national objectives through an institutionalized consultation process between government agencies and the private sector.
- Promotion of the development of the physical infrastructure.
- Providing institutional support to the private sector through sectoral and subsectoral associations and institutions in the areas of training, information standardization and quality control, technology development, industrial financing, and related endeavour.
- Providing an enabling environment conducive to dynamic private sector initiatives to modernise and transform the manufacturing sector.

- Reducing government's role in the ownership and control of public industrial enterprises through a programme of privatization and divestiture.
- Promoting the application of environmentally sustainable industrial development (ESID) policies as an integral part of industrial development policy.

In pursuit of these strategies, the consensus was reached among stakeholders on the following **POLICIES AND ACTIONS**.

#### Mobilization of Investment

Government continually review and reinforce as required the enabling macroeconomic environment conducive to private sector investment.

#### Infrastructure

1. To accelerate implementation of programmes designed to extend and improve the quality and reliability of infrastructure services - electricity, water, communications (with special attention to secondary and feeder roads).
2. To collaborate with the Private Sector in providing industrial areas including EPZ's (if determined to be feasible).
3. To have U.E.B review its tariff structure with a view to introducing concessions to large industrial users, in accordance with industry practice in many parts of the world.
4. To review the monopoly status of U.E.B.
5. To give priority in its rural development programmes to providing and maintaining secondary and feeder roads accessing areas in which raw materials for industrial processing are located.

#### Institutional Support

1. Government give priority to requests for TA in capacity building submitted by industrial associations and other private sector institutions which are providers of industrial services.
2. To make an inventory of all existing laboratory and testing facilities in the country and to establish networking arrangements among them.
3. To take steps to adequately equip the existing facilities.



4. To expedite surveys, quantification, qualification and tests of economic exploitation, of critical metallic and industrial minerals known to exist in the country.
5. To expedite the completion and equipping of the Industrial Research Institute fo Food Technology and Ceramics.

#### Human Resource Development

1. Government in collaboration with the private sector, increase investment in reequipping and expanding the technical training institutes and allied technical training centres.
2. Government publicize and reinforce the tax incentives in respect of training expenditures incurred by businesses.
3. Government and private sector give priority to raising the level of management capability in the key management functions.
4. Private Sector contribute to the provision of enhanced industrial training including the development of curricula and programmes which meet the requirements for industry.
5. Private Sector and Government raise levels of wages and salaries paid to employees in an effort to ensure motivation and to discourage the 'brain drain'.

#### Industrial Financing

1. Private businesses and state enterprises be encouraged to become public limited liability companies.
2. Government and Private Sector accelerate the establishment of the Kampala Stock Exchange.
3. Financial institutions be encouraged to diversify operations to include merchant banking and to develop innovative lending instruments to suit the domestic requirements.
4. To progressively lower interest rates further in line with prevailing lower inflation rates.
5. Financial institutions be encouraged to participate in project development through lending for feasibility studies.

6. Financial institutions improve appraisals of and expedite applications by industrial borrowers.
7. Financial restructuring of 'sick' enterprises be encouraged.

#### Standardization and Quality Control

1. Intensifying national recognition of the importance of product standards and quality.
2. Government expedite the introduction and promote the acceptance of national quality standards including quality certification by UNBS.
3. To compile and publicize those standards which have been established (and are in use) and expedite drafting of additional standards in collaboration with interested parties.

#### Environment

1. ESID policies be developed as integral part of industrial development strategy.
2. To enact appropriate legislation to ensure ecologically sustainable industrial development and empower local authorities to implement them.
3. UIA to liaise with MTI and Directorate of Environment Protection to ensure that the environmental impact of projects is thoroughly evaluated before approved.

#### Research and Development

To publicize and reinforce tax incentives in respect of expenditures incurred by businesses on or in support of R & D and technical cooperation.

#### Domestic Procurement

1. In accordance with a Government procurement policy which should be made explicitly supportive of domestic manufacturing, the Central Tender Board be directed to give highest priority to Ugandan made products, subject to quality and price considerations.
2. Central Tender Board to review its eligibility criteria (e.g. deposit criteria/bid bonds) which prevent many local manufacturers from competing.
3. Public Utilities to ensure that specifications for products for which tenders are invited are not tailored unnecessarily to achieve foreign sourcing.

4. UIA to enforce provisions in Investment Code which require beneficiaries to source supplies in Uganda, as far as practicable.
5. In the national interest and subject to quality and price, to promote more extensive purchases under AID assistance programmes of Ugandan-made products.

#### Regional Development

Special assistance programmes to promote regional spread of industries, as far as practicable should be introduced.

The action programme for the manufacturing sector as a whole is noticeably government directed, in the main, except where private sector collaboration is urged. However, the responsibilities ascribed therein to the Government derive from and are consistent with the basic support role which is expected of the Government in the process of industrial development and transformation, and which has been observed to have been practised in many of the countries that are taken as models of successful industrial growth. While the delivery of certain services to the society at large and to industry in particular is no longer the exclusive preserve of Government, there are activities which prepare the ground, as it were, for private investment initiatives on which public expenditure is necessary. The sectoral programme addresses some of these activities, with a view to promoting productivity and competitiveness in the manufacturing sector.

## 2. STRATEGIES, POLICIES AND ACTION PROGRAMMES FOR INDIVIDUAL SUB-SECTORS.

### Non-Metallic Mineral Products

#### Strategy

Management of mineral exploration and mining more as a service to the national community in the interest of economic and social development than primarily as an export resource.

#### Policies

That Government:

- promote the secondary and tertiary processing of non metallic minerals with the aim of adding value domestically to these natural resources and of creating intra and inter- industry linkages to the maximum extent feasible.
- strengthen the capability of DGSM and related institutions to compile a complete inventory of metallic and non-metallic mineral resources

required for dissemination of relevant information to parties interested in the exploration, mining and processing of these resources.

### Basic Steel Products

#### Strategies

- Promotion of the use of national deposits of iron ore for steel making.
- Encouraging diversification of steel products made in Uganda.

#### Policies

- Government expedite the definitive evaluation of the feasibility of processing national iron ores in an integrated iron and steel making complex.
- Government revive interest among its subregional partners in participating in the relevant study as an opportunity for complementary exploitation of the subregion's natural resources.
- Government support initiatives to diversify steel grades produced in Uganda.

### Metal Products (Metallurgical Industries)

#### Strategies

- Encouragement of the modernization of and introduction of new production capacities in the foundry subsector.
- Promotion of the establishment of FOCAL POINTS for the foundry industry to offer on an industry-wide basis facilities for training, testing and new product development.

#### Policies

- Government give support to private sector initiatives to enhance national capability to fabricate spareparts and components for industry.
- Government provide incentives to the foundry establishments which qualify to become FOCAL POINTS for the industry.

### Food and Beverages and Tobacco

#### Strategies

- Encouraging product diversification through additions to existing product lines or venturing into new products to the maximum extent feasible.
- Encouraging more effective business links between processors and growers as a means of ensuring more reliable supplies to processing plants.

#### Policies

That Government give support to initiatives to produce more industrial products from agricultural raw materials.

### Wood and Wood Products and Furniture

#### Strategies:

- Promotion of more efficient utilisation of forest resources for industrial processing.
- Encouragement of the modernization of and the introduction of new production capacities in the wood products and furniture subsectors.

#### Policies:

- Government give support to private sector initiatives to upgrade technologies in the saw milling industry and in the production of finished wood products.
- Financial institutions pay more attention to the investment needs of the wood and wood products industries.
- Industry introduce uniformity of standards with respect to units of measure, quality specifications for both raw materials and finished products.

### Pulp, Paper, Paper Products and Printing:

#### Strategies:

- Development of an indigenous raw materials base for a pulp and paper industry.
- Development of a pulp and paper industry to meet the growing demand for more sophisticated products.

#### Policies:

- Government support a programme to improve levels of efficiency and product quality in the paper, paper products and printing industry.
- Existing businesses undertake a phased strategic programme of rehabilitation modernization and expansion of plant and equipment.

### Textile and Garments Subsector

#### Strategies:

- Capitalizing on the superior quality of Ugandan cotton to make higher value products.
- Encouraging greater linkages between the existing textiles manufacturers.
- Encouraging full integration of the segments of the industry by the establishment of a strong garment manufacturing capability.

- Encouragement and promoting a concerted export-orientation to the garment manufacturing operations.

**Policies:**

**That Government:**

- privatize those enterprises which are either wholly owned or majority owned by Government.
- rehabilitate the enterprises to be divested and reach profitable operations before divestiture.
- Encourage and promote export oriented garment manufacturing through the use of fiscal incentives and other forms of assistance, including EPZ operations, if and when authorized.

**Leather and Leather Product Subsector**

**Strategies:**

- Maximizing local value added to the livestock resource.
- Encouraging exports of leather products.

**Policies**

**Short-Term:**

- To produce salted raw material starting with hides.
- To process all such material to the wet blue product.

**Medium-Term:**

- To increase production of finished leather for the local market.
- To increase local leather footwear production.
- To produce finished cattle hide leather for direct export to footwear producers.
- To produce finished goatskins for direct export for footwear and garments.
- To establish a new pre/resin rubber sole producer.
- To produce for shoe uppers export.

3. Details of the sub-sectoral action programme are as follows:

<p><b>1. <u>NON-METALLIC MINERAL PRODUCTS</u></b> <b><u>SUBSECTOR (NMMP)</u></b></p> <p><b>Programme Content</b></p>	<p><b>Stakeholder Interest</b></p>
<p><b><u>Short Term</u></b> <b>NMMP</b></p>	
<p>01 To incorporate into the national mineral inventory being compiled at DGSM, information on location, volume estimates, quality data on limestones, refractory clays and quartz sands which are the resources of potential development in processing projects.</p>	<p>MNR- DGSM/MFEP/TA</p>
<p>02 To expedite implementation of HIMA Cement plant by restoring the second production line.</p>	<p>UCI (or new Joint Venture)</p>
<p>03 To continue work on pozzolanic materials, survey, sampling and testing to determine suitability of pozzolanas delivered to UCI for the manufacture of Pozzolanic Portland Cement (PPC) and production of other low cost building materials.</p>	<p>MNR-DGSM (or new Joint Venture)</p>
<p>04 To undertake detailed market study of the future demand for refractory materials of all kinds.</p>	<p>MTI/TA</p>
<p>05 To upgrade lime quality to standards which satisfy industrial consumers.</p>	<p>Existing operators, MTI/TA</p>
<p>06 To upgrade the operations of small scale brick and tile plants.</p>	<p>Existing operators, MTI/TA</p>
<p>07 To undertake study on the reduction of fuel consumption in brick and tile and lime industries and utilisation of alternative energy sources.</p>	<p>MTI/MNR TA</p>

<b>Non-Metallics ..... continued</b>	
<b>Programme Content</b>	<b>Stakeholder Interest</b>
<b><u>Medium Term</u></b>	
08 To undertake a study to determine the feasibility of purchasing large bulk orders of clinker for grinding with gypsum at a milling plant at Tororo.	UCI (or new Joint Venture (JV) MTI
09 To examine the upgrading of the by-product gypsum from the cobalt bio-leaching project in KASESE.	UCI (or new JV) KILEMBE MINES MTI/TA
10 To promote investment in the following pyro-processing industries, subject to the results of feasibility studies:-	UIA/MTI
(a) glass making	New Ventures
(b) wall/floor tiles, sanitary ware, fine ceramic manufacture	
(c) refractories	
(d) calcium carbide	
11 To investigate the total salts at Lake Katwe and elsewhere (other than salt for human consumption) especially the soda ash which may be usable for glass making.	



<p><b>2. <u>BASIC STEEL PRODUCTS SUBSECTOR (BSP)</u></b></p> <p><b>Programme Content</b></p> <p><b><u>Short Term</u></b></p> <p><b>BSP</b></p> <p><b>01</b> To expedite rehabilitation of EASCO by erecting and commissioning the plant and equipment already on site.</p> <p><b>02</b> To undertake a market study of input material demand for metal processing in order to identify priority groups of steel grades into the production of which steel plants may find it profitable to diversify.</p> <p><b>03</b> To enforce and strengthen measures to curb exports of ferrous and non-ferrous scrap.</p> <p><b><u>Medium Term</u></b></p> <p><b>04</b> To undertake a techno-economic feasibility study on the use of the iron ore component of the Sukulu soil near Tororo (which has stockpiled as a residue of phosphate mining) for steel making in a fully integrated iron and steel plant.</p> <p><b>05</b> When EASCO is made fully operational at satisfactory levels of efficiency (say years 5) to undertake a prefeasibility study of the expansion of that plant by the installation of a second electric arc furnace (EAF).</p> <p><b>06</b> When EASCO attains that level of efficiency, the plant should be the "FOCAL POINT" for testing, training, and demonstrations in the iron and steel industry.</p>	<p><b>Stakeholder Interest</b></p> <p>EASCO (or new Joint Venture (JV) with TA</p> <p>MTI/Steel Plants with TA</p> <p>MFEP/MTI</p> <p>MTI, MNR with TA New Venture</p> <p>EASCO (or new Joint Venture) with TA</p> <p>MTI/EASCO (or new Joint Venture)</p>
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<b>Basic Steel..... continued</b>	
<b>Programme Content</b>	<b>Stakeholder Interest</b>
<b><u>Medium Term</u></b>	
<b>BSP</b>	
07 To undertake a prefeasibility study on the use of Muko iron ore deposit as an input for a fully integrated iron and steel plant	MTI/MNR with TA
3. <b><u>METAL PRODUCTS SUBSECTOR (MP)</u></b> <b>(Metallurgical Industries)</b>	
<b><u>Short Term</u></b>	
<b>MP</b>	
01 To initiate upgrading and diversification of foundry workshops through an ad hoc programme of improving the quality of manufactured castings and on-the-job in-plant training of foundry operatives.	Selected foundries, MTI/UMIDA with TA
02 To establish a facility for the purpose of materials testing, process design and training of unskilled personnel of the foundry industries.	MTI/Makerere/UMIDA with TA
03 To undertake a prefeasibility study on the foundry industry in Uganda in order to assess the volume of investment capital anticipated to be required for the development of the sector in the light of the potential market for foundry products.	MTI/UMIDA with TA New Ventures
04 To upgrade the facilities at the Uganda Polytechnic Kyambogo to enable it to offer to industry regular on-the-job training of pattern makers, engineers and technicians involved in process design.	MES/MFEP/MTI

<b>Metal Products..... continued</b>	
<b>Programme Content</b>	<b>Stakeholder Interest</b>
<b><u>Short Term</u></b>	
<b>MP</b>	
05 To undertake a preinvestment study on the installation of equipment for slitting of sheet metal, and hot strip and cold strip rolling mills.	Steel Plants
<b><u>Medium Term</u></b>	
06 To promote the following investment opportunities subject to the results of feasibility studies:	
(a) A cast iron foundry manufacturing pipes and fittings for water/sewerage systems.	
(b) A steel foundry to manufacture grinding balls and lining plates for cement plants and jobbing type spares for other industries.	New Ventures UIA/MTI
(c) Die-casting small scale foundry units to manufacture aluminium based castings.	KILEMBE MINES
07 To undertake a prefeasibility study on the production of flat steel products, (preferably using technology that merges continuous casting, reheating and hot rolling into a continuous process.)	Steel Plants
08 To create a facility for bulk purchasing of critical imported raw materials used in foundry industries.	UMIDA

<b>Metal Products ..... continued</b>	<b>Stakeholder Interest</b>
<b>Programme Content</b>	
<b><u>Medium Term</u></b>	
<b>MP</b>	
09     Instead of establishing a new facility as a 'FOCAL POINT' - pilot demonstration foundry' for upgrading of the foundry industries, to recognise UGMA in this role under negotiate terms for use of its plant and equipment in demonstrations testing and training.	MTI/UGMA/UMIDA
10     When the foundry at KILEMBE Mines Ltd is fully operational at satisfactory levels of efficiency to recognise it as a 'FOCAL POINT' for the industry also.	MTI/KILEMBE MINES LTD/UMIDA

4. <b><u>FOOD &amp; BEVERAGES AND TOBACCO SUBSECTOR (FB)</u></b>	
<b>Programme Content</b>	<b>Stakeholder Interest</b>
<b><u>Short Term</u></b>	
<b>FB</b>	
01 To diversify into the production of new fish products for export markets, particularly smoked fish, individually quick frozen (IQF) fillets and other added value fish products.	Existing processors new entrants and UIA
02 To undertake techno-economic feasibility study of the manufacture of malt from locally grown barley and sorghum.	Brewery Companies and UGMC
03 To prepare prefeasibility study of the production of decaffeinated tea for international markets.	New Venture and UIA
04 To expedite regional audit of fish resources in Lake Victoria.	MAAIF
<b><u>Medium Term</u></b>	
05 To diversify into the production of refined sugar.	Sugar Companies
06 To diversify into production of ethanol from molasses; (Finalise project negotiations towards firm investment commitment)	Sugar Companies and MNR, Petroleum Marketing Companies
07 To examine feasibility of production of instant coffee for international markets with collaboration of established international markets.	New Venture and UIA/MTI
08 To undertake preinvestment study on the production of starch from maize.	New Venture MTI/UIA
09 To invest in enlarged storage facilities for agricultural raw materials.	Processors
10 To review the prospects of establishing factories for producing canned products from tropical fruits.	New Venture MTI/UIA

<b>5. <u>WOOD AND WOOD PRODUCTS AND FURNITURE (WPF)</u></b>	<b>Stakeholder Interest</b>
<b>Programme Content</b>	
<b><u>Short Term</u></b>	
<b>WPF</b>	
<b>01</b> To undertake market and prefeasibility plywood and veneer mills and particle board plant to meet demand for building materials, office and home improvements.	<b>MTI/UIA/TA</b>
<b>02</b> To introduce uniform standards of measurement and quality specifications for both raw materials and finished products.	<b>Existing Manufacturing Industry Association/TA</b>
<b>03</b> To promote the following investment opportunities, subject to results of feasibility studies.	<b>New Ventures/ Existing Manufacturers UIA/MTI</b>
<b>(a)</b> Manufacture of small wood products, e.g. broom handles, rods, buttons/ornaments, for domestic and export markets.	
<b><u>Medium Term</u></b>	
<b>04</b> To develop action plan to upgrade the design and quality of furniture to the standards required by overseas markets.	<b>Selected Manufacturers/MTI/ Industry Association TA</b>

<p><b>6. <u>PULP, PAPER AND PAPER PRODUCTS AND PRINTING (PPP)</u></b></p>	<p><b>Stakeholder Interest</b></p>
<p><b>Programme Content</b></p>	
<p><b><u>Short Term</u></b></p>	
<p><b>PPP</b></p>	
<p>01 To undertake a detailed study of the paper and paper products market in Uganda and neighbouring countries to ascertain whether it can support a new paper mill.</p>	<p>MTI/TA</p>
<p>02 To undertake a techno-economic study on the establishment of a new paper mill.</p>	<p>UIA, New Venture/ MTI/TA</p>
<p>03 To review current forestry policies towards a commercially oriented forest development programme geared to the supply of raw materials for industrial processing.</p>	<p>MNR (Forestry Dept)</p>
<p>04. To undertake a phased strategic programme of rehabilitation, modernization and expansion of plant to improve product quality and range.</p>	<p>Existing Manufacturers</p>
<p>05. To introduce uniform standards with respect to units of measure, quality specifications and grades for both raw materials and finished products.</p>	<p>Existing Manufacturers/ MTI/TA</p>
<p><b><u>Medium Term</u></b></p>	
<p>06 To undertake techno-economic prefeasibility study on the establishment of a pulp mill as an integral part of a paper mill operation utilizing indigenous raw materials.</p>	<p>MTI/UIA/TA</p>
<p>07. To establish and maintain a pulp wood plantation as determined by the needs of the projected pulp mill.</p>	<p>MNR (Forestry Dept)</p>

<b>7. <u>TEXTILES AND GARMENTS (TG)</u></b>	<b>Stakeholder Interest</b>
<b>Programme Content</b>	
<b><u>Short Term</u></b>	
TG	
01 To implement rehabilitation of Uganda Spinning Mill, LIRA.	PERD, MFEP/New Joint Venture
02 To undertake rationalisation of the operations of African Textile Mills Ltd (ATM), Nyanza Textile Industries Ltd (NYTIL), and United Garment Industries Ltd (UGIL) on the following lines:-  <u>ATM:</u> to produce leather imitation products only for the domestic market;  to dispose of finishing machines to NYTIL.  <u>NYTIL:</u> to produce indigo denim Jeans for export;  to produce shirting fabric for garment manufacture.  <u>UGIL:</u> to produce fine yarn to be woven into shirting fabric by NYTIL.  to manufacture garments including shirts for export.	MFEP/MTI/New Joint Ventures
03 To promote the establishment of plants to manufacture blue jeans for export.	MFEP/MIT/PERD
04 To change basis of taxation of imports of second hand clothes from a percentage of artificial value used at present to a weight (kg) basis.	UIA/New Ventures
	MFEP



Textile and Garments... continued	
Programme Content	Stakeholder Interest
<u>Medium Term</u>	
TG	
05 After successful implementation of measures proposed at (i) - (iii) above and attainment of profitable levels of operation, to private Uganda Spinning Mill, ATM, NYTIL and UGIL.	MFEP/MTI/PERD
06 To promote investment in export oriented textile and garment industries.	UIA New Ventures
8. <b><u>LEATHER AND LEATHER PRODUCTS SUBSECTOR (LP)</u></b>	
<u>Short Term</u>	
LP	
01 To privatise ULATI	PERD/MTI
02 To promote the establishment of additional processing capacity to match the local raw supply of hides and skins.	UIA/MTI New Ventures
<u>Medium Term</u>	
03 To promote establishment of a resin rubber/pvc sole manufacture to supply the increased domestic market, subject to results of feasibility study.	UIA/MTI New Ventures
04 To promote the production of cut shoe uppers for export	UIA/MTI New Ventures
05 To promote the manufacture of leather shoes and leather garments for export, subject to the results of feasibility studies.	UIA/MTI New Ventures

9. <u>PACKAGING INDUSTRIES (PKG)</u>	
Programme Content	Stakeholder Interest
<u>Short Term</u>	
PKG	
01 To expedite implementation of project to manufacture glass containers; (update techno-economic feasibility study prepared in 1989, if necessary.)	UIA/MTI
02 To promote the establishment of plants to recycle waste plastics (both PE and PD) to supply polymeric materials to plastic processing industries.	UIA/MTI New Ventures
03 To promote the establishment of plants to manufacture wooden boxes (for domestic distribution of fruits and vegetables) and pallets (for the export of palletized products and of the export of the pallets themselves)	UIA New Ventures
04 To establish a Packaging Laboratory within the proposed Industrial Research Institute, with functions of R & D, quality control, standardization and information.	MTI/MFEP TA

The proposals contained in the above programme are mainly private sector oriented; that is to say that implementation is expected to be undertaken on the initiatives of business interests, existing or new ventures. There are forty four such proposals. In contrast, Government per se, is expected to have direct responsibility for the implementation of nineteen proposals, eight in its capacity as shareholder in public enterprises, eight in the provision of services to industry and three in policy interventions in trade.

The programme includes an indicative implementation schedule showing those proposals on which action is expected to be taken within one to two years of submission of the IIP - SHORT TERM, and those which may require a longer time, say three to five years

- MEDIUM TERM. The stakeholders who are perceived to have an interest in implementing these proposals are also indicated.

It is significant that of the fifty one (51) project proposals, twenty-eight (28) are in the subsectors accorded first order of priority in the IIP, namely

NON-METALLIC MINERALS	11
METAL PRODUCTS (METALLURGICAL INDUSTRIES)	10
BASIC STEEL PRODUCTS	7

There are

- (a) ten projects in the Food, Beverages Subsector;
- (b) six in Wood and Wood Products and Furniture;
- (c) four in Pulp, Paper and Paper Products and Printing
- (d) seven in Textile and Garments;
- (e) five in Leather and Leather Products; and
- (f) four in Packaging Industries (multisectoral).

Implementation of the programme in each case, will demand action by the various stakeholders - manufacturers, Government represented by the relevant Ministry or Agency, development institutions and linked commercial and financial institutions. Invariably, although the initiative may rest with one or other of the above, implementation will involve collaboration between some or all of the other parties. In some cases it will be necessary to draw on resources available under multilateral or bilateral technical assistance programmes to enable implementation.

#### **4. IMPACT ANALYSIS OF IIP ON THE MANUFACTURING SECTOR**

The impact of the programme can be summarized as follows:-

- The paramount objectives of the creation and exploitation of linkages (backward and forward - intersectoral and intrasectoral) and the maximization of domestic value added have been satisfied.
- Prominence has been given to the diversification of manufacturing in Uganda in its two aspects namely - extension of the product range which some enterprises already manufacture, and the venturing into new areas of production.

- Upgrading of products, upgrading of production processes and upgrading of skills, which are fundamental to the advancing of the industrialization process, will be achieved.
- Institution building with emphasis on raising levels of technical capability especially in materials and products testing, on-the-job training and demonstrations, process design, etc, will result.
- Progress will be made on the quantification and qualification of mineral, non-metallic mineral and other natural resources, for which there is, or may be, demand in industrial processing activities.

Above all, an investment oriented programme has resulted (of the forty six such project proposals twenty six are new production opportunities, seventeen are additions to existing product ranges and three are implementation of rehabilitation) which should provide answers, for the foreseeable future, to the often raised question about the priority areas in which investment is sought in Uganda.

The subsectoral action programme also reflects the reliance being placed on business initiatives to venture into those investments which have the potential to transform the manufacturing sector and indicates the nature and extent of necessary Government action in support of their initiatives.

The distribution of projects across subsectors and the nature of their expected impact are presented in the following table:

**DISTRIBUTION OF PROJECTS - IMPACT ON SECTOR DEVELOPMENT**

	Additions to Product Range	New Production opp'ty	Product upgrading	Process upgrading	Upgrade of Tech. Cap.	Upgrade skills	Upgrade of NR Data	Impl,n of Rehab,n	RELATED ISSUES
FB/01	+		+	+					
FB/02		+							
FB/03		+	+	+					
FB/04							+		
FB/05	+		+						
FB/06		+		+					
FB/07	+	+	+	+					
FB/08		+		+					
FB/09									Strengthening of Business Operations
FB/10		+		+	+				
BSP/01	+		+	+				+	
BSP/02	+	+	+	+					
BSP/03									Trade Policy
BSP/04		+	+	+			+		
BSP/05					+	+			
BSP/06				+	+	+			
BSP/07		+	+	+			+		
MP/01	+		+	+	+	+			
MP/02					+	+	+		
MP/03		+	+	+					
MP/04					+	+			
MP/05	+		+	+					

DISTRIBUTION OF PROJECTS - IMPACT ON SECTOR DEVELOPMENT

	Additions to Product Range	New Production opp'ty	Product upgrading	Process upgrading	Upgrade of Tech. Cap.	Upgrade skills	Upgrade of NR Data	Impl,n of Rehab,n	RELATED ISSUES
MP/06		+	+	+					
MP/07	+		+	+					
MP/08									Stengthening of Business Operations
MP/09				+	+	+			
MP/10				+	+	+			
NRMP/01							+		
NRMP/02			+					+	
NRMP/03	+		+				+		
NRMP/04	+		+				+		
NRMP/05			+	+	+	+			
NRMP/06			+	+	+	+			
NRMP/07									Energy Policy
NRMP/08	+		+	+					
NRMP/09		+		+			+		
NRMP/10		+	+	+					
NRMP/11		+		+			+		
WPF/01		+	+		+				
WPF/02									Enhance Business Operations
WPF/03	+	+	+	+					
WPF/04	+		+		+	+			

**DISTRIBUTION OF PROJECTS - IMPACT ON SECTOR DEVELOPMENT**

	Additions to Product Range	New Production opp'ty	Product upgrading	Process upgrading	Upgrade of Tech. Cap.	Upgrade skills	Upgrade of NR Data	Impl.n of Rehab.n	RELATED ISSUES
PPP/01	+		+						
PPP/02	+	+	+	+	+				
PPP/03									Forest Development Policy
PPP/04			+	+	+	+			
PPP/05									Enhance Business Operations
PPP/06	+	+			+				
PPP/07									Forest Development Action Programme
TG/01			+	+				+	
TG/02	+		+						Corporate Restructuring
TG/03		+	+						
TG/04									Fiscal Measure
TG/05									Divestment
TG/06		+	+						
LP/01				+	+			+	
LP/02		+							
LP/03		+	+	+	+	+			
LP/04		+	+	+	+	+			
LP/05		+	+	+	+	+			

**DISTRIBUTION OF PROJECTS - IMPACT ON SECTOR DEVELOPMENT**

	Additions to Product Range	New Production opp'ty	Product upgrading	Process upgrading	Upgrade of Tech. Cap.	Upgrade skills	Upgrade of NR Data	Impl,n of Rehab,n	RELATED ISSUES
PRG/01		+					+		
PRG/02		+		+					
PRG/03	+	+							
PRG/04				+	+	+			



## 5. AREAS FOR CROSSECTORAL SUPPORT

The findings on the basic constraints and the proposals for strategies and policies and action programmes have highlighted the cross sectoral and institutional support areas which are strategic for the development of the manufacturing sector.

### Human Resources Development

There is a general consensus which was confirmed during the plan preparation activities, that in spite of the existence of both government and private institutions dedicated to imparting relevant skills, there is a shortage of competent managerial, administrative and technical personnel in the economy, generally and in manufacturing businesses, more particularly.

Existing training institutions offer courses at both post primary and post secondary levels in Vocational, Technical, Commercial and Management training. They are

- Vocational Training Institutions (VTI's) which set out to impart skills in the shortest possible time, tailored to the needs of industries.
- Technical Institutions (TI's) designed to impart general scientific and technological knowledge but not skills as such. On the job practical training is required to complement the formal course work.
- Commercial Institutions (CI's) which offer courses in business studies and marketing as well as stores management and secretarial studies.
- Management Training Institutions which offer training programmes for managers of the public sector and of the private sector in various management subjects.
- University Level Training in a variety of disciplines.

The project undertook a review of these institutions to ascertain the reasons for their failure to produce personnel with the competences and skills required in industry. Major weaknesses were observed throughout the system, the most critical of which were:-

- Limited inadequate funding which makes it impossible for the institutions to equip their workshops with necessary equipment and machines, limits their ability to purchase teaching materials and makes it difficult to attract and retain well qualified teachers.
- Lack of standardization of courses, examinations and certification/
- Outdated syllabi and curricula.

- Imbalance between the number of technical institutions established and facilities for training of technical teachers.
- Weak links between industries and the technical institutions.

There is growing national awareness that the goal of modernizing Uganda makes it imperative that the education system be upgraded and expanded generally, but more so in the technical field.

There has been an education policy review by government the outcome of which is awaited. Meanwhile, whatever the decisions taken, the financing of proposed improvements will be problematical unless innovative measures are introduced to acquire the necessary resources.

### Environment

Historically, environmental considerations have not featured prominently, if at all, in the establishment of industries in Uganda, and this has continued up to the present. Recognition is growing slowly that manufacturing activities are among the major contributors to environment degradation.

Environmental degradation associated with the manufacturing industry in Uganda include

- Pollution caused by
  - Effluents
  - Solid wastes
  - Dusts
  - Gaseous emissions, some with obnoxious odour
  - Noise

Those industries which are dependent on wood for their raw materials and fuel needs contribute to uncontrolled felling of trees leading to deforestation. Industries which depend on mining activities leave unsightly gaping pits in the landscape for disease-causing vectors. Some mining activities are undertaken in wetlands resulting in the destruction of the wetlands.

There have been efforts by Government and NGOs to address environmental issues created by activities in the various sectors of the economy, including the manufacturing sector. The most recent initiative of the Government is the National Environment Action

Plan (NEAP) process which was launched in 1991 activities under which have included the drafting of a comprehensive environment protection programme. The 'Draft National Environmental Management Policy for Uganda' outlines policy objectives, guidelines, and strategies for achieving ecologically sustainable development. It also makes provision for a National Environmental Management Authority (NEMA) to coordinate all environment activities and will come into being on the passage of the enabling legislation.

The IIP therefore endorses the promotion of ecologically sustainable industrial development (the ESID concept) as a key strategy in the planning for the development of the manufacturing sector. Implementation of the recommendations in the NEAP action programme should ensure that all industrial activities are undertaken with minimal degradation to the environment.

#### Industrial Information

The role of industrial information in industrial development cannot be overstated. Apart from the centralized information which is required for macroeconomic planning and the development of strategies and policies for the manufacturing sector, there is need to facilitate a flow of information at the microeconomic level which is exchanged between operators in the same industrial chain or of the same subsector or between producers in different subsectors, and not least between producers and marketers. Indeed, the need for information to be readily accessible on natural resources for industrial processing, production processes, products and markets is indispensable if an efficient industrial system is to be successfully developed.

In Uganda no such basic industrial information infrastructure exists today. There was an initiative in the Ministry responsible for industry to establish a technical information service and library but this remains embryonic although there is evidence of demand for industrial information particularly for small scale entrepreneurs. No coherent body of industrial statistics has been preserved and maintained in the Ministry; information on the manufacturing sector is scattered over several agencies, is incomplete and not up-to-date.

It is to remedy this deficiency that the IIP has recommended that an industrial information data base and network be established, located in the Ministry of Trade and Industry with provision for linkages with other government agencies and industrial associations. To this end a project for UNIDO technical assistance is contemplated which if implemented, would help the various government agencies in formulating plans and

programmes for the sector and will improve access of the private sector to comprehensive quantitative industrial information and enhance their overall management capability.

### Standardization and Quality Control

The modernization and transformation of the manufacturing sector will demand an emphasis on and attention to industrial product standards and quality control which is virtually non-existent in manufacturing in Uganda today. Authoritative standards and their consistent application are essential in facilitating product acceptance in the market place especially in export markets where rigidly enforced standards apply. Yet it is no overstatement to record that the level of quality consciousness among producers and consumers in Uganda alike is low.

Legislation to establish a National Bureau of Standards (NBS) was enacted in 1983; however, it was only in 1988 that operations commenced and then under adverse conditions which are slowly being remedied. To date therefore the Bureau has made limited impact nationally, in introducing enforceable standards, quality certification services, and education related thereto.

With few exceptions, manufacturers have displayed a surprising indifference to conformity to specifications whether of their own making or generally recognized in the industry. Most companies have made no investment in means of undertaking quality inspection of raw materials nor on-line quality control; appropriate equipment to test product for quality and conformity to recognized standards was rarely installed.

The building materials product group is perhaps the best served in this regard. Through the instrumentality of the Ministry of Works (Central Materials Laboratory), specifications have been established for a wide range of non-metallic building materials and facilities have been installed for the conduct of most standard tests on such materials. These facilities are supplemented by test equipment at Makerere University (Faculty of Technology) and the UNBS itself. Information on the existence of these specifications and on the availability of the testing facilities has not been widely disseminated however, industry practice does not evidence scrupulous observance of uniform product standards dimensions.

The example of this product group reveals the seriousness of the challenge facing manufacturing in Uganda in the matter of standardization and quality control.

Meanwhile, with UNIDO assistance, UNBS has recently been enabled to offer the services of a Food and Chemical Testing Laboratory and a Building Materials Testing Laboratory. A start has been made on the formulation of National Standards and adoption of International Standards for application in Uganda. A Documentation and Standard Information Centre has also been established offering services to existing and potential manufacturers.

UNBS has not so far established links with standards Institutions in the subregion and region; appropriate network arrangements should be established in the support of developments in COMESA.

This is the background against which the policy recommendations have been made that:

1. *"Government in collaboration with all private sector stakeholders give highest priority to supporting the operations of UNBS and linked institutions; and*
2. *Government expedite the introduction of national quality standards and promote their acceptance".*
3. Full reports on the above prepared by project staff are in the records of the Ministry.

#### PART IV MANAGEMENT OF THE IIP IMPLEMENTATION

It is useful to start this discussion on implementation of the IIP with a recapitulation of what the IIP is and the purpose(s) which it is designed to serve. Consistent with the principle that the future development of Uganda is not to be managed from above and that market forces and private entrepreneurship will henceforth shape the economy in general and the manufacturing sector in particular, the IIP is not designed to be a **handbook** of prescriptions and targets to be imposed on the society by government fiat. Instead it should be recognized for what it is, namely the beginning of a national goal-setting process in which constraints which impede the development of transformation industries have been identified and general and subsector lines of action formulated to address these constraints and initiate the process of transformation.

In other words the IIP is not an end in itself. Iterations of this process will be necessary, at many levels, and for each manufacturing subsector, to translate proposals into actions and to ensure that such actions are responsive to the dynamic factors and influences at work in the environment in which the manufacturing sector is being shaped.

Accordingly, the preparation of the IIP has initiated a process of closer interaction and engagement between the manufacturing community and linked businesses and the Government (led by the Ministry of Trade and Industry (MTI) and including line Ministries linked to the manufacturing sector). All of these interests have shared in the preparation of the IIP by their contributions during individual meetings and during subsectoral workshops. The end product is, as it were, a menu of recommendations for consideration by both parties, separately and jointly. As stated earlier, these recommendations are set in short term and medium term horizons and are addressed to the interests of both all manufacturers and those who are active in specific subsectors. In cases where the recommendations contemplate actions beyond the known capacities or capabilities of either the public sector or the private sector, recourse to multilateral or bilateral Agencies for TA is proposed.

With regard to the management of IIP implementation, there is no doubt that it is the responsibility of the MTI to ensure that the preparation of the IIP does not degenerate into a sterile undertaking. The Ministry must appreciate that this will be avoided, if, and only if, it galvanizes the public sector apparatus and reaches out proactively to the community of manufacturers and linked businesses in a determined endeavour to direct attention to these

recommendations and obtain responses to them. An authoritative and credible implementation machinery will therefore be required.

In the UNIDO view the most suitable vehicle for the Ministry initiative advocated above is the SMID process through which an institutional framework for implementation of the IIP recommendations, including the promotion of specific projects can be established. The SMID process actualizes the partnership relationship between the private sector and the public sector which was endorsed by the Conference of African Ministers of Industry (CAMI) in Mauritius, in their declaration on "Africa's Accelerated Recovery and Development in the context of the second Industrial Development Decade for Africa (IDDA) 1993-2003". Distinguishing features of the process are its focus on the enterprise and competitiveness and its thrust towards national consensus on strategies and policies and action in the interest of productivity and growth.

A UNIDO consultant on assignment to the IIP project has already established that certain preconditions exist in Uganda favourable to introducing a SMID-inspired process and on this basis UNIDO has signalled its preparedness to give support to any initiative which the Government of Uganda decides to take to that end. The MTI has forwarded a proposal to the MFEP to endorse a request for this assistance. Given the commanding role of that Ministry in both the determination of the programmes which Ministries undertake and in the provision of associated resources, it is clear that the support of that Ministry is a 'sine quo non' in the management of the IIP implementation.

The first requirement is that the MTI itself must have a real understanding of the IIP and on this basis plan a structured programme of implementation and develop its views on priorities within that programme. To achieve this, one well tried mechanism is the establishment of an inter-departmental committee in the Ministry; former project counterparts will be valuable resource personnel on such a committee.

Thus enabled to take the lead in implementation, it will be necessary for the Ministry to canvass the views and intentions of stakeholders on the IIP recommendations, priorities among those recommendations and the way forward. Assuming that the SMID process is endorsed for introduction in Uganda, the vehicle through which this collaboration can be achieved is the sub-system or cluster of stakeholders with shared interests in an industry or subsector whether represented by an industry association or in their individual capacities.

The foundations for the promotion of such subsystems have already been laid in the subsectoral workshops which were conducted by the IIP.

It is understood that the MTI is gearing itself to undertake the management of IIP implementation after the Plan has been officially endorsed by the PEC and the Cabinet.

Meanwhile, in the possession of the Ministry are project proposals for TA which originate in recommendations included in the reports submitted by International experts. These project proposals are in various stages of development and at various points in the pipeline. Specifically they are:-

- *"Development of the Foundry Sub-Sector - Upgrading of Selected Foundries."*  
for which a Project Document has been finalized. The TA component is estimated at US\$489,650.
  - *"Industrial Information Data Base and Network"*  
for which a draft Project Document has been submitted to the Ministry. The TA component is estimated at US\$399,000.
  - *"The Introduction of the Strategic Management of Industrial Development (SMID) Approach in Uganda"*  
for which a revision of the PD of the IIP was prepared designed to incorporate this activity in the ongoing project by the inclusion of another Output. This proposal contemplated an extension of the project to June 1994 at an additional cost of US\$159,500.
  - *"Industrial Development of the Ugandan Leather Subsector":*  
for which a project concept for an EU-funded UNIDO-executed project has been forwarded to the Ministry. The project concept envisages the elaboration of the Expert's proposals into a comprehensive plan including pre-feasibility studies and other supporting documents. The preparatory phase of this proposed project is estimated at US\$85,650.
  - In addition, UNIDO has signalled its willingness to consider providing TA to the Non-Metallic Mineral Products Association in follow-up of the recommendations made by the Expert in this Subsector.
- The above does not exhaust the TA proposals which figure in the action programme.



The implementation machinery, if and when established, will have the responsibility for determining those for which project proposals should be developed and the source from which assistance will be solicited.

In the final analysis, the IIP deserves the status of a NATIONAL STRATEGIC PLAN for the manufacturing sector. The private sector and the public sector have participated in its preparation; the commitment of both sets of interests to the implementation of the Plan should follow.