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18396

Distr.
RESTRICTED

PPD/R.36
23 May 1990

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

ORIGINAL: ENGLISH

UNIDO INDUSTRY SECTOR PROGRAMMING MISSION TO UGANDA

Report

V.90-84530

This report was prepared by the Regional and Country Studies Branch

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PREFACE

The major aim of the Industry Sector Programming Mission to Uganda was to survey the prevailing situation in the national economy and, in particular, the industrial sector, and on this basis, to assess the broad requirements for international technical assistance in support of industrial development.

This report contains an overview of the Ugandan economy, its policy and institutional environment at the national (Chapter 1), sectoral (Chapter 3), and subsectoral (Chapter 4) levels, and provides information on the national resource base (Chapter 2). Findings and recommendations are summarized in Chapters 5 and 6. Chapter 6 also identifies priority areas for technical assistance to Uganda's manufacturing industry. Chapter 7 concludes with a summary of project concepts.

The report of the Industry Sector Programming Mission was prepared by a UNIDO team which visited the Republic of Uganda during the period 15 January - 3 February 1990. The team consisted of Mr. Victor Zakharian, Regional and Country Studies Branch, UNIDO (team leader), and UNIDO consultants Mr. Ansgar Eussner, Mr. Basil Igwe, Mr. Daniel Nicholson, Ms. Helen O'Neil, Mr. David Okullo Ongar, and Mr. Martin Onyach-Olaa.

The UNIDO Country Director for Uganda, Mr. Antonio Pagani, Mr. Christian Martin, Africa Programme, Area Programmes Division joined the team during the final week of the above mentioned period.

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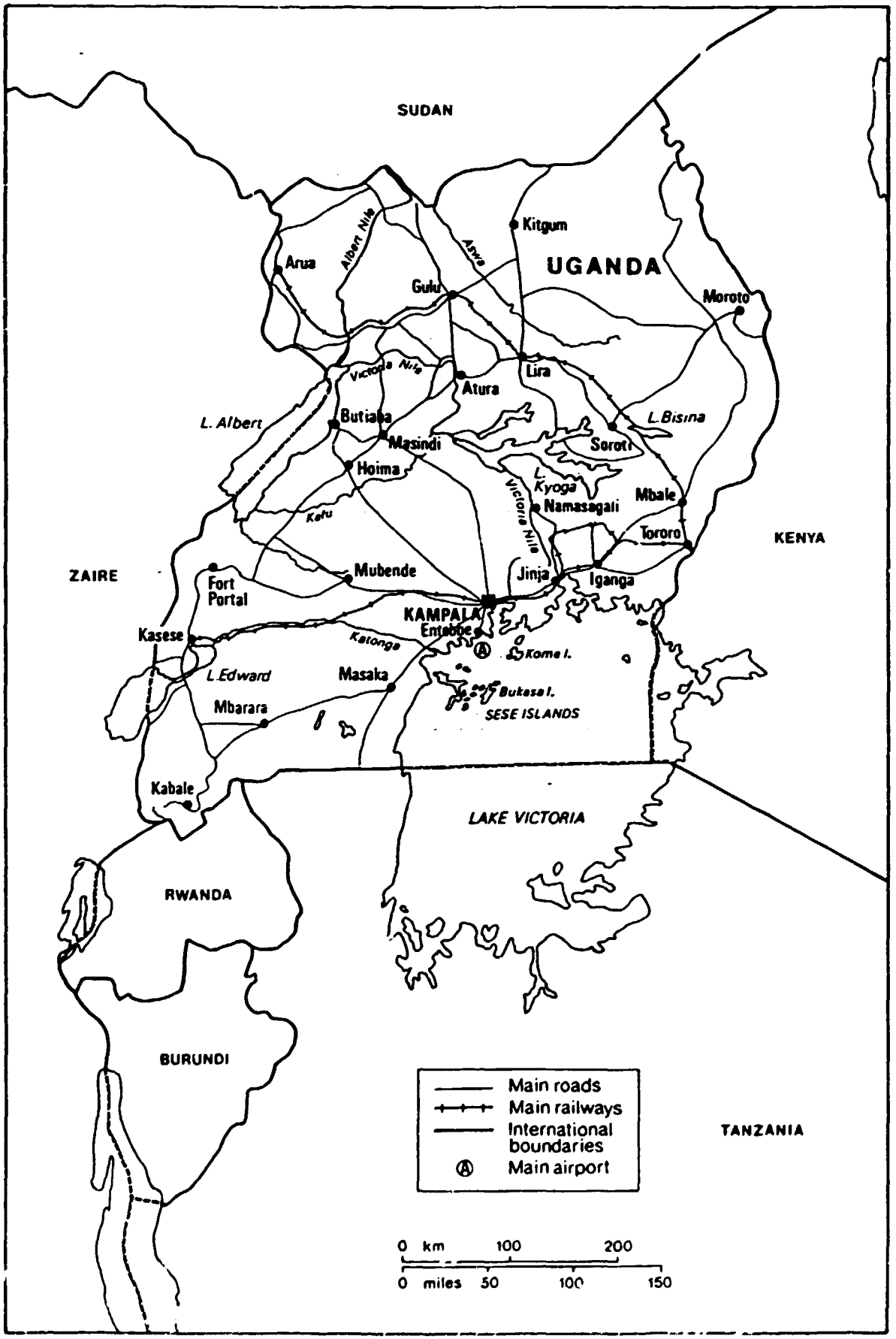


GENERAL COUNTRY INFORMATION

AREA:	241,038 sq.km
POPULATION:	16.4 million (mid 1989 official estimate) 12.6 million (1980)
POPULATION GROWTH RATE:	3.0 per cent per annum

MAIN CITIES (by 1980 Population Census):

Kampala	458,503	Mbale	28,038
Jinja	45,060	Fort Portal	26,806
Masaka	29,123	Mbarara	23,255

GDP AT CURRENT PRICES:	Shs. 513,974 million (1988 total) Shs. 279,798 million (1988 monetary)
GDP PER CAPITA:	Shs. 32,000 (1988 at current prices) Shs. 12,000 (1988 at 1987 prices) US$ 260 (1989 estimate)

PERCENTAGE DISTRIBUTION OF 1988 MONETARY GDP BY SECTOR:

Agriculture, Forestry, etc.	50.2
Manufacturing	8.2
Construction	2.4
Services	39.0
Others	0.2
Total Monetary GDP	100.0

OFFICIAL EXCHANGE RATE:	US$ 1 = Shs 370 (Priority rate) US$ 1 = Shs 400 (SIP II rate)
1988-1989 YEAR-ON-YEAR RATE OF INFLATION:	86 per cent
EXTERNAL DEBT:	US$ 1.6 billion (July 1989)
EXPORTS (f.o.b.):	US$ 272.9 million (1988)
IMPORTS (c.i.f.):	US$ 626.1 million (1988)

GENERAL COUNTRY INFORMATION

(continued)

PRINCIPAL EXPORT CROPS (1988 value):

Coffee	US$ 264.3 million
Cotton	US$ 3.1 million
Tea	US$ 1.2 million
Tobacco	US$ 0.6 million

INFANT MORTALITY RATES: 100 per 1,000 live births (1989 estimate)
120 per 1,000 live births (1969 census)

LIFE EXPECTANCY: 47 years (1969 census)

EDUCATIONAL ENROLLMENT (1988 estimate for Government aided);

Primary Schools	2,638,000
Secondary Schools	241,000
Institutions of Higher Learning	25,000
Makerere University	6,300

OFFICIAL LANGUAGE: English

LIST OF ABBREVIATIONS

AFDB	African Development Bank
BAT	British American Tobacco
BOU	Bank of Uganda
CFTC	Commonwealth Fund for Technical Co-operation
CMB	Coffee Marketing Board
DANIDA	Danish Aid
DFI	Direct Foreign Investment
EAC	East African Community
EADB	East African Development Bank
EASCO	East African Steel Corporation
EC	European Community
EIB	European Investment Bank
ESAF	Enhanced Structural Adjustment Facility
ESAMI	East and Southern African Management Institute
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
IADD	International Authority on Drought and Desertification
IDA	International Development Association
ILO	International Labour Organization
IMF	International Monetary Fund
ISI	Import Substitution Industrialization
KBO	Kagera Basin Organization
MIGA	Multilateral Investment Guarantee Agency
MPED	Ministry of Planning and Economic Development
MOF	Ministry of Finance
MOIT	Ministry of Industry and Technology
MTAC	Management Training and Advisory Centre
NORAID	Norwegian Aid
NRM	National Resistance Movement
NUSh	New Ugandan Shilling
OAU	Organization of African Unity
ODA	Overseas Development Administration (UK)
OGL	Open General Licensing System
OPEC	Organization of Petroleum Exporting Countries
PES	Public Enterprise Secretariat (Ministry of Finance)
PIES	Public Industrial Enterprise Secretariat (Ministry of Industry and Technology)
PTA	Preferential Trade Area
R&D	Research and Development
SAL	Structural Adjustment Loan
SDR	Special Drawing Right
SIP	Special Import Programme
SSI	Small-scale industries
SSP	Single-superphosphate
S&T	Science and Technology
UAPTA	Unit of Account Preferential Trade Area
UCB	Uganda Commercial Bank
UDB	Uganda Development Bank
UDC	Uganda Development Corporation
UMA	Uganda Manufacturers' Association
UNBS	Uganda National Bureau of Standards
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
USSIA	Uganda Small-Scale Industries Association
WFP	World Feed Programme
WFP	World Food Programme
WHO	World Health Organization

INTRODUCTION

The aim of the Industry Sector Programming Mission to Uganda was, first, to review jointly with relevant Ugandan authorities and the UNDP Office in Kampala, current structures and trends in industrial development in the country and, second, to use this background for an assessment of the major issues that Uganda's policy-makers could address and technical assistance programmes could support.

In order to identify priority areas for technical assistance in the light of the government's efforts to restore the productive capacities and promote stable economic growth, the Mission had discussions with Government officials, industry sector representatives, UNDP, and representatives of a number of bilateral and multilateral agencies on the following issues:

- current industrial performance, resource base, and growth prospects;
- characteristics of priority sub-sectors;
- domestic market prospects and export potential;
- existing institutional framework and identification of potential for improvement;
- major constraints facing industrial development in terms of skill endowments and human resource development in general, as well as technological capabilities, and industrial support services;
- on-going and pipeline technical assistance programmes;
- possible new directions of technical assistance programmes and projects.

In its selection of priority industrial branches, the mission took into account the following considerations; first, the resource endowment of the country, and second, the priorities set out in the government's Rehabilitation and Development Plan. The selection was also determined by the inherent importance of the sub-sectors and by the fact that they had not previously been the subject of detailed studies.

Thus, some seemingly obvious sub-sectors were not considered; these included textiles, sugar, tea and coffee-processing, which had already been examined and assisted by various multilateral and bilateral agencies.

On the basis of the results obtained, the Mission defined broad categories of assistance needs, taking into account the policy framework, current structural constraints, and the prospects for the industrial sector as perceived by the Government and the international community.

The various recommendations made by the Mission within each identified priority technical assistance area should not be regarded as a comprehensive integrated technical assistance programme for Uganda. The programmes and projects which are outlined in this report can be considered as a first and important step towards formulation of this programme and must be complemented by subsequent systematic follow-up actions.

In addition, the report of the Industry Sector Programming Mission can provide inputs for the preparation of a Long-Term Master Plan (pending official approval) as well as for the forthcoming UNDP Country Programme Mid-Term Review.

CHAPTER 1

OVERVIEW OF THE UGANDAN ECONOMY

1.1 Structure of the economy

The economy is dominated by the agricultural sector which accounted for around 50 per cent of GDP in 1988, over 95 percent of exports, 40 per cent of government revenues, and over 89 per cent of the working population. Most farmers are engaged in subsistence production on very small holdings: total output from these holdings is greater than that in commercial agriculture. Official data on the sectoral origin of GDP divides the economy into a "monetary" and a "non-monetary" sector. The latter includes subsistence agriculture, forestry, fishing, and hunting, and part of construction. The non-monetary sectors's share of GDP has started to decline; it fell from 48 per cent to 46 per cent between 1983 and 1988. Table 1.1.1 shows the sectoral origin of GDP at factor cost for 1983 and 1988. After agriculture, services at nearly 24 per cent (including government) came next in 1988. Manufacturing accounted for less than 5 per cent.

The results of a national manpower survey undertaken by the government with the financial and technical support of UNDP and ILO indicate that the formal sector of Uganda in January 1988 employed only 378,227 persons. This represents only about 5 per cent of the total working population. About 53,000 persons are employed in industry.

Table 1.1.1: Sectoral origin of GDP at factor cost

(USh m and percentages, at 1987 prices)

	1983		1988	
	USh m	%	USh m	%
Monetary economy				
Agriculture	46794	27.3	49649	26.4
Forestry and fishing	1595	0.9	2007	1.1
Mining and quarrying	46	0.03	33	0.04
Manufacturing	7020	4.0	8267	4.4
Electricity	111	0.07	115	0.06
Construction	1550	0.9	1992	1.1
Commerce	18332	10.7	21571	11.5
Transport and communications	3818	2.2	5348	2.8
General Government	4121	2.4	4331	2.3
Miscellaneous services	422	0.2	536	0.3
Rents	3869	2.3	4780	2.5
Education and health	2047	1.2	3084	1.6
Total	89725	52.2	101713	54.1
Non-monetary economy				
Agriculture	76538	44.5	79456	42.2
Forestry, fishing and hunting	975	0.6	1546	0.8
Construction	235	0.1	269	0.2
Owner occupied dwellings	4455	2.6	5115	2.7
Total	82203	47.8	86386	45.9
GDP at factor cost	171928	100.0	188099	100.0

Source: Statistical Bulletin No. GDP/1, Gross Domestic Product Uganda 1982-88 (Statistics Department, Ministry of Planning and Economic Development, December 1989)

The economy exports a narrow range of agricultural commodities. Whereas in the past exports consisted of coffee, cotton, tea, tobacco, copper, and sugar, exports today are overwhelmingly dominated by coffee which accounts for over 95 per cent of foreign exchange earnings. The other traditional exports have largely disappeared; in the case of sugar it has become a major net import. Such a high level of dependence on one export commodity can result in great uncertainty with regard to the level of foreign exchange earnings and government revenues and makes economic planning extremely difficult.

1.2 Recent economic trends

Attempts to stabilize the Ugandan economy and set it once again on the road to recovery and development were launched a year after the National Resistance Movement (NRM) government came to power. The Rehabilitation and Development Plan 1987/1988-1990/1991 was published in May 1987. Its reform package got widespread international support: from the World Bank (a First Economic Recovery Credit of SDR 69.7 million), the IMF (a Structural Adjustment Facility of SDR 19.9 million) and from bilateral donors. The policy initiatives to be undertaken were agreed with the IMF and IDA in the context of a Policy Framework Paper. Over the following two and a half years, other facilities were negotiated with the two multilateral financial institutions (including an Enhanced Structural Adjustment Facility in 1989) within the context of a revised Policy Framework Paper. The main objective of the programme in the early stages was financial stabilization: control over the expansion of the money supply and credit, the rate of inflation, and currency reform. Structural reforms were also initiated with a view to increasing the inflow of necessary imports, encouraging increased output in the productive sectors, and reforming public administration and the parastatals. Measures taken included fairly regular, and usually large, devaluations of the shilling; increases in interest rates (although they still remain negative in real terms); significant increases in crop producer prices; the introduction of an Open General Licensing System (OGL) and later a Special Import Programme (SIP) under which government allocated foreign exchange for an increasingly wider range of imports; and the introduction of a 100 per cent export retention scheme which was extended in 1989 to cover all non-coffee exports.

Progress in achieving the objectives of the reform and development programme contained within the 4-year rolling Rehabilitation and Development Plan has not been uniformly satisfactory. Inflation is still very high, as is demand for foreign exchange; external payments arrears are piling up, and the currency is still overvalued. In other respects, however, the results have been very encouraging. The economic climate has been transformed by the restoration of peace and security. Progress has been made in rehabilitating infrastructure, reform of the civil service is underway, price and distribution controls have been largely dismantled, and the foreign exchange allocation system is being liberalized.

A favourable aspect of the Ugandan economy is the resilience of subsistence agriculture. There is, therefore, no need for food subsidies, and food imports are low. Major constraints faced by the economy are: first, the shortage of foreign capital inflows, particularly in a form of direct foreign investment; and second, lower export earnings as a result of the collapse of International Coffee Agreement.

Despite various constraints and the somewhat disappointing results in terms of some of the stabilization objectives, the results of the reform programme have been very encouraging to date in relation to the real economy. Real annual growth of GDP in 1987 and 1988 was 6.5 per cent and 7.2 per cent respectively. This represents a real change in per capita terms of 3.5 per cent and 4.2 per cent in the two years. Agricultural output grew by almost 7 per cent in 1988. Although manufacturing was very badly affected during the years of political turmoil and although its share in GDP is now less than 5 per cent, recovery is underway. Manufacturing output rose by 17 per cent in 1987 and by 23 per cent in 1988.

1.3 Recent developments in the financial sector

Lack of control over the public finances and over money supply and credit have characterized developments in the monetary side of the economy for many years. There was a large deficit on the budget every year throughout the 1970s except 1977 when coffee prices rose sharply. While the normal size of the deficit was equivalent to 50-60 per cent of revenues, in 1974 it was equal in size to all revenues. The government resorted to bank borrowing to finance these deficits. Over the period 1971 to 1980, the government's share of bank lending rose from 50 per cent to 70 per cent and the average annual rate of monetary expansion was 30 per cent. In an attempt to restore order to the public finances, strict limits on government borrowing and domestic credit were imposed in the budgets of the early eighties but expenditure controls were relaxed in 1984-1985.

In the first budget of the NRM government, the current budget deficit was nearly 40 per cent of current expenditure. Although the public finances are being managed better and revenue collection has improved, the deficits remain very large. The main monetary and credit objectives of the Rehabilitation and Development Plan are to reduce inflation (which was running at an annual rate of 365 per cent at the beginning of the reform programme), reduce excess demand for foreign exchange, and promote domestic savings. The programme calls for tight monetary and credit policies, a progressive reduction in the level of government liabilities to the banking system, and appropriate adjustments in interest rates.

The results to date have not been entirely satisfactory. The government has not succeeded in reducing its liabilities to the banks in line with objectives; this is because of shortfalls on the revenue collection side and large unbudgeted expenditures which together kept the current budget deficit higher than targeted. A major problem preventing the control of credit expansion was the very large increase in credit to finance crop purchases and to clear payments arrears owed by the Coffee Marketing Board to coffee

producers. The credit, which was provided by government through the Bank of Uganda, boosted inflation. The year-on-year rate for 1988-89 of 86 per cent - 26 points above the target rate - had implications in turn for the interest rate target. Although a number of adjustments were made which raised the maximum commercial bank lending rate from 30 per cent to 50 per cent by March 1989, real interest rates are still negative because of the persistence of the higher rate of inflation. Another problem which creates difficulties in controlling the money supply and credit expansion in Uganda is the fact that as much as 50 per cent of the money in circulation remains outside the formal sector of the economy.

1.4 Foreign investment

A basic precondition for the attraction of foreign capital into any country is a favourable investment climate. This entails inter alia political stability, an economic policy which is promotive of development, and a clear and reliable legal framework to protect investors. The host government needs to be clear about the investment policy it wishes to pursue, and to design its investment code accordingly, so as to attract foreign capital appropriate to its development needs. In relation to the attraction of foreign investment to developing countries, the claim that "beggars can't be choosers" is frequently heard. Nevertheless, "foreign investment at all costs" is not a sound approach to industrialization strategy.

The 1960s investment climate in Uganda was favourable for the attraction of direct foreign investment (DFI) and a number of overseas investors, notably in tobacco and mining, joined those who had already been in operation in commerce and in tea, coffee, sugar, and cotton growing and processing since the colonial period. This latter group included a large number of Asians, only some of whom took out Ugandan citizenship. They dominated the trading sector, as well as sugar production and cotton ginneries.

Foreign investments in the 1960s were encouraged and protected by policy statement and an Act of Parliament. Under the Uganda Industrial Charter of 1963, government guaranteed not to nationalize or expropriate any property without compensation. The 1964 Foreign Investment (Protection) Act not only reiterated its guarantee regarding uncompensated expropriation but also guaranteed the right of foreign investors to repatriate capital and profits provided they were certificate-holding "approved foreign enterprises" - described as enterprises which would "further the economic development of, or benefit, Uganda."

The climate for DFI deteriorated dramatically in the early 1970s. In the year following the coup in 1971, the government launched an "economic war" policy designed to transfer ownership of economic units from foreigners to Ugandans. This policy decision led to the expulsion of all Asians and other non- Ugandans from the country and the expropriation without compensation of their properties. These properties were then allocated to Ugandans either individually or, in the case of most industrial enterprises, to six specially-created parastatals (covering textiles, tobacco, steel, cement, lint, and produce). The remaining industrial units, as well as some of the Uganda Development Corporation (UDC) enterprises, came under the direct control of the Ministry of Industry. Not surprisingly, given the resulting deficiencies in technical and managerial skills, and an acute shortage of

foreign exchange to pay for the importation of new machinery and spare parts to maintain existing plant, the industrial sector deteriorated rapidly in terms of capacity utilization, output, and profitability during the 1970s. This deterioration, compounded by a complete absence of DFI, continued through the first half of the 1980s, although as early as 1982, the official attitude to foreign investment had begun to change. Succeeding governments sought to attract to Uganda DFI and the skills that necessarily go with it. However, as already noted, a precondition for success in attracting DFI includes a supportive investment climate, including guarantees against expropriation and the right to repatriate profits. Since such guarantees have been reneged on in the past, the confidence of potential foreign investors has to be rekindled. This is not an easy task.

A start was made with the passing of the Expropriated Properties Act of 1983. This provided for the transfer of properties, including industrial properties, which had been expropriated during 1971-79, to the Ministry of Finance and for their return to their former owners, provided they returned to Uganda. The objective of the Act was to attract back the expelled entrepreneurs and to resolve the ownership issue so that entrepreneurs could invest funds with confidence in viable enterprises and those deemed to be incapable of returning to profitability could be closed down legally. This strategy of divestiture or privatization by government, together with the Economic Recovery and Development Plan, all contributed to the improvement which has occurred in the past few years, not only in the economy generally, but specifically in creating an environment which might succeed in attracting DFI. To date, a number of industrial properties have been returned to their former owners. However, as regards new funds for industrial rehabilitation or new investments, the only external sources up to the beginning of 1990 have been multilateral financial institutions and other development banks as well as bilateral donors, which have tended to channel their funds to industry through the conduit of the relevant Ugandan banks such as the Uganda Development Bank, and the development finance group within the Uganda Commercial Bank. Sources of foreign exchange funds include the World Bank (IDA), African Development Bank, OPEC Fund, Arab Bank, Islamic Development Bank, European Investment Bank, European Development Fund (under the Lomé Convention), and USAID. A part of these funds has been specifically earmarked for on-lending to small-scale industries.

Creating an investment climate supportive of DFI requires resolving more than the issue of ownership of expropriated properties. A new investment code is also required, in order to overcome the shortcomings of the earlier investment acts and regulations and to dispel the prevailing feeling of uncertainty attaching to industrial investment, both domestic and foreign.

At the beginning of 1990 the drafting of a new Investment Code was nearing completion; the intention is to have a legally binding code in place as early as possible during the year. It will include new concepts in addition to those included in the earlier Acts and decrees. The most important innovation is the "one-stop office" concept designed to overcome the existing time- consuming and confusing process whereby potential investors have to deal with all the economic ministries before getting the final go-ahead to commence operations and where a number of ministries have a say in the implementation of investment regulations. The intention is to establish an Investment Authority or Centre, which would be representative of all the relevant ministries. The investment certificate, without which a foreign investor could not commence operations, would be signed by the Minister for

Finance since the Code will cover such issues as fiscal incentives, tax holidays, regulations regarding remission of profits and so on. Although the Code will set the framework for both domestic and foreign investment, guidelines will set out the type of DFI which is to be encouraged. Such issues as the minimum size of capital inflows, the extent to which the industrial activity is likely to generate or save foreign exchange, whether it operates within a priority sub-sector, and whether a Ugandan entrepreneur might better produce the goods, are expected to figure in the DFI guidelines within the Investment Code.

1.5 Foreign trade

Being overwhelmingly an agricultural economy, Uganda's exports have traditionally been from the agricultural sector. Coffee dominates exports although in the 1960s, in the years immediately following independence, its dominance was not as great as it is today. In 1962, the structure of exports was more diverse and included, in additional to coffee, significant amounts of cotton, tea, tobacco, including manufactured products. However, during the 1970s, all exports except coffee declined due to a combination of factors, including political and economic upheavals, marketing problems, and poor prices.

Throughout the 1980s, coffee accounted for around 95 per cent on average of annual export receipts. Although recovery of exports in other traditional products such as tea, cotton and tobacco is dependent on the speed at which the neglected estates are rehabilitated, some recovery was already evident in the 1980s. In addition, a number of new, "non-traditional" agricultural products have begun to be exported. Barter or counter trade arrangements, at both government and company level, also developed in the 1980s; total turnover amounted to between US$ 400 mln and US$ 500 mln in the period 1986-88. More recently, however, such deals have been constrained by supply difficulties, especially in relation to coffee.

The collapse of the International Coffee Agreement in 1989 and the consequent reductions in both the size of Uganda's quota and in international coffee prices, was especially damaging for the country's export receipts, the balance of payments position, and indeed the overall public finances. The value of export receipts in 1988 was US$ 273 mln; this represented a fall of US$ 61 mln compared with the previous year. The deterioration continued in 1989. Were it not for the government's success in attracting external funds for import support, the economic recovery programme for industry would have been in serious jeopardy. As it is, imports have kept up well; they amounted to US$ 626 mln in 1988, only marginally down on the 1987 value of US$ 635 mln and significantly higher than in 1986 and 1985 (US$ 476 mln and US$ 264 mln respectively). Clearly, however, the general shortage of foreign exchange, caused by difficulties in the export sector, is creating major problems for importers. In 1988, 82 per cent of imports were financed through external loans and grants or by private foreign exchange. Of the remaining 18 per cent which are described as "imports on a cash basis" (and which are down from 23 per cent of imports in 1987), the greater part is accounted for by petroleum products, while 21 per cent are classified as productive imports. Within this "cash basis" category of imports, consumer goods account for less than 3 per cent of the total. However, this figure is considerably less than the value

of the quantities of imported consumer goods which are available in the retail shops because of the large volumes of imports paid for by importers with their own sources of foreign exchange.

The excess of total imports over total exports in 1988 was US$ 353 mln. This represented an increase in the size of the negative trade balance of US$ 53 mln over 1987 and US$ 285 mln over 1986. The overall current account on the balance of payments was also in deficit in 1987 and 1988 but by much less than that on the trade account (US$ 170 mln and US$ 194 mln respectively) because of large "unrequited transfers." These transfers represented the value of grants as well as imports paid for by private sources of foreign exchange.

The capital account on the balance of payments showed a positive balance in 1987 and 1988 (US$ 142 mln and US$ 60 mln respectively) as a result of large inflows. Medium and long-term capital inflows from international financial institutions and bilateral donors have increased significantly since 1982, reflecting their increased confidence in the political and economic environment. Despite the large size of the various categories of inflows, however, the overall balance of payments position deteriorated significantly in 1987 and 1988. An overall positive balance of US$ 7.6 mln in the latter year was made possible only because there are arrears of US$ 142 mln. The balance of payments position for the years 1982, 1984, 1986, and 1988 is summarized in Table 1.5.1.

Table 1.5.1: Balance of payments
(US$ million

	1982	1984	1986	1988
CURRENT ACCOUNT				
Merchandise exports	347.1	407.9	407.5	272.9
Merchandise imports	-422.0	-342.2	-476.1	-626.1
Trade balance	- 74.9	65.7	- 68.5	-353.2
Services (net)	-102.3	- 44.0	-133.2	-126.9
Unrequited transfers	107.3	85.4	208.7	286.1
Current account balance	- 69.9	107.1	6.7	-194.0
CAPITAL ACCOUNT				
Medium and long-term (net)	26.2	32.1	64.5	36.7
of which:				
Inflows	96.8	120.8	104.4	239.1
Outflows	- 70.6	- 88.7	- 39.8	-202.4
Short-term (net)	- 11.6	-120.4	11.3	22.8
Capital account balance	14.6	- 88.3	75.8	59.5
Change in arrears	22.4	- 77.3	44.3	142.1
Overall balance	- 32.9	- 58.5	127.1	7.6

Source: Background to the Budget 1989-90

1.6 External debt

Although it is not one of the larger debtors in sub-Saharan Africa, Uganda has a growing external debt problem. Between 1982 and 1987 total external debt grew from US$ 922 mln to US$ 1405 mln. In his budget speech in July 1989, the Minister for Finance put the figure at US$ 1600 mln. The significant fall in the price of coffee since then has serious implications for the country's ability to service its external debt. At the end of 1989, the ratio of annual debt service payments to export earnings was nearly 90 per cent. It would have been even greater had arrears been taken into account.

Uganda's ability to reschedule its foreign debt is rather limited since more than two-thirds of it is owed to the multilateral financial institutions whose rules do not permit rescheduling. Less than one-quarter is owed to official bilateral creditors; a small part has been rescheduled in the Paris Club.

More than most developing countries, including others in sub-Saharan Africa, Uganda's debt position is an unsustainable one. Soon, all its export earnings will be pre-empted to debt-servicing. Given that it is following an IMF- and WB-supported adjustment programme, and has the support of many bilateral donors, Uganda, more than most, needs the support of the international community at this stage in what can perhaps best described as its re-construction and development.

The fall in the price of coffee has also led to a widening of Uganda's external financing gap for the Economic Rehabilitation and Development Plan. Original World Bank calculations estimated financial requirements at US$ 1100 mln in 1990 and US$ 1180 mln in 1991. These were to have been met through export earnings, private transfers, ODA, IDA, IMF, (ESAF), non-concessional loans, and debt rescheduling, leaving a gap of US$ 70 mln in 1990 and US$ 116 mln in 1991. Because of the deterioration in export earnings, those external financing gaps are now estimated at US$ 250 mln in 1990 and US$ 280 mln in 1991.

1.7 Policies related to industrial development

Uganda's early approach to industrial develoment, as was the case in so many other developing countries this century, was to follow the strategy of import substitution industrialization (ISI). Priority was accorded to the production of labour intensive, low-skill import substitutes. The country achieved much success in its ISI strategy. After independence, it could be said to have extended the ISI approach to the regional level; it was already exporting manufactured products within the East African region in the 1960s.

The political and economic turmoil of the 1971-86 period reversed this positive trend and almost destroyed the manufacturing sector, in particular its exports. Imported manufactures, even of simple consumer goods, are much in evidence in the markets and retail stores. Spare parts are almost all imported.

At this stage, Uganda could almost be described as a new "late starter". As such, new approaches to ISI have to be devised. Spare parts production is one area worth exploring here. So is processed foods.

Because of its rich endowment of natural resources, including the quality of its land, abundant supplies of water, a benign climate, and deposits of metallic and non-metallic minerals, there is a widespread assumption that in Uganda the comparative advantage lies - at least at present - in activities associated with the processing of food and other agro-related resources and minerals. However, in order to avoid the costs of an uneconomic shotgun approach to the choice of a viable manufacturing strategy, there is an urgent need for a more focused approach in order to identify more specific activities within the general area of resource-based processing in Uganda.

At the same time, the recent collapse in international coffee prices has pointed up the dangers of over-concentration on one export product and the need for diversification in the export sector. The drive is now on for the production of new exports, both from the primary sectors of agriculture and mining and from the manufacturing sector. The identification of Uganda's new comparative advantages in the export sector is the latest imperative.

At present, no comprehensive industrial policy document seems to exist. Moreover, the investment code would have to be updated. Meanwhile, the government has implemented several policy measures in the tax and tariff system, import regulations (including the system of foreign exchange allocation), and credit and interest rate policy.

Tax and tariff system

The dependence of the public revenue on the tax yield on coffee is extremely great in Uganda. The main tasks in this context are: to diversify the tax base, and to increase the yield from existing taxes. However, dependence on coffee is likely to continue to adversely affect revenues in the future if prices fall. In 1987-1988, for example, the export duty on coffee provided nearly 30 per cent of total tax revenue; by 1988-1989 it had fallen to 14 per cent, in part because of a drop in coffee prices at the international level.

The most important sources of revenue from taxes on domestic goods and services are the sales tax and excise duties levied on beer and cigarettes, soft drinks, and soap, which together provide nearly 90 per cent of this total.

The government has begun to implement a major overhaul of the taxation system. The principles underlining this reform process include: the extension of the sales tax into a broad- based tax covering all domestically-produced and imported goods and some services; reliance on three standard ad valorem sales tax rates, with the highest on luxuries and with exemption arrangements for production inputs and exports; adoption of a tariff structure which will provide a predictable, moderate and relatively uniform level of protection designed to promote efficient import substitution.

To this end the government introduced a number of tax reforms in the 1989-1990 budget. They included: the imposition of a 10 per cent customs duty on raw materials; the introduction of a minimum customs tariff of 10 per cent on most of the imports previously zero-rated and taxed at 5 per cent; the levying of a minimum sales tax of 10 per cent on all domestically-produced goods which previously had been exempted from sales tax; the widening of the

definition of mineral waters and soap in order to bring in products previously excluded; the broadening of the coverage of the commercial transactions levy; the removal of the export duty on hides and skins; raising the individual income tax threshold and reducing the top marginal individual tax rate from 60 per cent to 55 per cent; and cutting the corporation tax rate from 60 per cent to 45 per cent.

The reform of the tax and tariff system will continue in the 1990-1991 budget. The government also plans to strengthen tax administration and revenue collection.

Import regulations

The country currently is facing a critical foreign exchange shortage. Given the fact that Ugandan industry is highly import-dependent, it is essential for its development to have import regulations, particularly regarding foreign exchange allocation.

International financial institutions and bilateral donors have provided foreign exchange for import support. The foreign exchange allocation was operated by the Bank of Uganda and government officials. These funds have been the only source of foreign exchange for most manufacturers who need to import machinery, spare parts, and raw materials. An Open General Licensing (OGL) system was introduced in 1987 in order to avoid the arbitrariness of allocation. Under this scheme, 22 manufacturing firms, considered to be of key importance in terms of the provision of certain basic products, were given access to official supplies of foreign exchange. The availability of foreign exchange had an immediate impact on output and prices, and on tax revenues from manufacturing firms. Because of these positive results, access to import support funds was expanded in 1988 to other sectors and goods, including agricultural and industrial inputs, spare parts, and some basic consumer goods. Under this new mechanism, called the Special Import Programme (SIP), any importer in the eligible sectors may purchase foreign exchange for imports on a first-come first- served basis. The intention is to merge the OGL and the SIP as foreign exchange resources become available to cover more categories of imports.

The other way in which government has attempted to liberalize the import regime is in allowing people to use their own foreign exchange holdings, however they may have been acquired. For example, exporters other than coffee exporters, are allowed to retain all of their export earnings and use them to import an equivalent amount of goods for their own operations or for sale. Since the local selling prices of such imported goods are not controlled, the exporter in effect receives the parallel, market-determined exchange rate for the exports. Because all goods imported with foreign exchange other than from official sources sell on the basis of the parallel market rate, these prices have implications for the degree of protection afforded to producers of import substitutes. In effect they set the outer limit of effective protection enjoyed by competing domestic producers. In 1988 and 1989, total imports under the "no foreign exchange scheme" amounted to nearly 30 per of total non-project imports.

Credit policy

Three major constraints limit the availability of credit to the industrial sector: a low rate of saving; the level of government borrowing from the banking sector; and the excessive amount of credit provided to the coffee sector. As already noted under 1.4 above, real interest rates have remained substantially negative despite a number of adjustments to nominal rates. This is because inflation remains high. Of course, the existence of negative real rates on bank deposits is not the only explanation for low savings and, thus, for the low availability of loanable funds within the banking system. Incomes are low and there is a high transactions demand for money. Above all, a large proportion of financial transactions continue to take place outside the banking system.

Also noted under 1.4 above was the very high level of government borrowing from the banking system which has tended to crowd out borrowers from the rest of the economy. Again, as with interest rates, a start has been made on correcting this problem through attempts to control the budget deficit. However, there is still a long way to go.

As to the crowding out of manufacturing industry by the coffee sector, this arises by virtue of the Coffee Marketing Board's (CMB) claims on the government and parastatals. At the beginning of 1990, the government debts had been cleared pro tem and a new system was being worked out to prevent a build-up of new arrears in the future. In order to avoid further printing of money to finance the operations of the CMB and others in the coffee sector, the government is setting aside the local currency counterpart of import support funds of up to US$ 30 mln to buy coffee and other crops. These dollars, which would be sold through SIP, would generate about USh 12 billion for crop finance and would therefore free a great deal of shillings to provide credit for the rest of the economy including the manufacturing sector.

1.8 Regional cooperation

Uganda is a member of four regional organizations: three of them within the area of Eastern and Southern Africa. These are: the Organization of African Unity, the Preferential Trade Area, the Kagera Basin Organization, and the Inter-governmental Authority on Drought and Desertification.

Organization of African Unity (OAU)

The OAU was formed in 1963 by 20 African states; its membership has now grown to 50. The main objectives of the OAU are to promote solidarity among its members, to defend sovereignty, to eliminate colonialism in Africa, and to increase levels of living throughout the region. There are ten specialized agencies within the OAU covering a range of issues including labour, health, communications, and transport. Economic issues increasingly dominate discussions at the annual conference of heads of state. The OAU is committed to the creation of an African Common Market by 2000 according to the Lagos Plan of Action.

Preferential Trade Area (PTA)

The PTA, includes Burundi, Comoros, Djibouti, Ethiopia, Kenya, Lesotho, Malawi, Mauritius, Rwanda, Somalia, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe, and Mozambique. The PTA aims to liberalize trade, encourage cooperation in industry, agriculture, transport and communications, and create a regional common market. The progressive liberalization of intra-PTA trade commenced on July 1, 1984, with the adoption of a common list comprising 209 items. A Multilateral Clearing Facility, established in Harare, began operations in February 1984. A PTA monetary unit of account (Uapta), equivalent to the SDR, is used to settle inter- state debts every two months, the balances payable in dollars; Uapta travellers' cheques were introduced in September 1988. According to the PTA secretariat $ 178 mln worth of trade passed through the clearing house between January and November 1988 and was settled in Uapta. A slightly larger amount was settled in hard currency.

The practical effect of PTA has been constrained by the "rules of origin" which stipulate that preferential treatment can only be accorded to goods produced by companies managed by, and in which over 51 per cent of the equity is held by, nationals of the member state. Kenya and Zimbabwe argued particularly strongly against this rule, and in May 1986 the organization agreed to a sliding scale of tariff reductions, to be applied over a five year grace period. Companies which are 40-50 per cent locally owned now qualify for a 60 per cent tariff reduction and those 30-40 per cent locally owned for a 30 per cent reduction. These rules have implications for Uganda's manufacturing industry and exports from its manufacturing sector.

Kagera Basin Organization (KBO)

The KBO unites the four countries which share the Kagera River basin, Burundi, Rwanda, Tanzania, and Uganda. The first three formed the organization in 1977 and Uganda joined in 1981. The headquarters are in Kigali, Rwanda. The KBO aims to develop 60,000 sq. km. of the river basin; its responsibilities cover transport, power, mining, hydroelectricity, and external finance.

Intergovernmental Authority on Drought and Desertification (IGADD)

Uganda, together with six other countries in the East African sub-region is a member of IGADD, whose headquarters is in Djibouti. The main aim of the Council is to find a common approach to preventing drought and desertification and to combating their effects in the sub-region. The IGADD intervenes by co-ordinating food aid relief among its members. With financial assistance of the European Community and the World Food Programme, supplies from food-surplus countries such as Uganda and Kenya can be shipped to food-deficit countries such as Sudan and Ethiopia. This type of triangular arrangement benefits all the member states. In Uganda's case, it can act as an additional source of foreign exchange.

East and Southern African Management Institute (ESAMI)

This Institute, based in Arusha, Tanzania, with a sub-office in Harare, Zimbabwe, provides management courses for industrial personnel in the east and

southern region. It charges for its courses and consultancies, but also receives funding from the World Bank and the International Labour Organization.

East African Development Bank

The East African Development Bank (EADB) is the only surviving institution of the now-defunct East African Community (EAC). The EADB's main objective, at the time of its establishment in 1967, was the promotion of industrial development projects and especially the reduction of industrial imbalances among the three member states (Kenya, Tanzania and Uganda). Other sectors, such as tourism, infrastructure, and agro-industries were added in 1980 when the Bank was given a new charter to enable it to continue operating after the break-up of the Community. The objective of redressing intra-regional imbalances was dropped and, although the Bank still tries to encourage regional projects, it has not achieved much success. Most lending is to the industrial sector, for the production of goods which can be traded between the three countries.

CHAPTER 2
THE RESOURCE BASE

2.1 Agricultural resources

The agricultural sector is the backbone of the Ugandan economy and the main source of inputs for the processing sector. Due to favourable climatic conditions, production of a large variety of tropical crops is possible.

(a) Crops:

Uganda's main food crops are plantain (matoke), cassava, sweet potatoes, beans, and cereals. Most of them have maintained relatively stable production and this has allowed Uganda to reach self-sufficiency in matoke bananas, root crops, and cereal grains. Occasionally, as in the past, food shortages are experienced, but these are mainly due to distribution problems or security difficulties.

The country's principal cash or export crops are coffee, tea, and cotton. Maize, cocoa, and tobacco are the other main cash crops and small amounts are exported. During the 1970s, formerly important export crops such as cotton, sugar, tea, and tobacco virtually disappeared from the export list. Moreover, sugar is now a major net import. Since 1970, the export base has narrowed considerably, with coffee now contributing more than 95 per cent to export earnings.

Uganda grows two types of coffee, robusta and arabica. The former type which accounted for over 90 per cent of total coffee production in 1988, is mainly grown in the areas around Lake Victoria, the latter mainly in the high altitude areas in Western, North Western, and Eastern Uganda. The volume of production of coffee since 1980 has been erratic. Coffee production reached a peak level of 166,600 tonnes in 1982. In 1988, it was only 148,100 tonnes due to a reduction in the production of robusta coffee.

Coffee production has been affected by shortages of inputs, low producer prices, inadequate crop finance, poor transport condition, and foreign exchange shortages which limit purchases of imported bags for the coffee. Smuggling into Kenya and Zaire has also been a major problem.

Table 2.1.1 shows coffee production for the years 1981-1982 through 1986-1987. Although Uganda's quota under the International Coffee Agreement, when it was in place, was 2.3 million bags, it was able to produce more than this amount.

Table 2.1.1: Coffee production, 1981/82-1986/87
(in thousand bags of 60 kg.)

Coffee year[a/]	Volume
1981/82	3,351
1982/83	3,201
1983/84	2,891
1984/85	2,551
1985/86	2,758
1986/87	2,850

[a/] October- September crop year

Source: International Coffee Organization, as reported in EIU Country Profile 1988-89, p. 14.

Cotton used to be one of the most important traditional cash crops, until coffee overtook it in the 1950s. Most cotton is produced in the Northern, Central, and Southeastern regions of the country. The area planted with cotton was larger than for coffee in 1980. However, by 1981, it had been drastically reduced from 312,400 hectares to 121,300 hectares. Since then it has not fully recovered and by 1988, only 123,500 hectares were planted. Output was reduced from 6,100 tonnes in 1980 to only 1,800 tonnes in 1988 although there had been a brief recovery between 1981 and 1985 as a result of the rehabilitation of ginneries and improvements in producer prices.

The declines in area planted and in cotton output can be attributed to higher costs of production, labour shortages, a poor marketing system, lack of seeds, and insecurity in cotton growing regions. Farmers have chosen to plant non-traditional crops which have a better market. In response to the situation, the government embarked on an Emergency Cotton Production Programme (ECPP) to boost output; however, production targets for 1988-1989 were over-optimistic. Given the importance of cotton for the local textile industry, the edible oil and soap industry, as well as potentially for exports, the bottlenecks to increased production need to be addressed quickly.

Tea is produced on estates and small-holdings. Tea production grew rapidly in the 1960s and reached a record total of 23,376 tonnes in 1972. Thereafter, production declined steadily reaching 1,533 tonnes in 1980. No new tea planting has been undertaken since 1978; the area planted with tea has remained at 20,900 hectares. Given Uganda's climatic conditions, and rehabilitation of tea plantations, it is expected that tea production will more than double in 1989 to 7,500 tonnes from average levels of around 3,300 to 3,600 tonnes in the previous few years.

Tobacco output has been erratic due to unfavourable weather and the insecurity in the West Nile region, where it is mainly grown. Production was estimated at only 2,500 tonnes in 1988 compared with a peak of 5,000 tonnes in 1972, many farmers having switched to the production of food crops. Tobacco production is almost entirely run by a subsidiary of British American Tobacco (BAT). However, the return of refugees from Sudan to the West Nile region, and higher prices, have prompted a rapid recovery in tobacco production.

Raw sugar production recovered from a level of 800 tonnes in 1985 to 6,200 tonnes in 1988 although it is still very far from the peak production level recorded in 1968 (152,000 tonnes). The dramatic decline of sugar production was the result of the expulsion in 1972 of two Asian families who produced most of the output on two large estates. These families returned in the early 1980s, in joint venture agreements with government. Rehabilitation commenced in mid-1985 and by January 1988, a new refinery with a capacity of 60,000 tonnes was commissioned at Lugazi. At Kakira Sugar Works, rehabilitation work continues with Phase 1 (capacity of 10,000 tonnes) completed, and the factory commenced production late 1989. Phase 2 is expected to be completed in 1992 when total capacity of 90,000 tonnes per annum will be fully rehabilitated.

The production of oil seed crops has gained in significance in recent years. Up to now, they were mostly consumed locally, but could also be exported or be processed into edible oil, with the by-products used in the soap and animal feeds industries. Mukwano industries is about to start large-scale production of vegetable oils and the export of oil cakes.

Apart from maize, the major oil seeds grown in the country are groundnuts, simsim, and soya beans. Sunflower is also becoming popular due to its lower cost of production and the possibility of having two crops a year. Table 2.1.2 shows production figures of these oil seed crops for selected years.

Table 2.1.2: Production of selected oil seed crops
(Thousand tonnes)

Year	Groundnuts	Simsim	Soya beans	Total
1980	70	20	3	93
1982	90	35	6	131
1984	118	39	9	166
1986	118	35	10	163
1988[e/]	176	45	14	235

e/ Estimate

Source: Ministry of Planning and Economic Development (MPED), Background to the Budget 1989-1990, Kampala 1989, p 168

(b) Livestock:

The livestock sub-sector produces about 30 per cent of agricultural GDP. Uganda has good-quality pasture but economic uncertainty, cattle rustling, general insecurity, as well as the prevalence of several endemic diseases, have led to a significant reduction in the livestock population in recent years. Cattle population declined from 5.2 million in 1986 to 4.3 million in 1988. The sheep and goat populations have also declined. However, pig and poultry production have increased considerably because of strong demand for pork, poultry meat, and eggs. The pig population increased from 250,000 in 1986 to 470,000 in 1987 and dropping slightly to 452,300 in 1988 while the poultry population increased from 5.0 million in 1986 to 8.3 million in 1987.

Since importation of new livestock is constrained by the shortage of foreign exchange, the government has laid emphasis on increasing the size of the livestock population through disease control and ranch rehabilitation as well as artificial insemination of livestock.

The dairy and beef subsectors are currently being rehabilitated with funding from several donor organizations including the EC, the World Food Programme (WFP), FAO/UNDP, and IDA. The rehabilitation programme for the dairy industry aims at restoring dairy production, improving milk collection and marketing, and strengthening the dairy extension staff. The beef industry rehabilitation programme aims at rehabilitating the existing private ranches and restocking government ranches in order to provide more animals for beef production.

(c) Fisheries:

The fisheries subsector provides employment for about 73,170 fishermen and 130,000 fish sellers. In 1988, the total fish catch was 214.7 thousand tonnes valued at USh 14.2 billion; this was the largest fish catch since 1981. In 1981, over three- quarters of the catch came from Lake Kyoga; however, by 1988, Lake Victoria had gained in importance and accounted for 50 per cent of the total.

The government, with the assistance of various donors, has begun a major development of the industry aimed at improving fishing techniques, local boat building, fish handling, processing, marketing, and the provision of inputs.

2.2 Forestry Resources

The gazetted (officially registered) forests of Uganda cover 77 per cent of the dry land area or 1,356,300 hectares. Of this, 700,000 hectares or 51.6 per cent is tropical high forest consisting of 540,000 hectares of productive forests and 160,000 hectares of unproductive forests. Savannah woodlands cover 632,000 hectares or 46.6 per cent of total forest land, while the remaining 24,300 hectares comprise plantations, of which 10,900 hectares is peri-urban and the balance is softwoods. However, over the years, particularly in the 1970s and early 1980s, there had been a lot of encroachment in the forested areas due mainly to shortage of agricultural land in certain areas and the shift to agriculture as urban incomes became eroded due to inflation.

The dangers posed by forestry degradation made it imperative for government to take measures to redress the problem of encroachment. Through the Forestry Rehabilitation Project, which was launched in early 1988 with the support of the donor community including the EC, World Bank, DANIDA, and NORAD, encroachers who occupied 4,000 hectares of resources were evicted. Forest boundaries of many of the reserves were re- introduced and demarcated by planting line markers to keep the boundaries visible. Despite the measures taken, grazers, timber dealers, and charcoal burners as well as fuelwood cutters still present serious problems, especially as the demand for fuelwood remains high. For systematic planting of forests, emphasis has been placed on the production of multi-purpose tree species of high volume yield and of suitability for soil conservation. The policy of forest resource management for sustained yield has continued to be given important attention. Table 2.2.1 shows the production of round-wood timber, processed wood products, charcoal, and other wood products.

Table 2.2.1: Production of round-wood timber, processed wood products, charcoal, and other wood products

		1980/81	1984/85	1987/88
ROUND-WOOD TIMBER:				
Logs	'000 M^3	65	83	83
Poles/fence posts	'000 M^3	20	30	70
Fuelwood	'000 M^3	150	250	410
PROCESSED WOOD PRODUCTS:				
Sawn timber	'000 M^3	23	28	30
Plywood/block board	'000 M^2	145	500	600
CHARCOAL & OTHER PRODUCTS:	'000 Tonnes	30	40	70

Source: MPED, Background to the Budget 1989-1990, p. 169

Responsibility for the management of the forestry resources in the country has, since 1986, been moved from the Ministry of Agriculture to the newly-created Ministry of Environment Protection. Within this latter Ministry, the Department of The Environment was established to co-ordinate activities for the protection of Uganda's natural resources. A related role of the Department is to raise environmental awareness by educating the public on the need for, and methods of, sustainable development.

2.3 Mineral Resources

The mining industry accounts for a very small part of the output of the monetary economy. Its share fell from 5.4 per cent in 1970 to less than 1 per cent in 1988. In the early 1970s, mines in operation included copper, tin, gold, bismuth, tungsten, columbite, tantalite, phosphate, limestone, and beryl. But almost all have now ceased operations except tin, tungsten, and gold which are still produced in small quantities.

Although Uganda has a variety of mineral resources, their extent is not fully known because a comprehensive exploration has not yet been undertaken. Annex 3 gives a profile of the mineral deposits in the country. The mining industry has the potential for becoming a major employer and foreign exchange earner and the government attaches high priority to restoring small mines production. The development of the mining industry is also strategic to the establishment of mineral-based industries. Under the auspices of UNDP, a mineral investment promotion exercise is planned. However, to date, funds for the development of the mining industry remain limited. Rehabilitation of the country's only copper mine is to be undertaken under separate agreements with the Government of France and of the Democratic Peoples Republic of Korea. The trend in mineral production for the years 1982-88 is shown in Table 2.3.1.

Other activities in the mineral sector include developments in the petroleum sub-sector where a project to promote exploration and production is under implementation. The phosphate deposits are estimated at 30 mln tonnes, and a project for the production of single and triple superphosphate fertilizers in Uganda is being promoted at the PTA level. There are also some iron ore deposits which could be exploited for the development of the iron and

Table 2.3.1: Production of selected minerals, 1982-1988

Mineral	Unit	1982	1984	1986	1988
Gold	Grams	215.2	1,316.7	149.7	26.5
Tin ore	Tonnes	3.5	263.3	43.5	63.8
Tungsten	"	7.0	14.7	19.1	74.9
Tantalite/columbite	"	-	-	7.7	n.a.
Kaolin	"	-	-	400.0	n.a.
Feldspar	"	-	-	200.0	n.a.
Iron ore	"	-	-	-	11.1

Source: Department of Geological Survey and Mines, Ministry of Minerals and Water Development

steel industry in the country as well as for export. Other prospects include production of clay-based products from the numerous clay deposits all over the country as well as glass and ceramics for which the necessary raw material base exists.

2.4 Energy Resources

Exclusive of its substantial hydro potential in excess of 2,800 MW, Uganda is relatively poorly served in terms of energy resources. As such, all hydrocarbon energy demand is met through imports, involving substantial outlays of scarce foreign exchange. The predominant source of household energy is wocdfuel, with potentially adverse implications in terms of uncontrolled deforestation.

The country is, however self-sufficient in electricity. Of the total installed capacity of 155-MW, 150 MW is generated from the Owen Falls station. It is expected that this aggregate capacity will be inadequate to satisfy the country's requirements from about 1990. Accordingly, there is an on-going project to rehabilitate and up-grade the Owen Falls station to 180-MW. The associated transmission and distribution network is also being rehabilitated, particularly in the major consumption centres. To meet long-term power demand, studies have been carried out in respect of a second hydro-station on the Nile River.

Uganda's geothermal resources represent a significant energy potential. Initial attention is focused on three geothermal sites on the western branch of the East African Rift Valley. Eventually, investigations are expected to extend to Eastern and Northeastern Uganda.

With regard to petroleum, there are indications from air magnetic surveys of favourable geological formations in the Western Rift Valley. Prospecting rights covering the most promising areas have been granted to some of the multinational oil companies. Their activities are, however, currently at too preliminary a stage to warrant any conclusions regarding the commercial occurrence, or otherwise, of petroleum reserves.

Table 2.9.1.: Comparative energy and power potential at alternative sites

Site	Water availability m2/s River	Amenity	Power	Usable head m	Max. energy potential GWh p.a.	Installed capacity MW Calculated	Proposed
Bujagali:							
1966 Report	630	n.a.	630	19.5	908	159	180
Current proposal	630	n.a.	630	18.5	861	151	180
Kamdini:							
1957 Report	570	0	570	29.3	1,234	217	234
Current proposal	570	50	520	25.0	961	169	180
Reduced Head				14.0			
Ayago South:							
1981 Tech. Report	570	20	550	73.5	2,988	341	480
1981 Ecol. Report	570	280	290	73.5	1,575	180	480
Current Proposal	570	200	370	73.5	2,010	229	240
Ayago North:							
Current Proposal	570	150	420	57.5	1,785	313	300
Reduced Head				43.5			
Murchison Falls:							
1970 Report	570	50	520	88	3,382	594	600
Current Proposal	570	150	420	88	2,732	480	480
Reduced Head				60			
Restricted Development	570	230	340	88	2,190	250	250

Source: Power Development Study of Uganda Electricity System: Draft Final Report by Sir Alexander Gibb & Partners, and Kennedy & Donkin, March 1986.

Recognizing the negative impact which over-exploitation of wood as a source of energy for household purposes could have on the environment, the government is encouraging and promoting the development and utilization of biomass, biogas, solar, and other non-conventional and renewable sources of energy. The strategy as applied to biomass is both to increase the supply in the form of forests and also to develop technologies which would either economize on the use of biomass or develop alternative sources of energy.

2.5 Human Resources

While it can be said that Uganda has had a large number of well- educated and well-trained people, the upheavals of the 1971-1986 period reduced the availability of needed skills for the country's development. However, there are no reliable data on the number of Ugandans who left their country for better economic opportunities abroad or of the number who fled for political and security reasons.

The last comprehensive study of Uganda's manpower was published in 1967. It was for this reason that the government, with assistance of UNDP and ILO, organized a comprehensive National Manpower Survey which was carried out in 1988. According to the Report of the Survey, total labour force (defined as "currently active population") was estimated to be just over 7 million persons out of a total estimated population of about 16 million, representing 44 per cent. The results of the Survey indicate that in January 1988, 378,227 persons were employed in the formal sector (defined as comprising all registered establishments and employers employing 5 or more persons). Of this total, 244,195 or two-thirds were employed in the government service, and the rest were in non-government (private, parastatal and cooperative) employment. The industrial sector accounted for only 14 per cent of total employment in the formal sector. The Survey also revealed that women constituted 20 per cent of the workforce in the formal sector.

The informal sector (defined as comprising establishments employing fewer than five persons, self-employed persons, household activities) was estimated to be employing about 13.7 per cent of the labour force, that is, about two and half times that of the formal sector.

In all sectors 45,393 persons were employed as administrators, managers and professionals, 59,716 persons as technicians and associate professionals, while skilled workers numbered 81,372 persons. The manufacturing sector employed 1,623 persons, or 3.6 per cent, of the administrative, managerial and professional personnel enumerated; 3,932 persons, or 6.6 per cent, of technicians and associate professional personnel, and 10,323 persons or 12.7 per cent of skilled workers.

As to qualifications, only 2.4 per cent of the persons employed in the formal sector, who gave information, had a degree or post-graduate qualifications, 7 per cent were diploma holders, 35 per cent had secondary school certificates and another 25 per cent had lower than secondary school qualifications. Nearly 31 per cent did not disclose their qualifications, presumably because of low educational qualifications for the jobs they were holding.

According to population and labour force projections, about 115 to 120 thousand persons would be entering the labour market every year looking for jobs. During the period 1988-1991, this number would add up to 463,000.

After matching the likely future supply of skilled manpower with the estimated demand in 1991, the manpower balance sheet shows that there would be shortages of administrators, managers and professionals, technicians, craft and related workers, and machine operators. The greatest shortages would be of technicians and associated professionals, followed by craft and related workers, and professionals.

The results of the National Manpower Survey are expected to assist in planning human resource development to meet the requirements of the various sectors in the foreseeable future. The government continues to attach high priority to training in the major sectors of the economy. Emphasis has been placed on the development of skills in professional and technical fields directly linked to rehabilitation of production capacities in the agricultural and industrial sectors, as well as in the reconstruction of social infrastructure. In the Civil Service, a Public Service Performance Improvement Project, financed by the World Bank, is expected to result in better-motivated and therefore better-performing personnel.

Although Uganda has had comparatively strong education and training institutions, many of them have lost a large part of their qualified staff. In addition, budgetary shortages have badly affected the quality and quantity of both research and teaching. Lack of equipment, books, journals, and so on, diminish effectiveness and motivation of both staff and students. Many teachers have to take on outside jobs in order to earn a living. Under the circumstances, it will be difficult to provide the manufacturing sector with the required number of qualified people, unless technical assistance helps to ease some of the constraints.

CHAPTER 3
THE MANUFACTURING SECTOR

3.1 Structure of the manufacturing sector

The development of the manufacturing sector in Uganda was stimulated during the 1960s through an import substitution policy to provide essential consumer goods. The sector was heavily dependent on imported inputs but, despite this, it developed steadily until the early seventies. The manufacturing share of GDP was about 7 per cent from the early 1960s, and up to the end of the decade its real growth rate averaged over 6 per cent per annum. It provided the domestic market with adequate supplies of basic goods and there was surplus production for export, most notably in textiles and sugar. A downward trend in manufacturing output started after the Amin government expelled most foreigners from the country and nationalized the companies run and owned by them. There were 50 factories in the medium and large-scale sector operating in 1971, but by 1981, 15 of these were completely idle and the capacity utilization of the remainder was only around 25 per cent. In the small industries sector, 870 establishments were operating in 1971; by 1981 only 418 could be identified and of these 162 had closed down and 256 were operating only intermittently as supplies and conditions permitted.

With regard to the contribution of the manufacturing sector to monetary GDP, both the value of total output of the manufacturing sector as well as its share of GDP were halved between 1970 and 1981, falling in the first case from USh 631 mln to USh 338 mln (both in 1966 prices) and in the second from 12.4 per cent in 1970 to 6.5 per cent in 1981. By 1981, output of agro-industries (cotton ginning, coffee curing, and sugar manufacturing) was down to 27.2 per cent of its 1970 level, while outputs in food processing and miscellaneous manufacturing were only 16.4 per cent and 45 per cent respectively of their 1970 levels.

The fall in the manufacturing sector's share of monetary GDP continued until 1986 but recovered slightly in 1987 and 1988 due to rehabilitation efforts in some industries. By 1988, however, the share of manufacturing in monetary GDP was still less than 5 per cent.

Table 3.1.1 shows that food, beverages, and tobacco- producing firms employed about 45 per cent of the labour force in manufacturing industry, followed by textiles, apparel, leather, and footwear, at 16 per cent. The next important subsectors are wood and furniture, and metal products.

The large numbers of enterprises include many small-scale industries and even handicraft shops with fewer than 10 employees. These account for almost 50 per cent of the number of enterprises recorded in the directory, while only 16 per cent of the companies employ more than 36 workers. (See Table 3.1.2). Nevertheless, the larger companies clearly dominate in terms of employment.

Table 3.1.1: Sub-sectoral composition of the manufacturing sector

ISIC Classification	Branch	Number of enterprises	Number of employees
31	Foods, beverages & tobacco	480	28,035
32	Textiles, apparel, leather and footwear	160	10,320
33	Wood & furniture	556	9,760
34	Paper & products, including printing & publishing	106	2,050
35	Chemicals, rubber & plastics	47	1,610
36	Non-metallic mineral products	60	3,150
37	Iron & steel	7	635
38	Tools, hardware, metals & products (including machinery)	305	4,070
39	Other	2	30
	Mining, including salt	23	2,920
	Total	1,746	62,555

Source: Directory of Manufacturing Establishments, Ministry of Industry and Technology, 1989.

Table 3.1.2: Size-distribution of manufacturing enterprises

Employment group	Number of enterprises	Number of employees
1-5	328	1,430
6-10	524	4,150
11-20	378	5,191
21-35	213	5,858
36 and above	285	45,926
Total	1,746	62,555

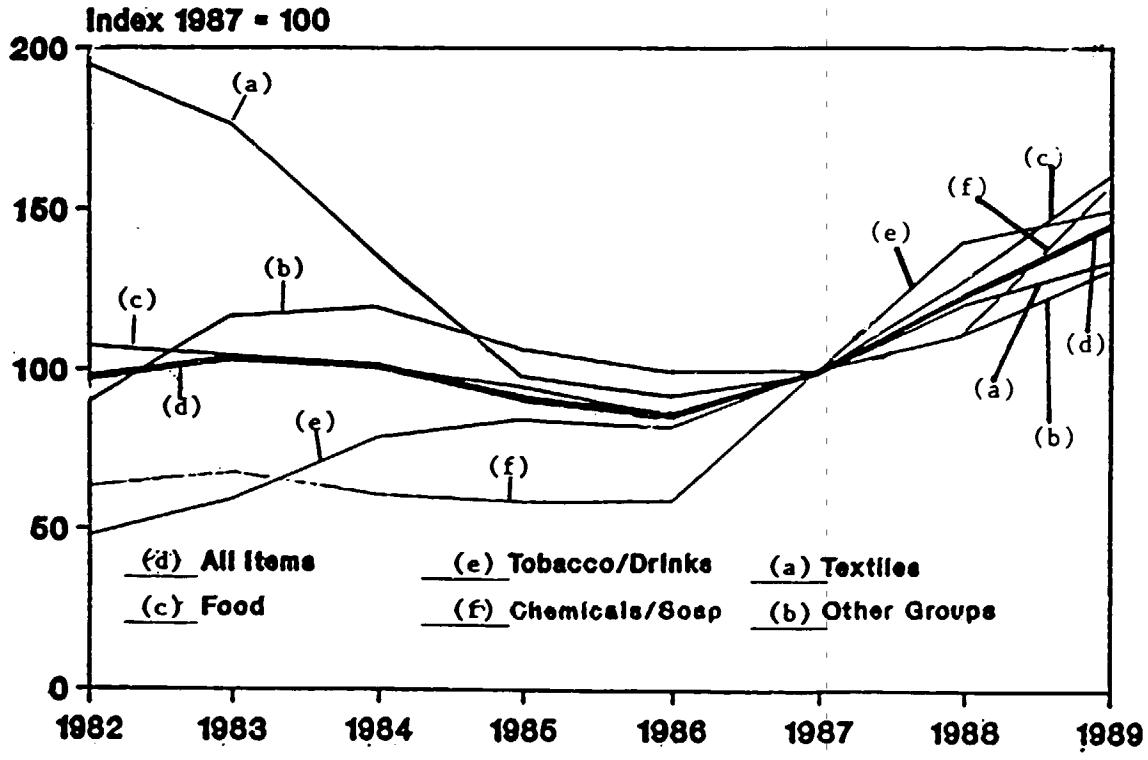
Source: Directory of Manufacturing Establishments, Ministry of Industry and Technology, 1989.

3.2 Industrial production

(a) Performance 1982-88:

The Index of Industrial Production shows that total production in the manufacturing sector was rising slowly in the early 1980s. It declined thereafter up to 1986. During this period, however, there was rising production in the beer, soft drinks, and tobacco industries which partly offset an overall reduction in the rest of the manufacturing sector of some 22 per cent. The textile and garment industries, on the other hand, and also bricks and cement industries, were particularly badly affected as Figure 3.2.1 and Table 3.2.1 show.

Figure 3.2.1: Industrial Production Indices



Source: Statistical Bulletin No. IP/3, Index of Industrial Production to September 1989, Statistics Department of Ministry of Planning and Economic Development, January 1990.

Table 3.2.1: Index Industrial production : Monthly summary for index groups

(Base 1987 = 100)

Period	Food processing	Drinks and tobacco	Textiles and clothing	Leather and F/wear	Timber, paper etc.	Chemicals paint & soap	Bricks and cement	Steel & steel products	Miscellaneous	ALL ITEMS
Annual										
1982	106.7	48.6	196.7	77.9	68.2	64.6	163.7	81.6	87.6	97.4
1983	103.7	59.8	177.6	152.8	79.6	68.8	177.4	118.5	124.3	103.7
1984	99.8	79.4	136.9	175.5	88.7	61.2	156.5	110.7	139.5	101.1
1985	93.9	84.8	98.9	86.9	76.8	58.6	122.7	133.1	139.1	91.1
1986	85.3	82.2	92.9	90.0	72.0	58.8	120.6	105.9	141.0	86.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	128.0	139.6	121.8	62.0	135.1	111.2	94.4	87.2	134.8	123.7
1989(a)	160.4	149.1	135.0	58.2	160.5	156.2	92.5	92.9	199.9	145.4

Source: Statistical Bulletin No. IP/3, Index of Industrial Production to September 1989, Statistics Department of Ministry of Planning and Economic Development, January 1990.

(a) Projections for 1989 are based on data for the 9 months January to September.

Overall production levels began to recover strongly in 1987, increasing by 16 per cent that year (thereby bringing production back to about the 1984 level) and by a further 25 per cent in 1988. Manufacturing activity in 1988 was at its highest level for at least ten years.

There were distinct differences in the performances of individual subsectors. The strong growth in the food, beverage and tobacco industries is apparent. Indeed it is interesting to note that, whereas the overall index registered an increase of about 21 per cent between 1983 and 1988, the manufacturing sector, other than beverages and tobacco, recorded no real growth at all in this period. By 1988 other manufacturing had barely recovered to 1983 levels.

(b) Recent short-term fluctuations:

The foregoing analysis of annual trends conceals some important changes which have been taking place from month to month, particularly in the past two years. In 1987 there was a rising trend of production during the first three months, but then a fairly severe cutback, apparently associated with the introduction of the new currency in May of that year. By June 1987, aggregate production was some 30 per cent lower than had been achieved three months previously. Recovery thereafter was quite rapid and by the end of the year production was back around the level recorded in March 1987.

In 1988, very strong industrial growth was recorded in the first six months; the index peaked in June 1988 at a level almost 50 per cent above the average 1987 level. Resumption of production by the Sugar Corporation of Uganda and improved performance by the steel, cement, textiles, and garment industries, together with continued strong growth by the soft drinks and alcoholic beverage industries, were the major contributing factors.

Following the 1988 Budget there was another slump in industrial activity, with the index falling 25 per cent over the next four months. By October 1988, total production had been cut back very close to the level which had been achieved in March 1987. There were definite signs of a recovery in the last two months of 1988, but insufficient information is available at this time to determine whether this recovery had been continued into 1989.

(c) Capacity utilization:

During the early eighties most of the industrial branches were operating below 20 per cent of installed capacity. Some industries, like milk processing, cigarettes, cotton, and rayon fabrics, garments, and bricks and tiles, were able to maintain significant levels (30-40 per cent) of production despite the extremely unfavourable economic and political situation at that time; others were operating at very low levels of capacity utilization. A survey of 84 enterprises carried out early in 1984 shows that the majority of respondents cited as main reasons for low capacity utilization, equipment breakdown and lack of spares parts due to the limited availability of foreign exchange.

By 1988, some industrial branches were experiencing significant improvements in capacity utilization, notably, wheat flour, animal feeds, cigarettes, soap, plastic jerry cans, tableware, chalk, and steel doors and windows. Nevertheless, several branches continued to experience low levels of

capacity utilization, which indicates the need for rehabilitation. Capacity utilization levels have declined in cotton and rayon fabrics, blankets, finished leather, footwear, cartons, paper sacks, corrugated cardboard boxes, paints, matches, adhesives, rubber solutions, cement, and corrugated iron sheets, among others.

Based on 1988 production data, only three branches are operating at more than 50 per cent of installed capacity. These are cigarettes (86 per cent), soft drinks (61 per cent) and soap (51 per cent). Selected industrial branches operating at lower levels of capacity utilization are shown in Table 3.2.2.

Table 3.2.2: Selected industrial branches classified according to level of capacity utilization, 1988

High (above 50%)	Medium (20% - 50%)	Low (below 20%)
Cigarettes (86)	Curry powder (48)	Ballpens (18)
Soft drinks (61)	Steel doors/windows (49)	Jerry cans (16)
		Tooth brushes (15)
Soap (51)	Processed milk (44)	Hoes (14)
	Beer (44)	Gunny bags/hesian cloth (13)
	Tableware (43)	Corrugated cardboard boxes (13)
	Animal feeds (39)	Biscuits (13)
	Chalk (38)	Acetylene gas (12)
	Bricks and tiles (34)	Motor batteries (11)
	Wheat flour (27)	Sugar (5)
	Garments (26)	Coffee roasting (5)
	Cotton and rayon fabrics (20)	Paints (4)
	Cables/conductors (21)	Corrugated iron sheets (4)
		Cement (3)

Source: Compiled from MPED, Background to the Budget, 1989-1990, p 175

The table highlights the enormous rehabilitation needs of the manufacturing sector. It can be noted that most of the construction-related industries (paints, cement, corrugated iron sheets) essential for the reconstruction of Uganda's infrastructure, are operating only at minimal rates of capacity utilization.

3.3 Ownership

Uganda has a mixed economy in which the public sector currently dominates in terms of fixed assets, although more than 50 per cent of the manufacturing value added is supposedly created by numerous private small and medium-scale industries. During the 1960s, the country had a relatively strong private sector which continued to grow until the early seventies. In addition, the government-owned Uganda Development Corporation (UDC) which was established in 1952 to spearhead the promotion of development through public sector entrepreneurship, succeeded in establishing many subsidiaries and associated companies, a large proportion of which were in the manufacturing sector.

The expulsion in 1972 of the Asian business community resulted in a large number of establishments being transferred to public-sector management.

Today there are 116 public companies, about 60 of which are engaged in industrial activities. Some are under various ministries; others belong to the UDC. The Ministry of Industry is directly responsible for 45 parastatals. The Ministry of Agriculture owns one sugar mill, and several saw mills are under the aegis of the Ministry of Environment Protection.

The UDC currently runs 35 companies, 28 of which are operating. 31 of these companies are subsidiaries, with UDC holding the majority of shares, while four are associated companies with UDC having a minority participation. The list of companies includes six tea estates, one leather tannery, as well as the Grain Milling Corporation with four subsidiaries producing flour, animal feeds, and bakery products, a cement factory, and others.

The public ownership of enterprises has been a major constraint to industrial recovery and investment growth. A series of unresolved ownership questions, mostly relating to nationalized industries, has overshadowed the planning and management of major enterprises and further undermined their ability to raise funds. The managerial weakness of government enterprises has affected their creditworthiness. Domestic financial institutions are also reluctant to finance investments in enterprises whose future ownership appears uncertain.

In response, the government took positive action to resolve the ownership problems through the Expropriated Properties Act, 1982 which came into force in February 1983. As already noted in Chapter 1, this Act provides for the return of properties to former owners. Of the 172 enterprises that the government classified as "priority", the ownership of 69 had been settled by the end of 1985. The most important cases are listed below:

- Joint ventures between the Mehta Group (49 per cent) and the government (51 per cent) were established in the following companies: Sugar Corporation of Uganda (extensive sugar plantations and a new sugar factory in Ugwa Lugazi); Uganda Engineering Corporation (steel foundry and agricultural tool production); Cable Corporation (manufacture of electric cables); and Uganda Tea Corporation (tea plantations). The Mehta group takes care of management.

- The following companies were returned to the Madhvani Group: Steel Corporation of East Africa (49 per cent Madhvani ownership), Mulko Textiles Limited (84 per cent), Associated Match Company (75 per cent), Emco Oil Refinery (100 per cent), Madhvani Soap Industries (100 per cent), Mulbox Limited (100 per cent), East African Glass Works (100 per cent), East African Steel Products (100 per cent), Uganda Metal Industries (100 per cent), Miltyres Ltd. (100 per cent), and Emco Steel and Metal Corporation (100 per cent).

- Full ownership of their companies was returned to Lonrho Uganda Limited. These included: Consolidated Printers (printers of Uganda Times), Motor Mart Uganda (vehicle distribution), Express Uganda (road haulage, godowns), Uganda Chibuku (producer of low cost beer) and Printpak Limited (quality printer of cigarette packages).

- In addition to these large deals, 70 percent of the holding of British American Tobacco (BAT) was returned to BAT; Bata Shoe Limited got back 100 per cent ownership of its shoe company; and, finally, a joint-venture was established between Mitchell Cotts Limited (49 per cent) and the government (51 per cent) to operate that company's tea estates.

In spite of the progress made so far, many applications for repossession of expropriated companies and estates await decisions by government. Procedures tend to be slow although this remains an important precondition for attracting fresh foreign investment.

3.4 Geographical distribution

No recent detailed information is available with regard to the geographical distribution of industry. Based on the 1983 Directory of Industries, published by the Ministry of Planning and Economic Development, the majority of the enterprises (excluding agro-industries) are located in the Buganda region, particularly in Kampala (330 firms), Mpigi (69 firms), and Mukono (38 firms). In the eastern region, most industrial establishments are located in Jinja (65 firms), Mbale (47 firms), and Tororo (63 firms). In the northern region, Lira is the main industrial centre with about 14 firms.

The following map gives some information about the location of major industries.

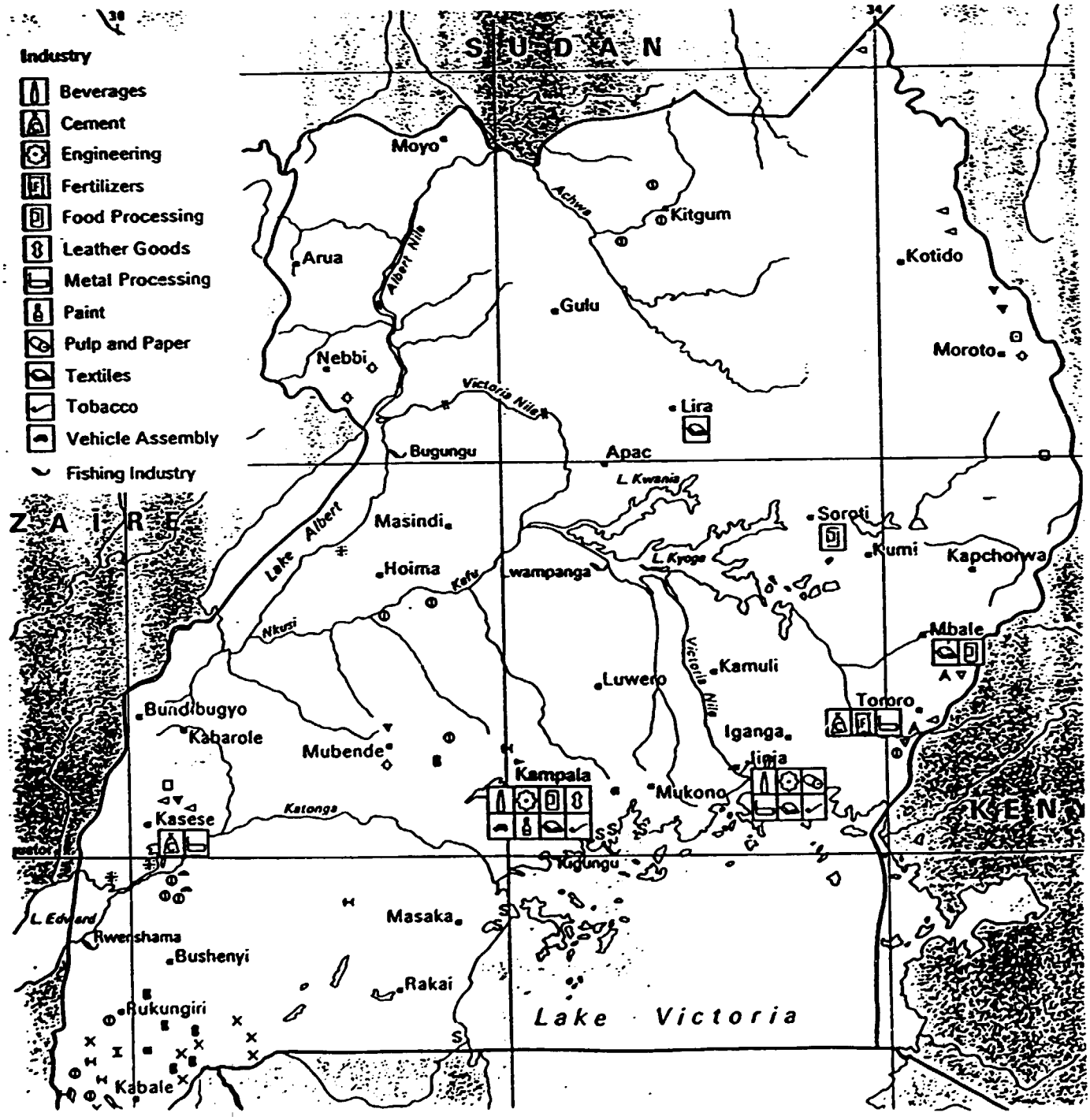
3.5 Institutional framework

Industrial policy and planning

Responsibility for planning and implementing industrial policy and strategy is shared between the Ministry of Planning and Economic Development (MPED), Finance (MOF), and Industry and Technology (MOIT).

MPED produces the national plan and sectoral plans. The Ministry of Finance is responsible for investment regulations and matters relating to investment promotion and protection such as taxation, tax holidays, and tariffs. MOIT is directly in charge of promoting industrial development.

Figure 3.4.1: Location of major industries



MOIT's Industry Division is responsible for investment promotion in the industrial sector and the supervision and control of parastatal and other industries. Its Planning Unit coordinates all matters relating to industrial development planning in liaison with MPED, of which its staff members are part, under a Common Cadre of Economists and Statisticians. The Department of Technology, which was created in 1986, coordinates the development and the utilization of local technological capacities, and the transfer and use of appropriate technology. The Uganda Development Corporation, which is semi-autonomous, is the investment arm of MOIT. It is free to enter into joint venture agreements with any local or foreign enterprises provided they are considered beneficial for Uganda. The Management Training and Advisory Centre looks after management training; it also offers advisory services to manufacturing units. Although the Centre is supposed to be self-financing, it is still highly dependent on subventions from the government.

Technological development

Like most other sub-saharan African countries, Uganda does not possess a significant indigenous scientific and technological base; it has been heavily dependent on external sources for technologies, designs, machinery, and equipment. Indications are that this situation will persist for some time. There is need therefore, to promote the development of an indigenous technological base.

The main government institution for science and technology (S & T) activities is the Uganda National Council for Science and Technology, whose mandate includes coordination of all S & T activities in the country. It is located in the Ministry of Planning and Economic Development.

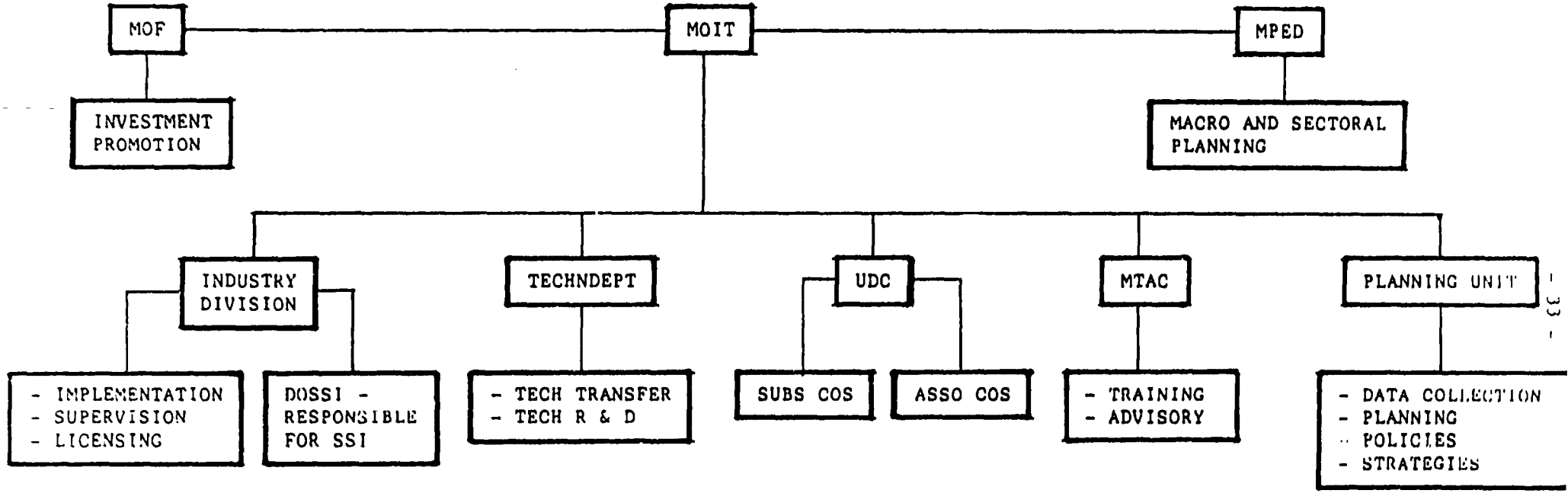
As far as industrial S & T is concerned, this has been the responsibility of the Department of Technology in the Ministry of Industry and Technology since 1986. Its two Divisions (Engineering and Science) are under the supervision of a Commissioner responsible to the Minister. The Department's mandate includes the provision of engineering and scientific inputs to industrial projects, and to advise the government on issues relating to S & T.

In terms of activity, the educational institutions are by far the dominant centres of S & T. At the apex is Makerere University; its Faculty of Technology, established in 1970, offers degrees in Civil, Electrical and Mechanical Engineering. It recently introduced degree courses in Architecture. Makerere also has a Faculty of Science with degree courses in Industrial Chemistry, and Food Science and Technology, among others.

Mbarara University of Science and Technology is in its first year of operation. It is to concentrate on Medicine and on technological courses, although it is currently offering courses only in Medicine.

At the intermediate and lower levels are the following institutions: Uganda Polytechnic, Kampala, which has Faculties of Technology and Science, producing National and Higher Diploma graduates; Uganda Technical College, with campuses at Kabale, Bushenyi, Tororo, and Arua; several technical institutes; and vocational training institutes which provide artisan-level training under the Ministry of Labour.

Figure 3.5.1: Institutional Framework for Industrial development



Key:

1. MOF - Ministry of Finance
2. MOIT - Ministry Industry and Technology
3. MPED - Ministry of Planning and Economic Development
4. TECHN DEPT - Department of Technology
5. UDC - Uganda Development
6. MTAC - Management Training and Advisory Centre
7. DOSSI - Department of Small Scale Industries
8. SUBS COS - Subsidiary Companies (UDC has majority share holding)
9. ASSO COS - Associated Companies (UDC has minority share holding)

There is no private sector S & T research in Uganda. As for the public sector, resources have tended to be concentrated in the agricultural area. In addition to five Agricultural Research Institutes, there are also the following: Veterinary Research Institute, Entebbe; Fisheries Research Institute, Jinja; Forestry Research Institute; Nakawa; and Trypanosomiasis Research Institute.

In terms of industrial research, there is little beyond what is carried out in the educational institutions. As such, there is limited opportunity for the development of new appropriate technologies, adaptation of imported technologies, substitution of local raw materials, and the evolution of a popular technological culture.

NGOs that are S & T-oriented but which require substantial strengthening to enable them to contribute significantly to national research output include: Uganda Institution of Professional Engineers; Uganda National Academy of Science and Technology; and the Institute of Food Science and Technology.

Several constraints have been identified as inhibiting S & T activities in Uganda. These include shortages of modern equipment and other resources for effective R & D; lack of motivation and incentives to researchers and R & D managers; limited opportunities for industrial attachment and training; and the persistent brain drain which is exacerbated by the depressed economic environment.

CHAPTER 4

OVERVIEW OF SELECTED PRIORITY INDUSTRIAL BRANCHES

4.1 The selection process

In its selection of priority industrial branches, the mission took into account the following considerations; first, the resource endowment of the country, and second, the priorities set out in the government's Rehabilitation and Development Plan. The Plan stresses the importance of rehabilitating existing industries especially those producing essential goods for local consumption and construction; achieving self-sufficiency in basic consumer goods; strengthening links between agriculture and industry; and broadening the industrial base by establishing new industries especially those which utilize local raw materials. The selection was also determined by the inherent importance of the sub-sectors. In terms of size, as measured by number of employees, Table 3.1.1 clearly shows that the foods, beverages and tobacco sub-sector (with over 28,000 employees) is the most important one in Uganda. Next comes textiles, clothing and footwear (10,314) followed, in order of importance, by wood and furniture (9,758), metal products (4,069), non-metallic mineral products (3,148), mining (2,918), and paper products (2,046).

When the index of industrial production is examined, the identification of important sub-sectors comes up with fairly similar results, although the classification of sub-sectors is not the same as when assessed in terms of size distribution. The most important sub-groups measured in terms of the index of production in 1988 (base 1987=100), are drinks and tobacco, and timber and paper (both around 140), followed by food processing (132), and textiles and clothing (122).

Finally, the selection was influenced by the fact that those chosen had not previously been the subject of detailed studies. Thus, some seemingly obvious sub-sectors were not considered; these included textiles, sugar, tea and coffee-processing, which had already been examined and assisted by various multilateral and bilateral agencies.

Each sub-sector was looked at in the context of identification of technical assistance needs, rather than in terms of producing an in-depth analysis of each of them, including their linkages both within and between individual sub-sectors.

4.2 Food processing industries

The food-processing industry is very diverse, but could be classified into those enterprises engaged in comparatively simple operations, processing primary inputs such as tea, coffee, grains, and animal feeds, and those engaged in more complex preserving including bottling, canning, and drying.

Uganda is typical of many developing countries, where food processing is dominated on the one hand by grain milling, coffee bean processing, tea processing, and animal feed production, (all, apart from tea, predominantly small scale operations) and, on the other hand, by soft drinks and beer.

Primary processing

Coffee is the most important crop in Uganda, accounting for over 96 per cent of export earnings in 1988, in the form of green coffee beans, which have undergone primary processing to remove berry and husk. Consideration has been given to processing the beans into instant coffee. However, there seems to be little potential for the manufacture of spray-dried instant coffee for export since there is already worldwide overproduction of this commodity. Moreover, in Europe, the main potential export market, there is a steady move to the high-quality freeze-dried products. It would be difficult for Uganda to enter this market since manufacturers need to blend beans, which have been subjected to specific roasting conditions, from several different countries in order to produce the required characteristics of the final product. Moreover, the process itself requires very high levels of technical input and management.

The tea processing industry, once a major exporter of a high quality product, declined to less than 0.1 per cent of all exports in 1980-1981. Since then, there has been a slow, but erratic improvement to around 0.4 per cent. With the general rehabilitation now underway, the export potential will be further increased. Three of the six factories owned by Agricultural Enterprises Ltd. (EAL), a subsidiary of UDC, have been rehabilitated; the associated estates are gradually being restored by bringing the tea bushes back to their original state. When all the rehabilitation has been completed, however, two major problems will remain; first, the lack of tea chests for packaging (currently plastic sacks are used, and any exported tea has to be re-packed in Mombasa), and second, the lack of labour to pluck tea. To solve the latter problem, technical plucking has been introduced by one producer of the crop in Uganda. However, this method can only produce medium to low-grade teas. Thus, any move to mechanical plucking in Uganda, would result in a significant decline in the otherwise high-quality product being produced in Uganda. It would lead to an even greater decline in the price at auction, and a corresponding reduction in export earnings and may only be used for the local market.

Although a large number of small-scale operators producing up to one ton per day contribute to the animal feeds and grain milling operations, the subsector is dominated by Uganda Grain Milling Company Ltd.(UGCL) a government subsidiary situated in Jinja. UGCL has four major operations; milling of imported wheat for flour, bread baking, maize milling, and animal feeds. All of the mills are undergoing extensive refurbishment by DANIDA, at an estimated overall cost of $ 5 mln. The feed mill rehabilitation is almost completed and will bring the annual capacity up to 60,000 tons. The mill will source 98 per cent of its requirements locally, with only 2 per cent being imported in the form of supplements and concentrates. The problem of expanding the chicken and egg production caused by the shortage of imported day-old chicks, and a predicted increase in dairy cattle population, will lead to a shift of emphasis from 90 per cent requirement for layers mash, to an approximate 50/50 split between it and dairy feed.

None of the seven remaining cotton-seed oil mills or the large oil factory is able to secure enough cotton seed, since cotton production declined and moved to the north of the country. Some sunflower and other seeds such as simsim are processed on a small-scale, and this diversification should be encouraged.

The lack of cotton-seed oil-processing may lead to deficiencies in oil-seed cake for the large, refurbished animal feeds plant. The oil-seed cake shortage may, however, be eased when the large oil mill planned for Kampala starts operations soon.

The rehabilitation of two of the major sugar estates has enabled production to recover from 800 tons in 1985 to over 6,000 tonnes in 1988. When ownership problems have been overcome, and rehabilitation of all estates and factories is completed under an ongoing aid programme, it is hoped that the peak production of 152,000 tonnes reached in 1968 will be restored.

Preservation processes

The bottling industry is dominated by two breweries and four soft drinks manufacturers situated in Jinja and Kampala, all of which use imported ingredients such as sugar, syrup concentrates, preservatives, malt, and bottles. A further soft drinks bottler situated in Masaka is unique in that it uses juice extracted from locally-grown pineapples and passion fruit. The bottling industry is one of the most efficient in Uganda with capacity utilization averaging 43.7 per cent for beer and 60.9 per for soft drinks, although the Masaka plant is well below these rates, with monthly utilization ranging from 10 to 55 per cent. Since Masaka Food Processors (situated in one of the main fruit growing areas) is the only factory processing locally-grown fruits, it is essential that it is enabled to continue production, but on a commercially viable basis, so that it can be used as a model and training ground for similar ventures in the future (Annex 2).

A small fish-smoking and drying plant has recently been installed at Masese, Jinja, using grant aid by the Italian government. Commissioning is soon to be completed, after which the unit, with a capacity for processing 10 tons of chilled fresh fish per day, plans to produce 10 tons of smoked fillets of tilapia and Nile perch, and split halves of smoked tilapia per week. The unit is supported by three fresh fish collection and chilling points and three distribution centres. It is the first such unit in Uganda, and could make a significant contribution to export earnings, provided markets are found especially overseas.

There is no can-making and allied canning industry in Uganda at present and its establishment is of doubtful economic viability unless supported by a very large multinational operation. Domestic demand for canned products is bound to be low in Uganda because of low incomes and a preponderantly-rural population, where fresh fruit and vegetables are available year-round. Export markets may be difficult to find. Even in neighbouring Tanzania, where there is a well-established can making factory and five canning factories, there is very little exportation of canned products. The industry there has been the subject of a CFTC marketing study in which the only product identified for possible exportation to Europe was canned pineapple rings and then only if three factories combined their output to produce container loads of economic size.

It might be feasible for Uganda to use imported lay-flat or completed cans and ends from Kenya or Tanzania to enable it to make processed canned foods on a small scale to replace some of the canned foods presently being imported from Kenya. However, if embarking on such an import-substitution path, great care must be taken to ensure that the venture will be commercially viable, and that the foreign exchange saved will be more than that for the purchase of equipment and other inputs and saving of any loans.

A better option would be the use of locally-made glass jars as containers for locally-processsed foods, when the glass container factory has been rebuilt.

There is a large meat processing factory at Soroti, in the centre of the country, which has been idle for many years. A feasibility study on its refurbishment has been authorized by the government, to be carried out by private consultants soon.

Problems and prospects

There are a number of major problems facing all food processors. They include: the severe shortage of foreign exchange, especially for the purchase of essential spares and ingredients; the lack of locally-produced packaging materials; a critical shortage of industrially-trained and experienced managers, technologists, and engineers of all disciplines and grades; and a lack of quality-control facilities and mandatory standards. One factory is also carrying a heavy dollar- based debt burden which will have to be resolved as soon as possible. Some processors have problems with the supply of raw materials because, in the past, a lack of working capital prevented them from paying farmers promptly. A forward buying or contract crop system would overcome this type of problem.

As regards exports, the only likely ones in prospect in the near future are: tea, provided good quality is attained; coffee; and possibly processed and smoked fish when markets have been identified. Prospects for instant coffee and canned goods have already been queried. In the longer term, if the problems and constraints are overcome, consideration should be given to the following: the conversion of locally-grown fruits to aseptically-packed products, juice concentrates, and dried products; extracts of essential oils and oleo-resins from herbs, and spices; and fish-oil extraction. However, the size of the task must not be under- estimated. For example, a factory designed to process fruit concentrates for export on a commercial basis should have a minimum input of 5 tons of fruit per hour, working on a three shift basis, for 260 days per year. To service this factory, over 31,000 tons of fresh fruit would be required per annum, almost twice the total output of the districts of Mpigi, Masaka, and Rakai combined. (Table 4.1.1).

Table 4.1.1: Estimates of fruit production in adjacent districts of Mpigi, Masaka, and Rakai, 1988

District	Pineapple	Mango	Papaya	Passion fruit	
Mpigi	4,500	800	1,000	700	
Masaka	5,250	600	800	280	
Rakai	1,500	1,500	400	140	
Total	11,250	2,900	2,200	1,120	17,470

Source: UNDP/FAO/UGA/87/003

4.3 Wood and paper-processing industries

Although both industries depend upon trees as the primary raw material, their position in Uganda is very different, since the wood-processing industry sources its main raw materials locally while the paper industry relies entirely on imported pulp or reels of paper because there is no local paper mill in Uganda.

Both industries can contribute directly and indirectly to exports, and are important sources of packaging materials such as crates, boxes, cartons, wrappers, labels, and stationery for local industries.

Wood processing

There are two commercial saw-mills in Uganda, one of which also has a fully-integrated factory in Jinja. Using locally-felled hard and soft woods, and imported glue, hardener, and vehicle fuels, the integrated factory in Jinja can produce plain sawn planks, and high added value plywood, blockboard, flush doors, and furniture. Since the factory can produce plywood for tea chests and timber for crates, and other processed timber products with high added value for direct export, the export of squared logs and rough sawn planks should be phased out as soon as possible.

Before 1987, and the appointment of a new General Manager, no reliable statistics were kept by this factory. Since then, capacity utilization has been raised from less than 10 per cent to around 40 per cent. Production for 1988 was 7.5 million cubic metres of logs, 2 million cubic metres of sawn hardwood, 1.2 million cubic metres of plywood and multilayers, 4,000 flush doors, and 200 sheets of blockboard.

Problems and prospects

The major problems faced by the wood-processing industry are the severe shortage of foreign exchange, especially for the purchase of machinery, vehicles, and spares, and a critical shortage of industrially-trained managers and engineers. At the time of the visit to Kiira Saw Mills factory in Jinja, the saw mill was not working because a lack of serviceable logging equipment had caused all hardwood felling to cease. Only a limited amount of plywood was being processed. If these conditions persist, capacity utilization will rapidly fall back to the 10-20 per cent level of the mid 1980s. The factory is also carrying a large debt burden. Sawdust and chippings go for waste or are burnt. They could be employed to make chipboard for local use and export, if suitable equipment was acquired.

Despite all the difficulties, the company showed an operating profit of over USh 22 mln in 1988, and started servicing some of its debt in December of that year. If the second rehabilitation phase can be implemented promptly, a capacity utilization rate of 80 per cent is predicted within two years and a significant amount of foreign exchange will be earned.

Paper processing

There are eight registered paper processors in Uganda. The four biggest ones are located in Jinja.

Papco Industries Ltd, converts imported pulp and chemicals into a selection of papers ranging from writing to wrapping paper. It can produce five tons of paper per day (50 per cent capacity utilization on the one serviceable machine) but output was only 5.8 per cent in 1986. There was no production at all in 1987.

Printpak Uganda Ltd. produces cartons, boxes, bags, and general printed items from imported chipboard, kraft, and plain paper. Sustainable capacity is 800 tons per annum with recent output ranging from 20 to 40 per cent of this figure. It serves the key industries of cigarettes, beer, footwear, detergents, and educational stationery.

Associated Paper Industries Ltd. produces large multi-ply sacks of 10-50 kg capacity, and is vital for the cement, sugar, and food processing industries. It has an installed capacity of 12 million bags per year. Recently the factory has operated at only 8 per cent of its capacity.

Mulbox Ltd. produces corrugated board and associated printed cartons, which are required for a range of industries, notably fruit and vegetable exporting. The factory has an installed capacity of 7 million square metres per annum, but the sustainable capacity for finished cartons is 50 per cent of this figure due to the limiting capacity of the stitching machines. It uses imported kraft liner,fluting medium, adhesive, and stitching wire. During the last four years, the capacity utilization has averaged only 3 per cent. The plant will be out of production this year from October until February, ostensibly because of failure to receive a foreign exchange allocation to import the raw materials. Operating at full capacity it was claimed that it is able to supply four times Uganda's current needs. This would mean that it could therefore be a net exporter of converted, imported paper.

A licence has been granted to a soap factory in Kampala to import paper processing equipment and kraft paper to enable it to make corrugated cartons for its own products.

Problems and prospects

Since there is more than adequate capacity in all areas it is difficult to justify new licences being granted to import new machinery especially since they would need to be supported by the same raw materials. The other problem relates to the delay in resolving some ownership issues.

If foreign exchange were available to obtain necessary inputs, all local demand would be met and the wasteful use of foreign exchange to import much more expensive finished bags, cartons, and boxes would no longer be necessary.

4.4 Metallurgical and engineering industries

Metallurgical and engineering industries may be disaggregated into:

- basic metallurgical industries consisting of processors and producers of primary engineering products, and including ferrous and non-ferrous industries such as steel, aluminium, copper, and so on.

- engineering industries which are generally involved in transformation of basic metallurgical products into downstream consumer hardware and capital goods. Included in this group are foundries, forge-shops, and various metalworking and fabrication enterprises.

The metallurgical and engineering industries are acknowledged to constitute an indispensable element in modern industrialization since the operations of other industrial subsectors are so dependent on engineered products. This subsector has vital linkages to mining, energy, transportation, agriculture, construction, and so on. Its status is often an indication of the current and future direction of the economy. As such, its planning and development should not be carried out separately from other industries, and its rehabilitation should be seen as a prerequisite to the resuscitation of the other linked industries and sectors.

4.4.1 The basic metallurgical industries

Iron and steel

Uganda's basic iron and steel industry consists of two mini- steel plants, - East African Steel Corporation (EASCO) and Steel Rolling Mills Ltd. Both are located in Jinja. Whereas the former is a joint venture between Uganda Development Corporation and Madhvani International, with 51 per cent and 49 per cent shares respectively, the latter is a private enterprise owned by the Alam family.

EASCO, with an installed steelmaking capacity of 22,000 tons per year, is currently undergoing rehabilitation to boost its capacity. Steel Rolling Mills, on the other hand, was commissioned in early 1988 as a rolling mill. It has, however, now embarked on the installation of a 15/17 ton capacity electric arc furnace (to be followed in due course by a continuous casting facility) aimed at making it independent of Zimbabwe from where, up to now, it has been importing its billet requirements. Upon commissioning, its crude steel production capacity would be about 25,000 tons per year.

Because of obsolete facilities, non-availability of essential raw materials and supplies, and deficiency of technical and management expertise, the capacity utilization of the basic steel industry averaged only about 6 per cent over the 1982 to 1988 period. This performance record is expected to improve from about 1991, following the full rehabilitation of EASCO and commissioning of the steelmaking facilities of Steel Rolling Mills.

The primary raw material for the basic steel industry is ferrous scrap which is currently available from domestic sources. In the long-term, however, a scrap deficit is foreseen since the available quantity is projected to last, at realistic consumption rates, for only six to ten years. Accordingly, local substitutes for scrap must be sought as Uganda may be able to afford importation from external sources. It is for this reason that serious consideration should be given to the UNIDO-initiated proposal establishing a sponge iron plant based on local iron ore and imported coal from one of the PTA member-states.

Of the other raw and operating materials, only limestone is supplied from local sources. Other items such as ferro-alloys, graphite electrodes, and dolomite refractories are imported.

Both EASCO and Steel Rolling Mills produce mainly long products, bars, rods and sections, which are largely consumed by the construction and light engineering industries. There is no domestic production of flat products such as sheets, strips and plates. Accordingly, flat products on which most metalworking industries depend, are imported.

Non-ferrous metallurgical industries

There is currently no domestic production of non-ferrous metals. In the past, however, copper, tungsten, tin, columbite/tantalite, beryl, and gold had been important sources of foreign exchange earnings.

At its peak production level in 1969, the Kilembe copper mine, which began operations in 1956, had produced over 16,500 long tonnes of blister copper which earned the country over US$ 27 mln. The mine and the associated smelter at Jinja stopped production in 1979 due to lack of spare parts with which to maintain operations. The mine is currently on a care-and-maintenance status pending its rehabilitation. There are also plans to reprocess the cobaltiferrous pyrites stockpile at the mine for the purpose of winning the contained cobalt. In this connection, the French Bureau of Mineral Research and Geology has proposed a process that would recover 1,400 tons of cobalt, 200 tons of nickel, and 400 tons of copper per annum.

Tungsten production from Bjordal and Kirwa mines was terminated in 1983 and 1979 respectively due to equipment-related problems. There are no immediate plans for reviving operations.

The production of tin, columbite/tantalite, beryl (of which Uganda had accounted for up to 20 per cent of the world's production in the 1960s), and gold had traditionally been in the hands of small-scale mines. Current production levels are, however, insignificant.

Prospects, problems and constraints of the basic metallurgical industries

Prior to the political and economic disruptions that began in the early 1970s, Uganda's basic metallurgical industries played a very important role at both the national and regional levels. In fact, the steel industry had promising prospects of exporting its products to other countries in East and Central Africa. Although export prospects are now no longer as promising, there is every reason to expect that the local engineering and construction subsectors, when fully rehabilitated, will provide a good outlet for the revitalized steel industry. Prospects for the copper and other non-ferrous metals may not be as good in the short to medium term, particularly in view of the unattractive prices foreseen for primary metals on the international market.

Regarding the problems and constraints affecting the subsector, these fall under the headings of technical; raw and operating materials; infrastructure, management and manpower; and import dependence.

The technical problems derive from the preponderance of obsolete machinery and equipment, arising in part from long neglect and non-maintenance. In certain cases, spare parts for some equipment are no

longer manufactured by the original suppliers. For some plants, the technical problems arise from the purchase of what are suspected to have been second-hand equipment. Also included as a technical constraint is the dearth of local research facilities. This inhibits the adaptation of imported technologies to the local environment as well as substitution of local materials.

The non-availability of many critical raw and operating materials is another constraint inhibiting the performance of the subsector. While scrap for the steel industry may, for now, be locally available, the long-term supply picture is problematic and efforts should be geared towards finding a local substitute. As for other operating supplies for this and other metallurgical industries, (for example, electrodes, chemicals, refractories, and so on) they are unlikely to be locally produced in the short to medium-term. Thus this may constitute a more long-term constraint.

Inadequate and run-down infrastructure is a problem for the entire economy. The absence of a good road network and a well maintained rail system frustrates the distribution and delivery of industrial materials and output. Moreover, the power transmission and distribution network is in need of rehabilitation. Its present condition and performance adversely affect machinery and equipment and inhibit production and improved productivity.

Like many Sub-Saharan African countries, Uganda is deficient in high-level management and technically-skilled manpower. Technical graduates of third-level institutions are inadequately equipped to perform in an industrial setting and opportunities for upgrading managerial and technical skills at all levels are severely restricted. Large injections of financial and technical assistance are necessary for the development of these essential skills.

Finally, Uganda's heavy import-dependence, causes serious under-utilization of installed industrial capacity and restricts the market for locally-manufactured products which are produced at high cost.

4.4.2 The engineering industries

Included in this sub-group are the producers of a wide range of products including simple agricultural machinery, tools and implements, fabricated sheet metal products, simple transportation equipment such as trailers and vehicle bodies, and spare parts. It is estimated that there are between 600 and 700 such workshops in Uganda, about 300 of which are concentrated in the Kampala area.

Foundries

There are 29 foundries in Uganda, as shown in Table 4.4.1, producing cast iron and non-ferrous (i.e. aluminium, brass, bronze and copper) castings. There is no production of steel or alloy castings.

Table 4.4.3: List of operating foundries in Uganda

Uganda Engineering Corporation Ltd., Lugazi
Nytil Textiles Ltd., Jinja
Busoga Growers' Cooperative, Jinja
Prison Workshop, Jinja
Kakira Madhvani Group, Kakira
Wilco T. Foundry, Mbale
Iganga Shalim Foundry, Iganga
Uganda Rayon Textiles, Kawempe
West Mengo Growers' Cooperative, Bwaise
East Mengo Growers' Cooperative, Natete
John Lugendo and Company, Ndeba
Lakeside Foundry, Kibuye
Notay Engineering, Kampala
Kibira Road Foundry, Kampala
Semwanga Kampala Foundry, Kampala
G. K. Patel Foundry, Kampala
Young Engineering Foundry, Kampala
City Foundry Workshop, Kampala
Uganda Foundry
Tropical Engineering Company, Kampala
Katwe Modern Foundry, Katwe
Ministry of Works Workshop, Kampala
Uganda Railways Workshop, Kampala
Madhvani Central Workshop, Kampala
Kawempe Modern Foundry, Kawempe
Tamuna General Engineering Company, Kampala
Kyambogo Technical Foundry
Katwe Express Foundry, Katwe
Owiko Sawmill, Jinja

Prior to the 1970s, Uganda had developed an enviable reputation in the foundry industry, to the extent that it was exporting castings to some of the neighbouring countries. However, its present aggregate capacity utilization of less than 10 per cent is the result of several constraints and problems, including:

- scarcity of raw and auxiliary materials;
- lack of R & D expertise and facilities;
- inadequacy of relevant training institutions;
- obsolete machinery and equipment;
- lack of maintenance and repair; and
- inadequate working capital.

As regards raw and auxiliary materials, the prospects are good since as much as 95 per cent of them could be sourced locally, provided appropriate R & D are directed to this objective. Materials such as moulding and core sand, ferrous and non-ferrous scrap, and timber, are potentially available.

Metal fabrication industries

With the exception of a few large-scale diversified workshops such as Ugma Engineering Corporation Limited, Casements (Africa) Limited, Chillington Tool Company (Uganda) Limited, and Notay Engineering Works Limited, most fabrication workshops are small-scale, employing between 2 and 15 persons. There is a concentration of these workshops around the major urban centres of Kampala, Jinja, and Mbale.

Aggregate capacity utilization since 1982 has generally not exceeded about 20 per cent as a consequence of several constraints such as:

- a persistent shortage of foreign exchange which, in turn, limits ability to import essential raw materials, spare parts, supplies and consumables such as flat steel, paint, furnace oil and packaging wire;
- competition from cheaper imports (for example, hoes from China);
- a severe shortage of engineering design and R and D expertise and facilities;
- lack of quality control and testing facilities, as well as enforcable standards for engineering products;
- obsolete and difficult-to-maintain equipment some of which had been long neglected or abandoned altogether; and
- a deficiency of technical skills at all levels.

4.5 Industrial and non-metallic mineral-based industries

Included in this category are such construction materials as cement, clay products (for example, bricks, tiles and ceramic products), and lime, as well as such essentially chemical industries as phosphate fertilizers, flat and container glass, and salt. Since all the necessary raw materials occur abundantly in Uganda, it is feasible to achieve self-sufficiency in these products in the near future. Furthermore, most of the construction-materials industries (except cement) are amenable to small-scale operation, and the relevant technologies are not generally sophisticated. They enjoy a high degree of local value-added. Additionally, because of the heavy bulk of the inputs, these industries are best sited near the sources of raw materials in order to minimize raw material transportation costs.

A comment should be made here regarding the environmental pollution problems generally associated with most mineral-based industries. All the industries to be discussed here - cement, clay products, lime, phosphate fertilizer, glass and salt - are potential sources of heavy air and water pollution. Extraction of the requisite raw materials would also entail major physical and environmental degradation as well as water pollution. It is therefore imperative that adequate precautions should be taken to minimize the adverse environmental effects of these projects. In fact, an environmental impact assessment should be required as a precondition for project implementation in each case.

4.5.1 Construction materials

Cement

Uganda's cement plants are located at Tororo and Hima respectively, with a combined production capacity of 479,000 tons per annum although actual capacity utilization averaged only 3.7 per cent between 1982 and 1988. Studies have recently been undertaken into the rehabilitation needs of both plants. The rehabilitation of the Hima plant is favoured on economic grounds and funds for this purpose have reportedly been mobilized.

Clay products (bricks, tiles, and ceramic products)

In numerical terms, small-scale enterprises tend to dominate in this subgroup, although such large-scale plants as Kajansi Clay Works (producing bricks and tiles), Kisubi Brothers (bricks), and African Ceramics Company Ltd. (dinnerware) are also in this branch.

Complete data are not available, but the following figures, compiled by the Ministry of Industry and Technology for six districts, suggest that the size and pattern of distribution of the operations is as follows:

	Ceramic Products		Structural Clay Products	
District	No. of Plants	No. of Employees	No. of Plants	No. of Employees
Kabarole	13	41	50	451
Kampala	n.a.	n.a.	6	50
Masaka	n.a.	n.a.	26	233
Mbarara	2	150	37	1,040
Mukono	n.a.	n.a.	6	52
Rukungiri	2		32	481

Lime

This product is consumed not only by the construction industry, but also in agriculture and the sugar, leather, paper, and paint industries. Total annual demand is estimated at about 70,000 tons, most of which is currently imported. Most of the domestic producing plants (except Uganda Cement Industry, Tororo) are located in the area around Kasese, and the average producer has a daily output of only one ton.

Because of the importance of lime (particularly in road construction), coupled with the abundant occurrence of limestone, UNIDO has recently sponsored a study (Project XP/UGA/88/050/11- 01/J.13419) aimed at developing a design for a more efficient small-scale lime-burning kiln that would yield a high-quality product superior to the output of the crude technologies currently employed. However, following a survey of the needs of small-scale processors (by the Geological Survey and Mines Department of the Ministry of Water and Mineral Development), there are indications that the proposed improved design may not be within the financial reach of individual small-scale processors. Furthermore, the recommended use of heavy fuel oil as a source of energy is also a cause for considerable concern.

4.5.2 Chemical industries

Phosphate fertilizer

Plans are under way to rehabilitate the fertilizer operations of Tororo Industrial Chemicals and Fertilizers Limited (TICAF) in the Sukulu Hills area. This company started production of single-superphosphate (SSP) fertilizer in 1964. The production capacity of the plant was 6,000 tons/year P_2O_5 as bagged granular SSP. However, operations were discontinued in 1978 and the plant is now in a very advanced state of disrepair.

The proposed resuscitation (at a total cost of over $ 119 mln at 1989 prices) will involve phosphate rock mining and beneficiation, sulphuric acid manufacture, and production of triple-superphosphate (TSP) fertilizer for marketing both in Uganda and in the other East African countries. For this reason, the project is proposed for implementation as a PTA regional project.

Glass

Despite abundant deposits of most of the essential raw materials (glass sands, limestone, and feldspar), Uganda still imports its entire requirements of flat and container glass at enormous cost in foreign exchange.

Studies have recently been completed under UNIDO sponsorship (Project XP/UGA/88/006) for a container glass and flatware project rated at 9,300 tons of product per year, with an initial fixed investment of $ 24.3 mln.

Salt

A salt extraction project using Lake Katwe brine had been commissioned in 1980. It operated briefly before production ceased apparently due to intractable corrosion problems. The intention was to produce 50,000 tons of common salt and 8,000 tons of potassium chloride per year. A contract for the project's rehabilitation and reconstruction had been signed in 1986, but progress is being hampered by financing problems. It is expected that these will be overcome, permitting commencement of the project before the end of the 1988/1989-1991/1992 Rehabilitation and Development Plan period.

4.6 Priority activities supporting the industrial sector

4.6.1 The Uganda National Bureau of Standards

An Act of June 1983 established the National Bureau of Standards. It remained dormant for nearly six years, until the first Executive Director was appointed and took up office in February 1989. Between June and September 1989, the Bureau received four consultants (three from ARSO and one from PTA) working on the status and development of the Bureau, and recommendations for future strategies and activities.

The Director is now located temporarily in an office within the Ministry of Commerce until more suitable accommodation has been completed. She is supported by a Standards Officer for Metrology, a secretary, messenger, and driver, and rudimentary office equipment. The FAO/WHO Codex Alimentarius Commission and African Regional Standardization Organization have donated some International Codes of Practice and Information on Basic Standards.

With the economy now expanding, it is important that a fully functional Bureau be established as soon as possible staffed by well-motivated, well-qualified and highly-trained personnel of great integrity. It should be served by a good reference library, technical facilities, and administration. The main functions will be to oversee the imposition of realistic mandatory standards, which should be tightened as conditions improve; to act as a quality control advisory and monitoring facility; to carry out laboratory analyses; and to give advice on a consultative basis. A programme of certification should be introduced gradually, concentrating on exportable goods. The Bureau should also be a centre of excellence for training of technologists and quality control personnel from all industries.

A well organized, fully equipped Bureau will have a major part to play in improving manufacturing standards and product quality in Uganda, and the monitoring of imported manufactured goods.

4.6.2 Cold stores and godowns

Facilities for dry storage (godowns), as well as cool and cold storage are deficient throughout Uganda. There are no cooling houses and associated facilities at producer or trader levels, or at the airport.

The new fish-processing factory at Jinja has its own factory cold-storage facilities, supported by cool stores at three collection points. Entebbe Airport has a small cold store, which needs to be modernized and expanded to include an associated cool store. The processing factory at Masaka has no cool stores for incoming fresh fruit.

At present levels of trading, the deficiency in appropriate storage conditions is not a major constraint. However, any increase in horticultural and fish-based exports will need a whole range of investments, including godowns for grain and pulses, field cool houses for fresh produce, and cold stores.

4.6.3 Packaging

There is an acute shortage of packaging materials of all types, especially those suitable for export. With the exception of timber, all raw materials and most finished packaging material are imported. Crown caps for beer and soft drinks bottles are currently made in Uganda, and bottles will also be made locally when the glass factory has been recommissioned. The current importation of large numbers of finished cardboard cartons, multi-ply paper sacks and paper bags would not be necessary if foreign exchange was made available to enable factories in good working order, already existing in Jinja, to import the necessary papers, glue, and stapling wire. The manufacture of pallets, crates, and boxes by the timber factory in Jinja would be made possible if the necessary rehabilitation was effected. The production of blow-moulded and extruded plastic bottles and caps from imported granules will continue to play an important role in the packaging chain.

As the output of fresh produce and manufactured goods continues to grow, so will the need increase for a wider range of suitable, higher quality packaging materials. The need for improved or alternative techniques to be made available from local manufacturers to supplement imports should be reviewed regularly.

CHAPTER 5

FINDINGS AND RECOMMENDATIONS

This Chapter presents the main findings and recommendations which emerged at the various levels - national, sectoral, and branch level and under various issue headings.

5.1 National level

A number of issues emerged as important at the national level. They include industrial strategy, comparative advantage, investment promotion, export promotion, and ownership of property, as well as general macroeconomic issues such as foreign exchange, and import regulations, taxation, interest rates, and credit.

5.1.1 Industrial strategy and policy

Findings: There is no comprehensive statement on industrial policy in Uganda and investment regulations are subject to uncertainty.

Recommendations: Government could be advised to produce a comprehensive policy statement on industrial strategy for the medium term. It is recommended that a seminar on Industrial Strategy and Policy be held after the new Investment Code has been adopted. It would be attended by national policy makers, business people, bankers, representatives from multilateral and bilateral agencies, and national and international experts. Background papers on the industrial policy and macro economic issues which impact on the industrial sector would be presented. The seminar would make a significant contribution to the design of the proposed industrial master plan.

5.1.2 Investment promotion

Findings: New investment, especially DFI, is slow to materialize in all sectors. While it is acknowledged that the adoption of the new Investment Code will improve the investment climate, further initiatives are necessary in order to generate investment.

Recommendations: The UNIDO Mission supports the establishment of a strong Investment Authority as a "one-stop" agency to operationalize the Investment Code and attract investment, including foreign investment to the industrial sector. Joint ventures in the private sector would be especially beneficial. It is recommended that an Investment Forum be organized with UNIDO support.

5.1.3 Export Promotion

Findings: Given the strong emphasis on promotion of non-traditional exports in Uganda, an efficient export-promotion agency is vital. An Export Promotion Council, under the Ministry of Commerce, was established under Act of Parliament in 1983. Civil servants dominate the 15-member Council which has only two representatives from the manufacturing sector. Although it appears to be doing a good job within the constraints of a small staff and budget, and

although it is already receiving technical assistance from a number of sources, its resources, financial and professional, need to be increased.

Recommendations: It can be recommended that the membership of the Council be restructured so as to increase representation from producers and exporters and allow the private sector to take on a more active role in export promotion. The Council needs to be strengthened, its autonomy increased, its resources augmented, and its professional staff expanded and trained in the various export-promotion skills. The European Community, which already assists export promotion activities in Zimbabwe, could be approached to provide assistance.

5.1.4 Access to information

Findings: Access to knowledge on technical and economic issues (plant design, machinery supply, effective management methods, export marketing, potential joint venture partners) is difficult for many companies to obtain, especially outside Kampala.

Although the production of statistics by the Statistics Department of MPED has improved, data on investment, and foreign trade is poorly developed and appears very late.

Recommendations: The documentation centre at the MOIT established under a UNIDO project should be maintained and expanded. Its outreach facilities to other districts should be strengthened and possibly be combined with the continuing efforts to establish regional centres for SSI promotion. In particular, efforts to improve the timeliness and coverage of foreign trade statistics should be vigorously pursued.

5.1.5 Macroeconomic policies

Foreign exchange

Findings: The shortage of foreign exchange is creating enormous difficulties for all sectors of the economy, inhibiting the importation of necessary raw materials and spare parts. Two schemes, the open general licencing (OGL) and the special import programme (SIP), are in operation to facilitate producers' access to foreign exchange (Section 1.7).

Recommendations: It can be recommended to continue the expansion of the OGL system. Selection of subsectors and/or firms eligible to the OGL should be based on the clearly defined cirteria to ensure that priority is accorded to industries generating the highest value-added.

Taxation

Findings: Uganda's tax base is very narrow - being too dependent on coffee taxes, the tax collection process has a number of deficiencies, and the yield from existing taxes needs to be increased.

Recommendations: The overhaul of taxation policies currently underway in the context of the economic restructuring programme should be followed by strengthening the general administration of the tax system.

Credit

Findings: The government and the coffee sector have been crowding out the rest of the economy from access to credit.

Recommendations: In order to improve the availability of credit to the private sector, the government should intensify its efforts to bring order to the public finances, in particular to lower the current budget deficit and thereby reduce its borrowings from the banking system. It should also avoid new claims building up against it in the coffee sector (Section 1.7).

5.2 Resources

Under this heading are discussed findings and recommendations relating to agriculatural, mineral and energy resources as well as human resources.

5.2.1 Agricultural resources

Findings: Uganda is a country with a rich resource base for the production of a large variety of food and cash crops. The country is still largely self-sufficient in food. Unfortunately, overdependence on coffee export earnings (95 per cent of all exports) coincides with a drastic decline in world prices. Although measures are underway to rehabilitate the other once important cash crops (cotton, sugar, tea), it will take some time to reach previous production levels and thus to make better use of processing facilities. Production is hampered by the lack of appropriate inputs for the farmers (seeds, fertilizers, pesticides, technical know-how), low yields from scattered and small farms, and transport and crop financing bottlenecks. The livestock and fisheries sub-sectors show similar problems although it has to be noted that, as in agriculture, in many instances development and rehabilitation projects are underway to improve the situation.

Recommendations: The government should continue to pursue its programme of diversifying agriculture from a narrow range of traditional export crops to increase both food production and the supply of raw materials to processing industries. This programme includes: raising agricultural productivity, increasing price incentives to the farmers, providing the necessary inputs and crop financing, expanding the network of rural roads, and improving energy and water supply. In order to develop linkages to industry, resources should be focused on selected projects or sub-sectors. A survey followed by an analytical study on this subject would be helpful in identifying comparative advantages.

5.2.2 Mineral resources

Findings: The relative contribution of the mineral subsector to economic production has declined substantially over the last 20 years. The metallic minerals are either unexploited (for example, iron ore) or are facing depressed world prices (copper). However, there are large reserves of many non-metallic and industrial minerals which could constitute the raw material base for many important industrial projects. Such minerals include limestone, marble, phosphate-rock, glass sands, and clays.

Recommendations: Since the extent and characteristics of many of the industrial minerals are not accurately known, a country-wide exploration programme should be initiated in order to quantify and characterize all mineral resources. Furthermore, emphasis should be placed on implementing new industrial projects that exploit these local resources, as such projects hold the best promise for conferring self-sufficiency in many high-volume industrial products such as lime, clay products and salt. What is more, such projects are amenable to small-scale implementation and can promote rural industrialization. Given the risks involved in large-scale mining projects, for example, copper, considerable attention should be paid to market studies and to the infrastructural requirements to ensure that any investments would be economically justified.

5.2.3 Energy resources

The most important energy source is hydro-electricity, of which the national generating potential is over 2,800-MW. Current installed capacity is only 150-MW, most of which is derived from the Owen Falls station in Jinja. For most other energy forms (except fuelwood), Uganda depends on imports.

Measures are currently underway to expand and renovate the Owen Falls station and the transmission and distribution network in order to overcome the incessant power fluctuations and interruptions which curtail production and imply high foreign exchange costs for importing and running diesel standby generators.

Recommendations: It is important that the necessary resources should be mobilized to exploit the vast hydro-resources, particularly in view of the increasing electricity demand forecast for both rural and urban areas. Although after completion of the ongoing rehabilitation programme, power supply will be sufficient in the short to medium term, the long gestation periods of hydro-power projects call for early planning of further projects.

Attention should also be given to the exploitation of non- conventional energy resources such as geothermal (of which there are significant known resources), solar energy, biomass, and biogas. This would assist in combating the current over- exploitation of forests as a source of household energy.

5.2.4 Human resources

Findings: The turmoil of 1971-1986 period adversely affected the development of human resources in Uganda. Although the country has had comparatively strong educational and training institutions, there is currently a shortage of well-qualified and trained personnel in many areas, especially management and technical expertise, and skilled labour.

Recommendations: As there is a particular shortage of managerial and technical skills, the relevant departments of the University, the technical and business schools, as well as the country's specialized management training institute, the MTAC, should receive priority attention. The policy of gradually reactivating and expanding the vocational training institutes and centres should likewise be continued. Given the government's budget constraints, further foreign assistance, both for selected teaching staff and equipment, as well as for specialized fellowships abroad will be needed.

5.2.5 Technological resources

Findings: Although there is a promising institutional infrastructure for science and technology (S & T) activities, its effectiveness in developing an indigenous technological base is not evident. Most research and development (R & D) is focused on the agricultural sector, with little or no attention to the industrial and other sectors. Accordingly, the basis for technology acquisition, absorption, adaptation, and development is weak.

Recommendations: If sustainable industrial development is to be achieved, it should be anchored, to the maximum extent possible, on indigenous scientific and technological know-how. Accordingly, a specific proportion of Uganda's annual budget could be earmarked for S & T activities. To stimulate private sector industrial research, a package of tax and other incentives should be designed and implemented. There is also the need to strengthen the S & T curricula and facilities of third-level educational institutions particularly in those subjects that are most relevant to the industrial sector, such as engineering, the sciences, and management (including marketing and accountancy).

A policy on technology transfer could be formulated to ensure that only those technologies that are responsive to national needs are imported.

5.3 Manufacturing industry

In addition to the issues discussed under 5.1 and 5.2 above, the following are considered to be of particular importance to the manufacturing sector.

5.3.1 Investment

Findings: Domestic investment in industry has so far been picking up only slowly. The government lacks resources, most of the parastatals are running at a loss, and the private sector prefers to engage in trading and speculation rather than production where the returns are riskier and more long-term.

Direct foreign investment has not been forthcoming in recent years, and aid agencies concentrate on agriculture, infrastructure, and social services.

Recommendations: The most important thing is to improve the investment climate in order to increase the confidence of potential private investors. Given the greatly improved security situation and political stability, efforts should now be concentrated on macro-economic policies, settlement of the ownership question, divestiture and rehabilitation of the public sector, and the finalization of the investment code (Section 5.1).

5.3.2 Small scale industries (SSI)

Findings: SSIs tend to adjust better to difficult environments. They also tend to have higher average rates of capacity utilization as well as lower capital output and capital labour ratios than larger companies. On the other hand, SSIs are often more affected than are large companies by problems such as lack of transport, shortage of working capital and spare parts, and receive very little assistance from the government to deal with them.

Recommendations: Priority attention should be given to improve the access of SSI to investment funds and working capital. Second, training and advice should be made available through the MTAC which should be upgraded. The plans to establish SSI promotion centres in districts in several parts of the country should be implemented in close cooperation with the local USSIA chapters. In view of the scarcity of resources, new promotion agencies or new banks are not recommended.

5.3.3 Transport and marketing

Findings: Transport problems result from lack of rolling stock, poor condition of roads especially in rural areas, long distance to ports given Uganda's position as a landlocked country, and limited air freight capacity. There problems increase considerably the costs of inputs and of sales and limit the range of viable options for exporting.

Recommendations: The programme and projects underway to rehabilitate the network of roads and rail should continue to be accorded high priority. With regard to air freight capacity, not only should the expansion of the fleet of Uganda Airlines but also the possibility of involving private airlines be considered. Within individual enterprises, maintenance of vehicles should be improved.

5.3.4 Equipment, spare parts, and maintenance

Findings: Machinery is often obsolete and subject to frequent breakdowns. Spare parts are in short supply because of scarcity of foreign exchange, working capital is limited, and systematic maintenance happens only exceptionally.

Recommendations: Special import programmes for industrial spare parts should continue. Spare parts stocks should be maintained at adequate levels. Maintenance at the company level should be improved. Training courses could be organized with UNIDO's assistance.

5.3.5 Industrial design

Findings: Indigenous industrial design capacity is almost completely absent; this restricts export opportunities in particular.

Recommendations: An industrial design department, presently at the planning stage within the Faculty of Fine Art in Makerere University should be supported by government and international donors, after a diagnostic study has identified specific needs.

5.3.6 Quality control

Findings: Quality control is inadequate in most manufacturing enterprises.

Recommendations: Training programmes and consultancy services should be offered to companies to improve quality control at the plant level.

5.4 Branch level

5.4.1 Food industries branch

Findings: In Uganda, the food-processing industry is typical of many developing countries. It is dominated on the one hand by primary processes such as grain milling, coffee-bean processing, oil expressing, tea processing, sugar processing and animal feed production, and, on the other hand, by the processing of soft drinks and beer. Most of the primary processors operate on a very small scale except for tea factories, commercial sugar factories, and a flour mill/maize mill/animal feeds complex.

There is only one soft drinks factory, of medium size which processes local fruits into bottled juices and squashes. The remainder, together with the breweries, use all imported ingredients.

None of the remaining small cotton-seed oil mills or the large oil factory is able to secure cotton seed, since cotton production has declined and moved to the north of the country. Some sunflower and other seeds are processed on a small-scale. The lack of oil processing may lead to deficiencies in oil-seed cake for the large animal-feed plant which has a capacity of 60,000 tons per annum, and on which refurbishment is nearing completion. One large oil mill is planned to start operations in Kampala shortly; this may ease the seed cake shortage.

The rehabilitation of two of the sugar estates has enabled raw sugar production to recover from 800 tonnes in 1985 to over 6,000 tonnes in 1988 (one-third of the 1968 peak). The shortage of sugar has led to an increase in the number of small jaggery mills being used to produce crude brown sugar. The soft drinks and beer processors' requirements are met by imports.

A small fish-processing and smoking plant has been established and will be commissioned soon.

There is no established integrated canning industry in Uganda; neither is there any instant coffee processing.

The major problems facing all food processors apart from the severe shortage of foreign exchange, for the purchase of ingredients and spares, are lack of locally-produced packaging materials, a critical shortage of industrially-trained, experienced managers, technologists, and engineers of all grades and disciplines, and a lack of quality-control facilities and mandatory standards.

There is a shortage of labour for some manual tasks, notably tea plucking, which has led to mechanical plucking being considered.

Uganda relies heavily on the export of coffee beans for its foreign exchange, and a diversification programme has been requested by the government. With a climate and soils suitable for growing a wide range of crops, there is good potential for increasing the range of processed food products, including for export.

Recommendations: In order to overcome the problems and difficulties, the operations of existing processors should be assisted by means of training schemes and fellowships, especially in the fields of management, technology, quality-control, and maintenance engineering.

Mechanical tea plucking is not recommended as it will lower the quality of Uganda's high-grade black tea. Neither the establishment of a can-making factory and associated canneries nor the building of an instant coffee plant are advisable, unless the total capital requirements can be met by new inflows which do not carry debt-servicing implications.

Technical assistance is needed to enable the fresh fruit processor to overcome operational difficulties, and to enable it to act as a training centre for future similar units in other fruit producing regions.

Plans to diversify into new processes and markets must be carefully assessed to ensure that any such ventures will be commercially viable. To this end, a detailed diversification study is recommended, to be followed by feasibility studies to identify the most appropriate processing and packaging technologies and the most promising markets.

5.4.2 Wood-processing branch

Findings:

There are two commercial saw-mills in Uganda, one of which has a fully-integrated factory capable of producing high added value plywood, blockboard, flush doors, and furniture, much of which could be exported for hard currency.

Recently a significant quantity of squared logs and rough sawn planks of valuable hardwood have been exported, which would have realized more foreign exchange if they had been processed into such products as hard-faced blockboard and flush doors.

Currently no use is made of waste sawdust and wood chips, which could be converted to valuable chipboard for local use and possibly for exports, provided the relevant equipment and adhesive resins were made available.

All logging activities are being seriously restricted by lack of foreign exchange to import spare parts for equipment, now lying idle, as well as new equipment such as lorries which are totally worn out and a grader to make access roads into the forests.

If the present constraints, outlined above, are not relieved, the processing factory will soon fall back to the 10 to 20 per cent capacity utilization levels of the mid-1980s, instead of progressing from the 40 per cent level reached in 1988 to the planned 60 to 80 per cent of the second rehabilitation programme. The industry is also faced with a critical shortage of trained managers and engineers.

Recommendations:

The feasibility of using waste sawdust and wood chipping to produce chipboard (rather than burning or dumping it as at present) should be assessed. This would have two benefits. First, it would produce a product with good added-value and export potential and, second, it would reduce the adverse effects of dumping or burning on the local environment.

An effort should be made to train more managers and engineers.

5.4.3 Paper-processing branch

Findings:

The paper-processing industry, centred on four relatively large companies in and around Jinja, relies wholly on imported raw materials such as paper pulp, kraft paper, fluting medium, adhesives, stapling wire, and printing inks. Capacity utilization rates vary. Over the last three to four years it has been as low as 2 to 4 per cent in the case of the factory with a capacity to supply four times Uganda's corrugated carton needs. On the other hand, capacity utilization has been up to 40 per cent in the case of one firm supplying the requirements of the tobacco and cigarette industry.

All of the equipment is reported to be in fair running order, requiring only the minimum of spares. There is also a reasonable core of trained experienced staff. A licence has been granted to one plant in Kampala for the importation of equipment to make corrugated cartons for its own use, but the raw materials will need to be imported.

The industry as a whole has the capacity to supply Uganda with all its requirements for corrugated cartons, multi-ply paper sacks, chipboard cartons, paper bags, and writing paper. It also has the capacity to produce for regional export markets.

The overriding constraint is the very restricted availability of foreign exchange to import basic raw materials and spare parts. If this were made available, Uganda would save several millions of dollars now spent on importing packaging products which are capable of being made locally. Indeed, some of these products could be exported, thus recouping some of the foreign exchange cost.

Another problem is the unresolved ownership issue in the case of some plants.

Recommendations:

Low capacity utilization should be overcome by allocating foreign exchange to the factories with the best potential to produce urgently-required finished packaging materials. There does not seem to be any justification for the establishment of a new paper-processing plant, which would use valuable foreign exchange and need to import the same raw materials as existing units, since these have sufficient capacity to satisfy all local needs and leave a large surplus for export.

It is recommended to reassess the issue of ownership as soon as possible.

5.4.4 Iron and steel

Findings: Uganda's basic steel industry consists of two mini- mills with an aggregate crude steelmaking capacity of 50,000 tons per year following EASCO's rehabilitation. Its capacity utilization has, however, been constrained by the inability to import essential operating materials and spare parts, obsolete equipment, management deficiencies, and inadequate R & D support.

Recommendations: Because of its strong and direct linkage to the metalworking and engineering industries, it is imperative that priority should be given to the rehabilitation of the iron and steel industry. Efforts should also be directed at improving its manpower resource base (through training and on-the-job exposures to similar plants in other countries), as well as management expertise.

As a shortage of domestic scrap is foreseen in the next decade, efforts should be intensified to find a local substitute. To this end, the proposal for production of sponge iron on the basis of the rich domestic iron ore resources should be vigorously pursued.

5.4.5 Non-ferrous metallurgical industries

Findings: Although there are commercially exploitable non-ferrous mineral resources, their current contributions to economic production and foreign exchange earnings are insignificant as a result of long neglect. They could, however, become the basis for a virile small-scale mineral production subsector.

Recommendations: In any plans to resuscitate copper and cobalt production, full account should be taken of the prevailing and projected movement of mineral prices on international markets; indications are that low prices will persist for at least the next decade. Priority attention should be given to the further development of small-scale mining.

5.4.6 Engineering industries

There are at least 700 metalworking enterprises, although the capacity utilization levels generally do not exceed 20 per cent. Most of the equipment is obsolete and ill-maintained. The foundry subsector is in dire need of rehabilitation to enable it to supply castings to the cement, agricultural processing, mining, and machine-building industries. In the metal fabrication subsector, many small-scale workshops are becoming quite adept at producing many components and parts and some equipment presently being imported.

Recommendations: Assistance should be extended to the engineering industries (foundries, metal workshops, and so on) by way of skills-training, rehabilitation of operating equipment, modern management and marketing expertise, and development of local design capacity.

5.4.7 Non-metallic mineral-based industries

Findings: These industries - cement, clay products, lime, phosphatic fertilizers, glass and salt, - present the best prospects for

self-sufficiency. Moreover, they are generally amenable to production on a small-scale basis and are suitable for location in rural areas. As such, their development deserves to be accorded the highest priority, especially since the continued importation of products processed from such minerals is an unnecessary drain on the country's meagre foreign exchange resources. Non-metallic mineral-based industries, however, have a propensity for polluting the environment and degrading the landscape.

Recommendations: Because these industries will contribute significantly to the rapid achievement of the nation's industrialization objectives, their development should be vigorously pursued. Incentives should be given to small-scale operators to enable them to expand activities, especially in the rural areas.

To combat pollution problems, characteristic of these industries, every proposed new project should be preceded by an environmental impact assessment, and sound pollution management should be designed into the production system. Before commissioning, all pollution sources should be identified and characterized, and treatment facilities installed to ensure that harmful pollutants are not discharged into the air and into surface and underground water.

5.5 Other priority areas serving the industrial branches

5.5.1 Standards

Findings:

The Uganda National Bureau of Standards was established by a government Act in 1983. It remained dormant until the first Executive Director was appointed in February 1989. As the economy continues to expand, the Bureau of Standards will have a special part to play in improving manufacturing standards and product quality in Uganda and the monitoring of imported manufactured goods.

Recommendations:

A concerted aid programme is recommended to include the equipping of a reference library, relevant laboratories with analytical and other test equipment, the assignment of relevant experts in standardization and quality control, and the establishment of well-organized office support. Fellowships should be granted to the Standards Officers, after appointment, to enable them to receive overseas training, especially at European standards institutes, and the Tanzanian Bureau of Standards.

5.5.2 Cold stores and godowns

Findings:

Facilities for dry storage (godowns), as well as cool and cold storage are deficient throughout Uganda.

Recommendations:

Given the government's plans to promote exports of horticultural and fish-based products, there is a need for a range of investments, including godowns for grains and pulses, as well as field cold houses for fresh produce, and cold stores. A feasibility study is recommended to identify storage requirements in the country.

5.5.3 Packaging

Findings:

There is an acute shortage of packaging materials, especially those suitable for use with export products. With the exception of timber, all raw materials and most finished packaging materials are imported. Crown caps for bottles are made in Uganda and bottles will be made locally when the glass factory has been rebuilt. Blow-moulded and extruded plastic bottles and caps also play an important role in the packaging chain.

As the output of fresh produce continues to increase and be diversified, so will the need increase for a wider range of suitable, high-quality packaging materials.

Recommendations:

Efforts should be made to increase the availability of foreign exchange to purchase inputs (pulp, chipboard, craft and plain paper) for paper converters in Uganda, thereby eliminating the current need to import more expensive finished cartons, sacks, and paper bags.

It is recommended that the production of packaging materials other than cans (for example, aseptic packaging, glass and plastic containers) be explored. A diagnostic study of packaging requirements and opportunities in Uganda should be carried out.

CHAPTER 6

PRIORITY AREAS FOR TECHNICAL ASSISTANCE TO INDUSTRY

6.1 General observations

The previous chapters have shown that the Ugandan economy is gradually overcoming the negative effects of the political turmoil and civil war of the 1970s and 1980s. The NRM government has just completed its fourth year in power, and has extended its mandate for another five-year term. Political stability and the greatly improved security situation facilitate medium-term planning and the implementation of major economic policy reforms in order to speed up the recovery process.

While the political situation has been stabilized, the economy is bound to suffer from the drastic fall in coffee prices on the world market. The decline of about 40 per cent will reduce the foreign exchange earnings of Uganda by almost the same extent, since coffee accounts for 95 per cent of exports. In a situation where foreign exchange is already very scarce, and most raw materials and spare parts have to be imported, there are serious constraints on the stimulation of industrial production.

The donors' consultative group meeting held under the auspices of the World Bank in Paris in December 1989, agreed to provide a package of grants and loans totalling about US$ 550 mln to be disbursed over the next few years. The group appreciated the progress achieved to date on stabilization of the political and economic situation, but stressed the need to speed up the implementation of adjustment and reform policies. The main issues to be addressed remain:

- a significant reduction in the inflation rate, and strict control of the money supply and of government expenditure;
- a substantive devaluation of the Ugandan shilling in order to facilitate exports and promote foreign investment;
- progress in diversifying exports;
- a rapid solution to the protracted issue of ownership of expropriated Asian properties;
- a consequent divestiture policy in the public sector;
- the elaboration of a clear-cut investment code and investment promotion scheme, both for domestic and foreign investors, and
- a thorough restructuring of the banking sector.

While the Government is committed to the reform programme, the implementation of the stabilization and rehabilitation measures to date has fallen short of the targets set in 1987. A number of unforeseen problems, in particular the decline in coffee prices, have contributed to this disappointing performance.

6.2 Activities of multilateral and bilateral agencies

The World Bank will continue to play a leading role in terms of outside influence on policies and volume of assistance. The first structural adjustment loan (SAL) of US$ 90 mln was made available in September 1987, and it was later supplemented by a further US$ 40 mln. The second SAL with a volume of US$ 125 mln was expected to be decided upon at the end of January 1990. In addition, there are a number of projects being implemented, some of which are geared to support the development of the industrial sector.

Two lines of credit have been extended to the Uganda Development Bank and the Uganda Commercial Bank respectively. They have benefited about 70 enterprises by providing foreign exchange for the importation of raw materials and spare parts.

A financial sector review is underway. Its findings will form the basis for the determination of medium-term actions necessary for overcoming the structural and operational weaknesses of the banking sector.

A US$ 15 mln IDA loan is being used for various studies and technical assistance for the restructuring of the public sector. There are several projects: one is to assist the Public Enterprise Secretariat (PES) in the Ministry of Finance to plan for and implement the privatization of public enterprises. Another is technical assistance to the Public Industrial Enterprises Secretariat (PIES) in the Ministry of Industry and Technology. This project, financed by the World Bank, is executed by UNIDO and has just entered its second phase. In addition, there are a number of studies underway, which analyze the feasibility of rehabilitating several subsidiary companies of the government-owned Uganda Development Corporation.

The International Finance Corporation is preparing a study on the Investment Code and the establishment of an Investment Authority. The MIGA in Washington is planning to arrange a meeting of Ugandan and potential foreign investors, and the World Bank and UK-ODA are carrying out an assessment of the private sector.

USAID closely cooperates with the World Bank in supporting the private sector. Although concentrating on agriculture and health, USAID has also provided significant funding to industry. Since 1987, US$ 20 mln have been made available in the term of soft loans for raw materials and equipment under PL 480 to a private soap manufacturer; a further US$ 14 mln has been committed in grants to various projects concerned with promoting non-traditional exports, especially of fresh and processed food. This also includes an export packaging enhancement programme and cold storage installations. A grant of US$ 12.5 mln was advanced to the Bank of Uganda to finance importation of essential inputs for the private sector.

In addition to programme and project funding, USAID is heavily involved in policy dialogue with the Ugandan government concerning devaluation, export incentives, divestiture, and investment promotion. Technical assistance is provided to the Custodian Board to accelerate the privatization of former Asian properties. USAID also assists the Uganda Manufacturers Association and the newly-established Export Policy and Development Unit under the MPED.

The European Community is also focusing its assistance on agriculture. It is also providing aid to infrastructure, social services, and industry.

In 1981 a soft loan of 3.5 million ECU was provided for the rehabilitation of Uganda Hoes (Chillington Tool Co.). The EC is also prepared to assist in the rehabilitation of the Hima Cement Factory provided the government agrees to establish a joint venture with a strong foreign partner and to take in an expatriate management team. A grant of 4.3 mln ECU to Uganda Commercial Bank (UCB) enabled the bank to offer loans to small and medium-sized enterprises in the industrial and agricultural sectors. This project included some technical assistance to UCB and to the Management Training and Advisory Centre (MTAC) for training and advisory services to be provided to small and medium-size entreprises. Two grants totalling 32.5 million ECU have been provided to finance imports of raw materials for industry (70 per cent) and inputs for the transport sector.

The European Investment Bank (EIB) has also provided a soft loan of 12 million ECU to the East African Development Bank (EADB) for onlending to small and medium-size enterprises in Uganda, Kenya, and Tanzania. The EIB finds it difficult to identify viable industrial projects. As a result, a large part of the risk capital funds available for Uganda under Lomè III has not yet been committed, although a loan of US$ 2.4 mln was recently provided to the Development Finance Company of Uganda.

Some bilateral donors, for example, the Federal Republic of Germany, Italy, and the Scandinavian countries, have large aid budgets, but they do not place great emphasis on industry. However, they have provided some finance for import-support programmes as well as global loans to Ugandan banks for on-lending to small and medium-size enterprises. In addition, a number of industrial rehabilitation projects are being supported. New industries are assisted only in exceptional cases.

6.3 UNIDO's technical assistance

At the beginning of 1990, there were ten UNIDO projects in operation in Uganda, with a total budget of approximately US$ 4.0 mln. They are listed below. (For details, see Annex 2)

1. Industrial Management and Rehabilitation:

   - Public Industrial Enterprise Secretariat (PIES)
   - Reactivation of Uganda Socks Manufacture
   - Assistance in Reorganization of Casements (Africa) Limited

2. Industrial Planning:

   - Strengthening the Planning Unit of the Ministry of Industry

3. Metallurgical Industries:

   - Assistance to the Ministry of Industry and iron and steel industry (development of methods and systems for the utilization of metal scrap; forecast of iron and steel demand)

4. Engineering Industries:

   - Manufacture of agricultural tools, implements, and farm machinery

5. Chemical Industries:

   - Development of lime industry

6. Feasibility Studies:

   - Feasibility study for the establishment of container glass factory (in cooperation with Chemicals Industries)

   - Study on the establishment of a plant to manufacture tiles and sanitary ware

7. Industrial Human Resource Development:

   - Fellowship in Accounting and Financial Management (food processing industry)

Other projects which have been suggested are:

1. Industrial Development and Small-scale Industry Promotion.

2. Community Food Processing Centre.

3. Preparatory assistance for establishment of a pilot and demonstration sponge iron plant, capacity 20,000 tonnes per annum, based on direct reduction of iron ores using coal as reductant.

4. Assistance for reactivation of existing capacities and upgrading 20 foundries.

5. Small-scale industry development.

6. Industrial technology project.

7. Technical Assistance to the Alam Group of Companies.

8. Assistance to the Chamber of Commerce, Uganda Manufacturers Association, and Uganda Women Entrepreneurs Association Ltd.

9. Assistance to the National Bureau of Standards.

10. Assistance to the National Enterprise Corporation.

11. Feasibility study for instant coffee plant at Port Bell.

The list of ongoing and pipeline projects shows that UNIDO's activities are supporting the rehabilitation and policy reform process currently underway to revitalize Ugandan industry.
These fit into the priorities of the government and those of the main multilateral and bilateral agencies.

The PIES project in the Ministry of Industry and Technology, which is concerned with public sector reform, is in its second phase. Several of UNIDO's current and planned projects assist in the rehabilitation and upgrading of public and private enterprises (socks, metal products and building materials, agricultural tools, foundries). In addition, several projects are concerned with the identification and planning of new import substitution industries (glass container, tiles and sanitary ware, metal scrap, sponge iron).

Finally, projects are under discussion aimed at providing support for small-scale enterprises and employers associations, directed at supporting the private sector.

6.4 Proposed priority areas for technical assistance

Following preliminary analysis of a number of sub-sectors as well as discussions with relevant Ugandan authorities and bilateral and multilateral agencies, the following priority areas are proposed for technical assistance. They were also chosen to complement the technical assistance programmes of the various agencies as well as UNIDO's ongoing projects.

6.4.1 Assistance in formulation of industrial strategy and policy

There is no comprehensive document on industrial strategy or industrial policy available in Uganda. Moreover, until the new Investment Code is adopted, the legal framework and associated regulations pertaining to investment are subject to uncertainty and conflicting rules. In order to assist the government to produce a comprehensive statement on industrial strategy and policy, a conference on industrial policy should be held after the new Investment Code becomes law.

It would be attended by national policy-makers, business people, bankers, representatives from multilateral and bilateral agencies, and national and international experts. Background papers on the main industrial policy and macroeconomic issues which impact on the industrial sector would be presented. An important aim of the conference would be the identification of Uganda's comparative advantages within the export sector. It could make a significant contribution to the design of an industrial master plan.

Assistance could be given by UNIDO in the preparation of the background papers, including sub-sector studies, and a paper on approaches to identifying comparative advantages for the export sector.

6.4.2 Promotion of foreign and domestic investment

It is essential that the investment code be adopted as soon as possible. This would clarify the position regarding the conditions and incentives to investors. The regulations contained within the Foreign Investment Protection Act of 1964 and the Foreign Investment Decree of 1977 partly contradict each other, and, in any case, do not correspond to present requirements.

It is expected that an Investment Authority will be set up with a decision-making body consisting of high-ranking personnel from key ministries and institutions. An Investment Promotion Centre with close links to the private sector may also be formed. Such a centre could establish links between domestic and foreign investors and could serve as an advisory unit providing documentation and consultancy services for legal, economic, and even technical questions. UNIDO could assist such a centre in various ways.

Long-term and short-term advisers could help to define the organizational structure of the centre, and to establish methodologies and guidelines for the identification of investment opportunities and the appraisal of projects. They could also provide training on how to establish contacts, evaluate projects, develop financing packages, and negotiate contracts with foreign investors. Such advice and training could also be provided to potential national joint-venture partners. The first step would be to establish a directory of local companies interested in, and suitable for, cooperation with foreign firms. This list would be matched with the UNIDO database in Vienna which contains detailed information on thousands of enterprises in industrialized countries looking for investment and cooperation opportunities. The investment promotion offices of UNIDO in nine industrialized countries would be informed and asked to include the Ugandan interests in their promotion work.

After the identification of potential partners, travel tours could be arranged for individuals, or groups of Ugandan entrepreneurs to facilitate contact with companies in the industrialized countries. Investment promotion activities could be culminated by the organization of an Investment Projects Promotion Forum in Uganda, bringing together potential national and foreign investors. UNIDO has, in the past, successfully organized Investment Promotion Fora in many developing countries, including least-developed countries. Any agreements reached between potential partners are followed up by the signing of letters of intent which lay the groundwork for future industrial cooperation in various forms. As experience shows, about 10-15 per cent of letters of intent are later followed by joint venture arrangements.

6.4.3 Improvement of the institutional infrastructure

The following are the priority areas for the improvement of the institutional infrastructure.

(i) establishment of an Investment Authority;

(ii) strengthening the Department of Technology of MOIT;

(iii) strengthening and upgrading of MTAC;

(iv) creation of industrial design capacity;

(v) strengthening the Uganda National Bureau of Standards;

(vi) strengthening the Uganda Manufacturers Association (UMA) and Uganda Small-scale Industries Association (USSIA).

The background for the proposed measures is:

(i) At present there are a number of institutions involved in investment promotion in Uganda. The proposed Investment Authority would reduce delays and simplify decisions by creating a "one-stop shop" for processing of investment applications.

(ii) The Department of Technology in MOIT, though created in 1986, is grossly understaffed and needs to be strengthened.

(iii) The MTAC is the training department of the MOIT; it offers training courses, seminars, and consultancy services (for details see 6.4.6). In order to fulfil its important role, it needs substantial support for strengthening its staff, library, and workshops.

(iv) The product design capacity in Uganda is very limited. With the current focus on export promotion, there is urgent need to create this capacity.

(v) Uganda has an embryonic Bureau of Standards. To improve the quality of manufactured goods and impose mandatory standards, a competently-staffed and well-equipped bureau of standards is essential.

(vi) UMA, originally formed in 1972, was reactivated in April 1988. It has more than 200 medium- to large-scale companies in both the private and the public sectors. The Association is relatively well-equipped and could play an important role in investment promotion. USSIA represents about 800 small companies; its nine district offices are distributed around the country. It has a fairly weak organizational structure but could play a useful advisory role for its members if proper assistance is provided (for details see 6.4.6)

6.4.4 Technology acquisition and adaptation

There is currently no institution in Uganda centrally involved in issues of technology acquisition and the adaptation of imported technologies to the local environment. Because there is this apparent vacuum, inappropriate and obsolete technologies could be imported, and royalties could be paid to license technologies whose patents may have already expired or that could be obtained from cheaper local sources.

Assistance should be extended by UNIDO to set up a Technology Adaptation and Acquisition Unit in one of the third-level educational institutions. Such a unit would be expected to nurture interactions with the industrial sector, drawing on its pool of experts and supported by workshop and other facilities.

6.4.5 Improving industrial design capacity

If Uganda is to enter into export markets with new products - especially from the manufacturing sector - then the issue of industrial design becomes a priority. It is imperative that good design, attractive to consumers in foreign markets, be incorporated into the production of exportable goods. The

main sub-sectors where design capacity needs to be developed or improved are: textiles, wood, ceramics, leather, glass, and plastics. Since packaging is also an important element in selling products abroad, graphics also needs attention.

It is fortunate that this need has already been identified at Makerere University. The Department of Fine Art has already developed a proposal to introduce a 3-year degree course in industrial design. It is expected to be approved shortly by the University Senate. New units are to be establisned in the areas listed above. The syllabi are already designed. Industrial placements are to form an integral part of the training programme. External assistance is required to bring this development to fruition. The first stage would be identification of resources needed to establish a Department of Industrial Design at Makerere. Retraining of existing faculty members will form part of the project. This department could act as a regional centre for development of industrial design and industrial art for the whole of East Africa.

6.4.6 Support to small-scale industries (SSI)

Given the importance of SSI for production, employment, and regional development and the numerous problems faced by most companies, technical assistance in the field of SSI development is crucial for Uganda's further industrial development. It would probably be preferable to strengthen existing SSI institutions rather than create any new ones which would inevitably compete with each other for available, and grossly inadequate, funds.

The only representative association of the SSI so far is USSIA with about 800 member companies and nine district offices. USSIA has a fairly weak organizational and financial structure. Unfortunately, USSIA has difficult relations with a number of banks, which could provide funds but demand collateral and reserve their right to decide upon project proposals. USSIA has countered by starting to promote the foundation of a specialized SSI bank. It would require massive external assistance to start operations and the viability of such a venture appears to be doubtful. Its appraisal would also have to take into account the restructuring of the financial sector currently under study by the World Bank. As an alternative, some carefully planned and limited assistance to strengthen the organizational structure of USSIA, especially in districts outside Kampala, should be considered. This could include limited financial assistance to create revolving funds to be administered by local committees. These funds could finance small companies, including those in the informal sector which have hardly any access to loans from banks.

Also of importance to SSIs is the availability of technical and managerial advice and training. One documentation centre has been established with UNIDO assistance in the MOIT which provides information services to a number of entrepreneurs. This centre should be maintained and upgraded. Its outreach facilities to districts up-country could also be improved.

Training is provided by the MTAC, the training institute of MOIT, to private and public enterprises, government institutions, banks and cooperatives regardless of their size. About 60 per cent of its costs are financed by the Treasury through MOIT; the difference is made good by fees

charged to participants attending seminars and for consultancies. The centre has facilities including class and conference rooms, a small library and very large workshops for carpentry and metalwork as well as car repairs. The centre could be greatly strengthened by providing experienced staff, up-to-date books and journals for the library, and rehabilitation of the workshops. If the workshops could be run on a commercially-viable basis, the income could be used to subsidize training programmes for SSIs.

6.4.7 Support to the food processing industry

Uganda has the climate and soils suitable for growing a wide range of tropical, sub-tropical, and temperate crops, particularly in the central-south and southwest regions.

At present over 95 per cent of export earnings are derived from coffee, and the recent steep fall in world coffee prices has accentuated the need for export diversification which has been given particular attention in the Rehabilitation and Development Plan. Improvement and expansion of the food processing industry is seen as a vital part of this programme.

Aid has been received under the following headings: the rehabilitation of the tea-processing industry; FAO-assisted survey of the horticultural sub-sector; an Italian grant to set up a small-scale fish processing plant and associated collection and distribution points. However, there has been no overall study to identify new food processing opportunities, which could become economically viable enterprises.

A food-processing diversification study is therefore proposed to identify opportunities in the short to medium term, the overall recommendations of which could contribute to the government's industrial Master Plan.

Areas which are suggested for investigation include: aseptic packaging of juices, pulps, and concentrates in consumer and industrial-sized containers; production of preserved and/or frozen concentrated pulps and juices; extraction of flavours, essential oils and oleo resins from herbs and spices, for example, ginger, capsicum; extraction of tenderizing enzymes, papain and, bromelain from papaya and pineapple respectively; fruit and vegetable drying, by improved techniques; production of fruit wines; meat and fish processing, including the extraction of fish oil; packaging of processed foods in glass containers; and utilization of waste by-products for animal feeds and fertilizers.

The study should be followed up with detailed feasibility studies in the identified areas.

As the only processors of locally-grown fruit to produce soft drinks and squashes in Uganda, Masaka Processors Ltd., should play a major role as a model for similar units in other fruit growing districts and a processing training centre for quality control scientists, production technologists, and maintenance engineers. The factory has run into difficulties arising from a huge unserviced debt, lack of foreign exchange for spare parts, poor equipment giving rise to breakdowns, a poor management structure, and lack of experienced, trained personnel in strategic posts. A Diagnostic Study is therefore proposed which will identify rehabilitation needs and areas for diversification (for details see Annex 1).

6.4.8 Metallurgical and engineering industries

Because of the extensive forward and backward linkages of the metallurgical and engineering industries (basic steel plants, foundries, metal fabrication workshops, spare parts manufacturing, and so on), and their critical role in the rehabilitation of the industrial sector, assistance to them should receive priority. Among the major constraints inhibiting the achievement of their full potential are technical skills deficiencies, lack of management expertise, and non- availability of raw materials, spare parts, and supplies. Assistance in these areas would be in line with a number of other on-going and pipeline UNIDO projects, including the following:-

(i) assistance to EASCO for steel plant rehabilitation and for overseas fellowship (UGA/84/018);

(ii) proposed preparatory assistance for establishment of a pilot and demonstration 20,000 ton/year sponge iron plant based on direct reduction of iron ores using coal as a reductant (DP/UGA/89/XXX);

(iii) proposed assistance for the reactivation of existing capacities and upgrading twenty foundries; and

(iv) on-going technical assistance to the Alam group of companies.

6.4.9 Development of non-metallic mineral-based industries

Uganda is richly endowed with several non-metallic minerals, such as limestone, marble, glass sands, phosphate rock, and kaolin, and the chances of achieving self- sufficiency in products based on these minerals are particularly good. Projects in these areas should be identified and assessed. Several studies were carried out in the past but they are now largely out-of-date. Assistance is therefore necessary to up- grade and up-date them.

Assistance in this area complements other UNIDO projects that are either on-going or have been recently completed. These include: (i) XP/UGA/88/006 - Feasibility study for the establishment of a container glass factory; (ii) XP/UGA/88/050 - Development of the lime industry; and (iii) SI/UGA/89/802 - Study on establishment of a plant to manufacture tiles and sanitary ware.

6.4.10 Support to other priority areas serving the industrial branches

Three priority areas requiring assistance under this heading are:

The Uganda National Bureau of Standards

A well organized, fully equipped Bureau will have a major part to play in improving manufacturing standards and product quality in Uganda, and the monitoring of the quality of imported manufactured goods. It should also act as one of the centres of excellence for training industrial technologists and quality control staff.

To this end, UNDP/UNIDO should provide technical assistance to identify investment requirements for test equipment, and analytical and bacteriological testing laboratories. It should also organize a series of fellowships to train the appointed technical officers, and help to arrange the visits of the required experts.

Cold storage and godowns

There is a lack of facilities for dry storage (godowns), as well as cool, and cold storage throughout Uganda. There is no reliable information or forecasts for storage requirements in the country. A feasibility study is therefore recommended to identify current and future storage requirements.

Packaging

There is an acute shortage of packaging materials of all types, especially those suitable for export goods.

A diagnostic study of packaging requirements and opportunities in Uganda is recommended, with the emphasis on areas of import substitution, export promotion, and local markets. The possibility of introducing new techniques and systems should also be investigated.

The integrated wood-processing factory has the potential to produce crates and boxes and a range of high added-value exportable materials. It has run into operational difficulties, largely because of the delayed implementation of the second rehabilitation phase, as well as lack of skilled management at production level. It is recommended that UNDP/UNIDO provide technical assistance to assess equipment requirements, help with a management training programme and related fellowships, and identify potential donors.

6.4.11 Management of industrial pollution

Issues relating to the control, treatment, and disposal of industrial effluents and solid wastes have so far received only superficial attention in the planning, implementation, and operation of industrial projects in Uganda. This is despite the fact that pollutants from industries such as cement, steel, fertilizer, glass, food processing, and lime projects can result in serious environmental degradation and health hazards.

The government, mindful of these dangers, has created a Ministry of Environment Protection to oversee all issues related to environmental management, and to advise government on policies and strategies designed to minimize environmental pollution.

Unfortunately, the Department of Environment within the Ministry is ill-prepared, in terms of equipment and qualified personnel, to carry out its mandate effectively. UNIDO should provide assistance to strengthen the Department's capacity to address the air and water pollution aspects of its mandate. Any proposed assistance will be complementary to UNIDO's on-going programme (US/RAF/88/186), the first phase of which covers a subregional project on purification of industrial waste water.

CHAPTER 7

SUMMARY OF PROJECT CONCEPTS

Within the areas selected for technical assistance the mission identified the following project concepts:

- Assistance in the industrial strategy and policy formulation.
- Investment promotion forum.
- Technical assistance in the establishment of an investment promotion agency.
- Strengthening industrial design capacity at Makerere University.
- Technical assistance to Masaka Processors Ltd. (Diagnostic study).
- Assistance to Management Training and Advisory Centre (MTAC)
- Technical assistance to Uganda National Bureau of Standards.
- Diagnostic study to identify opportunities for food processing diversification.
- Technical assistance to Kiira Saw Mills and Playwood Factory Ltd.
- Assistance to East African Steel Corporation.
- Assistance to the Ministry of Minerals and Water Development in identification and assessment of viable non-metallic mineral-based industries.
- Preparatory assistance for production of industrial spare parts.
- Diagnostic study on storage requirements and opportunities.
- Diagnostic study on packaging requirements and opportunities.
- Strengthening the industrial air pollution monitoring activities in the Ministry of Environment Protection.

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ANNEX 1

LIST OF PRINCIPAL ORGANIZATIONS, COMPANIES AND PERSONS CONTACTED BY THE UNIDO MISSION TO UGANDA

15 January - 3 February 1990

Organization/Company	Person(s) met
I. Government Departments	
Ministry of Planning and Economic Development	Hon. J. Mayanja-Nkangi, Minister Hon. Matthew Rukikaire, Minister of State for Planning and Economic Development Mr. E. Tumusiime-Mutebile, Permanent Secretary Mr. Lutaya-Kamya, Chief Government Development Economist Prof. E.O. Ochieng, Director, Export Policy Analysis and Development Unit Mr. K. Muhakanizi, Senior Economist Mr. John Scott, Chief Technical Adviser Mr. Manfred Moechel, Technical Adviser Mr. Alan Whitworth, Technical Adviser
Ministry of Industry and Technology	Hon. Dr. E.T.S. Adriko, Minister Dr. S. Wandira-Kazibwe, Deputy Minister Mr. George E. L. Okutu, Permanent Secretary Mr. T. Langoya, Commissioner for Industry Mr. S. Kagoda, Commissioner for Technology Mr. F. Muwonge, Chief Economist Mr. W. Latigo, Senior Industrial Officer Mr. W. I. Tuhumwire, Senior Industrial Officer Mrs. J. Mambule, Senior Industrial Officer Mr. K. Kapasi-Kakama, Chief Scientific Officer/Technology Mrs. E. Mukiibi, Senior Economist Ms. C.K. Magala, Economist

Ministry of Industry and Technology (continued)

	Ms. Ssonko Lemkuse, Industrial Officer Mr. Mutagwa Byahuka, Statistician Mr. F. Rwahwire, Ag. Head, Department of Small-scale Industries
Ministry of Finance	Mrs. Sara Kiggundu-Batuuka, Acting Director-General, Taxation and Industrial Promotion Department Mr. Isaac Isanga Musumba, Legal Officer
Ministry of Commerce	Mr. Akang Lamec, Acting Permanent Secretary Mr. Bwanika Ddungu, Head of Planning Unit
Ministry of Animal Industry	Dr. T. C. Bamusonighe, Assistant Fisheries Commissioner for Veterinary Services and Animal Industry (Planning) Dr. C.A.L. Kudamba, Assistant Commissioner for Veterinary Services and Animal Industry (Animal Health) Dr. S. Lwamafa, Senior Veterinary Officer (Animal Health) Mrs. F. N. Sewankambo, Principal Economist Mr. E. H. Bakaaki, Senior Economist Mr. D. Mwene-Beyanga, Fisheries Officer (Planning)
Ministry of Minerals and Water Development	Mr. Saul A. Mboijana, Deputy Commissioner, Geological Surveys and Mines Dept. Mr. James Sekamwa, Assistant Commissioner, Geology
Ministry of Energy	Mr. F. G. Ssekandi, Acting Commissioner for Petroleum
Ministry of Environment Protection	Dr. Henry Aryamanya-Mugisha, Chief Environment Officer
Makerere University	Prof. Kajubi Senteza, Vice Chancellor Mr. Ssentongo, University Secretary Mr. P.N. Sengendo, Acting Head, School of Fine Arts Dr. J.K.D. Higenyi, Dean, Faculty of Technology, Senior Lecturer

Makerere University (continued)	
	Eng. V.B.A. Kasangaki, Head, Department of Electrical Engineering, Senior Lecturer Mr. J. B. Turyagyenda, Head, Medicinal Department, Senior Lecturer
	Eng. Apollo Musoke, Head, Civil Engineering Department, Senior Lecturer
	Mr. M. Murengezi, Lecturer, Electrical Engineering Department
II. Business and Banking Sector	
Bank of Uganda	Dr. S. Kiggundu, Governor Dr. Ofori Ata, Adviser to the Governor Mr. Ogutu, Head, Development Finance Department Mr. Sereko, Development Finance Department Mr. Walugembe-Musoke, Research Department
Uganda Development Bank	Mr. A. K. Mawanda, General Manager Mr. F. Y. Kasujja, Assistant General Manager (Operations) Mr. D. Musanje, Manager-Industry Mr. L. Muganwa, Manager-Research
Uganda Commercial Bank	Mr. Y.S.L. Nyanzi, Chief Manager, Industrial Projects, Development Finance Credit Group Mr. Ben Opiny, Chief Manager, Monitoring & Evaluation,Developmnt Finance Credit Group
East African Development Bank	Mr. E. G. Wampa-Mwandha, Resident Manager
III. Companies/Plants	
Uganda Development Corporation	Dr. G.S.B. Kinyatta, Director of Projects and Planning
East African Steel Corporation	Eng. T. S. Muwanga, Production and Rehabilitation Manager Mr. G. F. Ruakoah, Acting Personnel Manager

UGMA Engineering	Mr. M. R. Ananda Rao, Resident Director
Casements (Africa) Ltd.	Mr. Abid Alam, Managing Director Mr. C. Rudi, Acting Manager, Steel Rolling Mills Ltd. Mr. S. S. Sarma, UNIDO Consultant Mr. Parveen Kumar Vij, Works Manager
Masaka Food Processors Ltd.	Mr. G. S. Kisenyi, Production Manager Mr. Kiwanuka-Ssebalamu, Engineer Mr. David Sseggwanyi, Chemist Mr. Ravi Awasthi, Chief Technical Adviser (FAO)
Masaka District Cooperative Union Ltd. (Head Office)	Mr. Roger Mubiru, Secretary and Acting Supervising Manager Mr. E. Nsereko, Production Manager (Coffee Processing)
Mukono Farmers Ltd. (Feed Mill)	Mr. Carlo Viezezeni, General Manager Mr. Anthony Vaghese, Chief Accountant Mr. J. Mutayamba, Machine Operator
Management Training and Advisory Centre	Mr. A. O. Owor, Director Mr. S. Oola, Workshop Manager
Miome General Engineering	Eng. Haji Twaha Abu Mukasa, Chairman
Uganda Fisheries Enterprises Ltd.	Mr. A.S.N. Bakeine, Managing Director Mr. W. Mashemererwa, Production Manager Ms. Matilda E. Amongin, Food Technologist
Uganda Grain Milling Co. Ltd.	Mr. J. M. Nabende, Manager, Uganda Feeds Ltd. Mr. J. Lee Ogong, Financial Controller
Kiira Saw Mills & Plywood Factory Ltd.	Dr. Mulumbar Rwankote, General Manager
Mulbox Ltd.	Mr. J.J.E.W. Kintu, General Manager

IV. Non-governmental organizations

Uganda Manufacturers' Association	Mr. Azarias Baryaruha, Executive Director Mr. L. M. Mambule, Administrative Manager

Uganda Small Scale Industry Asscciation	Mr. Joseph K. Wasswa, Chairman Mr. Nelson J. Kiyegga-Galiwango, Secretary Mr. M. Nkoyoyo, Executive Member Mr. J. Biimbwa, Executive Member Mr. J. Kalibbala, Executive Member Mr. Aligawesa Yakub, Secretariat
Uganda Export Promotion Council	Mr. Nelson Kola-mong, Director, Trade Promotion Mr. Edward Ssengoba, Marketing Officer/Statistician Miss Catherine Namuwonge, Librarian/Documentalist Dr. Frank Nabwiso, Executive Secretary

V. International Agencies

United Nations Development Programme	Mr. Aart Udo, Resident Representative a.i. Dr. Kone-Diabi, Senior Programme Officer Mr. Bruno Pouezat, Programme Officer Mr. Ladislaus Byenkya-Abwooli, National Programme Officer Mr. Bjarne Larsen, JPO, UNIDO
The World Bank	Mr. Grant Slade, Resident Representative in Uganda Mr. Ian Knapp, Public Sector Officer, Africa Technical Department Mr. John Short, Consultant, Preparatory Mission on Private Sector Assessment Kienbaum Consultants, Mr. Gerhard Kienbaum, Consultant's Team-leader, Chairman, Kienbaum Development Services GmbH, Gummersbach, FRG Mr. Rolf Bartscher,Consultant Engineer, Kienbaum Development Services GmbH, Gummersbach, FRG Mr. Hainz-Adam Graf, Consultant/ Economist, Kienbaum Development Services GmbH, Gummersbach, FRG
Delegation of the Commission of the European Communities	Mr. Terence Higham, Economic Adviser
UNIDO	Dr. A. D. Monteiro, Chief Technical Adviser BR/UGA/84/003

VI. Embassy and Development Cooperation Representatives

Royal Danish Embassy	Mr. Geert A A Andersen, Chargé d'Affaires, a.i.
Embassy of the Federal Republic of Germany	Dr. Andreas Zobel, First Secretary Mr. Hans Joachim Friess, Press Economic and Cultural Attaché
U.S. Agency for International Development	Dr. Fred E. Winch, Assistant Director and Economist
USSR Embassy	Mr. Stanislav N. Semenenko, Ambassador Mr. Serguei V. Vakulitch, Commercial Counsellor
Embassy of Yugoslavia	Dr. Hrvoje Skoko, Ambassador Mr. Dusko Matarugic, Counsellor

ANNEX 2

Masaka Food Processors Ltd.

Masaka Food Processors Ltd. (M.F.P. Ltd.), a subsidiary of Masaka Cooperative Union, is currently engaged in the manufacture of bottled soft drinks and fruit squashes. They are not comparable with the other soft drinks manufacturers since M.F.P. Ltd. is the only processor of drinks containing local fruits; the others use imported syrups and concentrates. M.F.P. Ltd. therefore holds a unique position in this processing industry.

Location

The factory is situated on the outskirts of Masaka, 130 km from Kampala, just off the well metalled main Kampala-Mbarara Road.

Inputs

The main inputs for production are locally grown pineapples (10 per cent from own farm, the remainder from outgrowers) and some passion fruit, plus imported sugar (supplied from West Germany under a food aid package), citric acid, sodium benzoate preservative, tatrazine colouring, printed and plain glass bottles, crown and roll-on caps, and plastic crates. Heavy furnace oil for the steam boiler and treatment chemicals for the water are also bought in.

Outputs

The factory has a bottling output capacity of 25,000 soft drink bottles of 300 ml. and 2,500 bottles of squash of 700 ml. capacity in a single 8 hour shift. Recent outputs have ranged from 2-11,000 crates of 24 bottles per month, with a daily average of 600 crates. Output of pineapple drink represents over 98 per cent of production. Pineapple and passion fruit squashes which are only being test marketed at present, account for the rest of the output.

Capacity utilization

The capacity of the pineapple extraction plant is approximately 1.5 tons/hour of fresh whole trimmed fruit which, with an optimum yield of 50 per cent, would give 6,000 litres a day. Estimated yields are only half these amounts because of the poor condition and design of the extraction equipment. This low yield of 3,000 litres poses no constraints on production, since the requirement for full-shift production of 25,000 bottles containing 25 per cent juices, requires only 1,875 litres of pineapple juice. When operating at 600 crates/day at 25 per cent juice yield, capacity utilization of the extractor is approximately 30 per cent. At the designed yield of 50 per cent, utilization would be reduced to 15 per cent. The overall bottling capacity utilization, when producing 600 crates per day, is approximately 58 per cent. The monthly bottling capacity utilization ranges from 10-55 per cent according to the number of breakdowns and other stoppages.

As there is little production of pineapple squash, and passion fruit drinks and squash, no meaningful capacity utilization figures can be given for these production lines. However, it can be stated that the slicing machine

for oranges and passion fruit, and the reaming machine for citrus halves, the two stainless steel boiling pans for squash preparation, and the associated bottle filling and roll-on capping machine are seriously under-utilized.

Technology and equipment

The technology used in the extraction, blending, pasteurizing and bottling of fruit juice is basically sound. The same cannot be said for all of the equipment. The pineapple peelers/corers, designed to prepare pineapples for canning were not working at the time of the visit, . By removing the core, up to 5 per cent of the juice is lost. It is recommended that the coring section of each corer be removed so that they can act as peelers only. The juice extractor was designed so that the two sections run in parallel. Only one was usable at the time of the visit. A better quality and higher yield of juice would be obtained if the machine ran in series, with a coarse (pulper) screen fitted to the first section, and a second finer (finisher) screen fitted to second section of the extractor. The overall condition of the extractor was very poor, and a detailed appraisal would need to be made to determine whether modifications should be made and spares ordered, or a new machine required, since the fundamental efficiency of the whole factory relies primarily on this piece of equipment. In the mixing and pasteurizing room, many of the thermometers and gauges were not working, and some stainless steel pipework was beginning to corrode, after operating for a little over one year. On the filling line, the filter and crown capper were in a poor condition and appeared to be badly worn. No spares were available; the engineer had managed to keep the filter going by using plastic tubing, and the crown copper gave many rejects. Recently the stainless steel conveyor in the filled bottle pasteurizer/cooler became corroded and broke, and was replaced by the engineer with a second-hand one from one of the breweries, at a cost of USh 2.0 mln. Throughout the process there was a lack of mechanical stirrers in the holding vessels. This is critical for the holding tank just prior to the filler, since pineapple pulp quickly settles and gives rise to variable fruit content in the bottles.

The steam boiler for the factory was continually in need of attention. At the time of the visit a replacement oil pump was being tested . It was connected to the oil supply by means of plastic tubing and jubilee clips, as the correct pipes and fittings were not available locally. The pump supplied with the boiler had ceased to function reliably.

The water dosing and filtration plant appeared to be working satisfactorily but could not be monitored accurately because of a complete lack of water treatment testing equipment and chemicals.

The small laboratory was adequately equipped to test for sugar (soluble solids), acidity of the juices, and alkalinity of the caustic solution for bottle washing. Colour was checked by comparison with previous days production. It is recommended that the control samples should be stored in a cool, dark cupboard to prevent fading.

The engineering workshop was very poorly equipped. It had an old lathe with an unreliable gearbox, but no machine tools, and grinding wheels which were almost worn out. There was no keyway shaper (router) or proper work bench and vice and very few tools. The standby generator worked, but the automatic start-up did not operate.

Environmental issues

The pulp and water waste was lagooned to settle before allowing the surplus water to drain back to the swamp below the factory. During a subsequent visit to a local animal-feed mill, its manager expressed an interest in using such waste pulp for trials for dairy cattle feed. If successful, this would reduce the amount of solid waste significantly in Masaka Processors Ltd. In the longer term, proper screening equipment and concrete separation and aeration tanks should be provided.

Problems, prospects and constraints

There is an acute shortage of trained, experienced personnel in the fields of product processing, management and control, accountancy, sales and marketing, and overall general management.

The factory also carries a beavy dollar debt which is not being serviced at present.

Power cuts and associated water shortages occur 7-10 times per month and the local water board has failed to complete the installation of an alternative borehole supply.

(ii) Poor condition of most of the processing equipment

Apart from the stainless steel vessels, it is likely that none of the equipment was new when supplied. It is suggested that any spares purchased from the original supplier should be at a substantial discount to compensate for the state of the original equipment.

Provided the debt burden can be managed, and the other problems and constraints overcome, prospects for the factory in the short term are favourable, provided they continue to produce existing lines. The production of pineapple jam for the local market might be considered in order to utlize some of the wate pineapple pulp. Greater diversification must be avoided until these operations are performing satisfactorily.

As the only processor of fresh fruits in Uganda, it is essential that the project be continued and rehabilitated, so that it can act as a model and potential training ground for subsequent similar units.

ANNEX 3

UGANDA'S SIGNIFICANT MINERAL RESOURCES

METALLIC MINERALS

	Ore	Location of Significant deposits	Relative abundance
1.	Beryllium	Ankole; Kigezi	Over 100,000 tons Be content
2.	Bismuth	Kabale; Rukungiri; Mbarara	Not known
3.	Cobalt	Kasese	Not known (but considered large)
4.	Columbite	Southwestern Uganda	Over 600,000 tons
5.	Copper	Kasese; Karamoja	Over 5 million tons grading over 1.7% Cu
6.	Gold	Kigezi; West Nile; Bunyoro; Mubende	Not known
7.	Iron Ore	Kigezi (Kashenyi) 65-68% Fe); Tororo (60-68% Fe, 1.3-1.55% P)	At least 50 million tons
8.	Lead/Zinc	Mbarara	Not known
9.	Lithium	Mubende; Mbarara; Kabale	Not known
10.	Tantalite	Southwestern Uganda	Not known
11.	Tin	Mbarara; Kabale; Bushenyi	Over 1 million tons
12.	Tungsten	Southwestern Uganda	Over 10 million tons containing 1.25 million tons of WO_3

NON-METALLIC (INDUSTRIAL MINERALS

	Mineral	Location of Significant deposits	Relative abundance
1.	Asbestos	Arua; Moroto	Not known
2.	Clays	Widespread	Abundant
3.	Diatomite	Nebbi	Not known
4.	Feldspar	Mukono; Bushenyi	Not known
5.	Glass sands	Shores of Lake Victoria	Abundant (over 100 million tons)
6.	Gypsum	Mbarara; Bundibugyo	Over 300,000 tons (contained) gypsum
7.	Kaolin	Bushenyi; Rakai; Kabale; Mpigi; Luwero	At least 16 million tons
8.	Limestone	Tororo; Kasese; Kabale	Over 25 million tons
9.	Marble	Karamoja	Not known
10.	Mica	Moroto; Kitgum; Arua	Not known
11.	Phosphate rock	Tororo; Bukusu; Sukulu	Over 500 million tons of apatite-bearing soil (13.1% P_2O_5)

Ore	Location of Significant deposits	Relative abundance
12. Precious stones	Karamoja	Not known
13. Salt	Western Uganda (Katwe Water Lakes)	Over 10 million tons
14. Talc	Kasese	Not known

ANNEX 4

UNIDO's Approved and/or Operational Technical Co-operation Projects
(approved = PAD issued)

Republic of UGANDA

Project Number	Backstopping Responsibility	All.Acc.Code	Project Title
BR/UGA/87/001*	IO/IIS/IMR Mr. Farah	J12207	Public industrial enterprises secretariat (continued under BR/UGA/89/001)
BR/UGA/89/001*	IO/IIS/IMR Mr. Farah	J12207	Public industrial enterprises secretariat (continuation of BR/UGA/87/001)
SI/UGA/89/801	IO/IIS/IMR Mr. Farah	J12207	Assistance in reorganization of Casements Africa Limited
BR/UGA/84/003*	IO/IIS/PLAN Mr. Paschke	J12413	Strengthening the Planning Unit of the Ministry of Industry
DP/UGA/84/018*	IO/T/MET Mr. Crowston	J13208	Assistance to the Ministry of Industry/Iron and Steel Industry
DP/UGA/86/015**	IO/T/ENG Mr. Gladilov	J13312	Manufacture of agricultural tools, implements and farm machinery
XP/UGA/88/050	IO/T/CHEM Mr. Hagan	J13419	Development of the lime industry
XP/UGA/88/006	IO/OS/FEAS Mr. Klykov	J14101	Feasibility study for the establishment of a container glass factory (in co-operation with IO/T/CHEM)
SI/UGA/89/802	IO/OS/FEAS Mr. Klykov	J14101	Study on the establishment of a plant to manufacture tiles and sanitary ware
XP/UGA/89/026	IO/OS/IHRD Mr. Hanselmann	J14202	Fellowship in accounting and financial management (food-processing industry)
XP/UGA/89/036	PPD AREA/LDC	E02600	Visit to UNIDO of Mr. Aggrey Suit, Deputy Minister of Industry and Technology

* Large-scale project (= total allotment $150,000 or above)
** Total allotment $1 million or above

PUBLIC INDUSTRIAL ENTERPRISES SECRETARIAT (BR/UGA/87/001)

IO branch:	Industrial Management and Rehabilitation	
Backstopping officer:	Mr. Farah	
Approval date:	Nov. 1987	
Estimated completion date:	1990	
Project inputs:	Int. Experts	28.0 w/m
	Staff member missions	$10,000
	Subcontracts	$55,000
	Training	$36,000
	Equipment	$85,000
	Sundries	$ 7,000
Total allotment*):	$556,195	
Uncommitted balance*):	$ 67,402	

This project is a World Bank financed project and its immediate objectives are:

(a) to assist in the establishment and strengthening of a Public Industrial Enterprise Secretariat (PIES) as a top-level advisory body for assisting the Government in identifying and taking appropriate decision on the implementation of a public industrial enterprise reform;

(b) in the context of the industrial rehabilitation effort, assist in settling the ownership issues of those enterprises whose legal ownership is presently uncertain, in divesting those considered economically unviable and in helping improve the efficiency and performance of those industrial enterprises to be retained through strengthening enterprise boards and creating favourable managerial environment;

(c) strengthen financial discipline, control and accountability by establishing enterprise objectives and plans, introducing criteria for the measurement of performance, and implementing standard accounting, reporting and control systems;

(d) increase the Government's absorptive capacity to effectively receive financial and technical assistance.

*) Figures ex computer run UMAP02/A as at 30 September 1989.

PUBLIC INDUSTRIAL ENTERPRISES SECRETARIAT (CONTINUATION OF BR/UGA/87/001) (BR/UGA/89/001)

IO branch:	Industrial Management and Rehabilitation	
Backstopping officer:	Mr. Farah	
Approval date:	March 1989	
Estimated completion date:	1990	
Project inputs:	Int. Experts	24.0 w/m
	National Experts	48.0 w/m
	Admin. support	$11,850
	Staff member missions	$ 6,000
	Training	$34,000
	Equipment	$20,000
	Sundries	$ 6,000
Total allotment*):	$425,510	
Uncommitted balance*):	$350,093	

The immediate objectives of this World Bank financed project are:

(a) to assist, after one year of Phase I, in the further strengthening of a Public Industrial Enterprises Secretariat as a top-level advisory body for assisting the Goverment in identifying and taking appropriate decision on the implementation of a public industrial enterprise reform;

(b) in the context of the industrial rehabilitation effort, to assist in liquidating enterprises considered economically and financially unviable and helping improve the efficiency and performance of those industrial enterprises considered to have the best prospects in terms of economic and financial viability, through privatization and/or selected rehabilitation measures;

(c) strengthen financial discipline, control and accountability by establishing enterprise objectives and plans, introducing criteria for the measurement of performance, and implementing standard accounting, reporting and control systems in co-ordination with the project administered by the Statutory Corporation Division, Ministry of Finance;

(d) increase the Government's absorptive capacity to effectively utilize financial and technical assistance by effective training utiliation of counterpart staff.

*) Figures ex computer run UMAP02/A as at 30 September 1989.

REACTIVATION OF UGANDA SOCKS MANUFACTURE (SI/UGA/89/803)

IO branch:	Industrial Management and Rehabilitation	
Backstopping officer:	Mr. Farah	
Approval date:	September 1989	
Estimated completion date:	1990	
Project inputs:	Int. Experts	1.5 w/m
	Sundries	$ 1,500
Total allotment:	$18,500	
(PAD not yet issued)		

Background

This is a reactivation project proposed to restart production of socks by existing machinery. The original plant was established in 1965 and operated under Uganda Socks Manufacturers - a local company owned by Asian families.

Subsequent to the expulsion of Asians and Expropriation of their properties in 1972. The plant became abandoned and was placed under the Custodian Board.

In 1973, the allocative committees for expropriated properties allocated the facilities to a local firm. Despite the changes in management of the plant facilities, production at the factory did not resume at all.

The objective of the project is to provide the Government with high-level advice on the rehabilitation of Uganda Socks Manufacturers.

ASSISTANCE IN REORGANIZATION OF CASEMENTS AFRICA LIMITED (SI/UGA/89/801)

IO branch:	Industrial Management and Rehabilitation	
Backstopping officer:	Mr. Farah	
Approval date:	April 1989	
Estimated completion date:	1990	
Project inputs:	Int. Experts	12.0 w/m
	Sundries	$ 2,000
Total allotment*):	$129,800	
Uncommitted balance*):	$129,800	

The project's objective is to restructure the organizational set-up of Casements Africa Limited (Aiam Group of Industries), and improve their management and operational capabilities so that the company can more effectively contribute to the resolution of the housing crisis in Uganda by producing and distributing building materials in an effective manner.

*) Figures ex computer run UMAP02/A as at 30 September 1989.

STRENGTHENING THE PLANNING UNIT OF THE MINISTRY OF INDUSTRY (BR/UGA/84/003)

IO branch:	Industrial Planning	
Backstopping Officer:	Mr. Paschke	
Approval date:	June 1986	
Estimated completion date:	1990	
Project inputs:	Int. Experts	62.0 w/m
	Admin. support	$ 25,000
	Staff member missions	$ 18,000
	Training	$ 81,000
	Equipment	$121,514
	Sundries	$ 25,000
	Contingencies	$ 36,360
Total Allotment*):	$928,071	
Uncommitted balance*):	$ 64,546	

This project is financed by the World Bank and its immediate objective is the strengthening of the capabilities of the Planning Unit in the Ministry of Industry so as to enable it to:

(a) undertake sectoral and sub-sectoral planning activities including indicative plans and the formulation of appropriate industrial policies and strategies and institutional arrangements required to promote and support industrial activities; and

(b) monitor plan and programme implementation and formulate recommendations for remedial measures in regard to policies and policy instruments used.

ASSISTANCE TO THE MINISTRY OF INDUSTRY/IRON AND STEEL INDUSTRY (DP/UGA/84/018)

IO branch/section:	Metallurgical Industries	
Backstopping Officer:	Mr. Crowston	
Approval date:	February 1985	
Estimated completion date:	1989	
Project inputs:	Int. Experts	26.4 w/m
	National experts	15.0 w/m
	Admin. support	$10,999
	Staff member missions	$ 3,561
	Subcontracts	$24,610
	Equipment	$18,472
	Sundries	$20,700
Total Allotment*):	$345,485	
Uncommitted balance*):	$ 11,702	

The immediate objectives of the project are to develop methods and systems for the utilization of metal scrap and to determine the demand for iron and steel products with forecasts until the year 2000.

Uganda possesses natural iron ore reserves which need to be reduced as a source of input such as sponge iron/pellet iron for iron and steel making. It is therefore necessary to explore the possibilities of utilizing these natural iron ore reserves in the country using charcoal as a reductant.

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*) Figures ex computer run UMAP02/A as at 30 September 1989.

MANUFACTURE OF AGRICULTURAL TOOLS, IMPLEMENTS AND FARM MACHINERY (DP/UGA/86/015)

Multifund to:	CD/UGA/80/C06 (completed)	
IO branch/section:	Engineering Industries	
Backstopping officer:	Mr. Gladilov	
Approval date:	July 1983	
Estimated completion date:	1991	
Project inputs:	Int. Experts	18.0 w/m
	Admin. suppot	$ 20,400
	Volunteer	$ 52,370
	Staff member missions	$ 37,950
	Subcontracts	$982,000
	Training	$ 20,000
	Equipment	$ 43,000
	Sundries	$ 24,000
Total allotment*):	$1,382,100	
Uncommitted balance*):	$1,185,553	

The purpose of this project is to rehabilitate an existing agricultural implements factory which earlier received UNIDO assistance but which ceased production during the 1979 war. The factory is designed to produce ploughs, carts, handmills, hoes and slashers.

*) Figures ex computer run UMAP02/A as at 30 September 1989.

DEVELOPMENT OF THE LIME INDUSTRY (XP/UGA/88/050)

IO branch:	Chemical Indrstries)	
Backstopping officer:	Mr. Hagan	
Approval date:	January 1989	
Estimated completion date:	1989	
Project inputs:	Int. Experts	1.5 w/m
	Sudries	$ 2,000
Total allotment*):	$24,500	
Uncommitted balance*):	$ 3,250	

The immediate objective of the project is to assist the Ugandan authorities to decide on the exploitation of limestone resources in view of the current utilization pattern and demand for lime and lime products in the country, as well as to rehabilitate existing lime installations.

FEASIBILITY STUDY FOR THE ESTABLISHMENT OF A CONTAINER GLASS FACTORY (XP/UGA/88/006)

IO branch:	Feasibility Studies (in co-operation with Chemical Industries)	
Backstopping officer:	Mr. Klykov	
Approval date:	Feb. 1988	
Estimated completion date:	1989	
Project inputs:	Staff member missions	$ 3,500
	Subcontracts	$97,500
Total allotment*):	$101,000	
Uncommitted balance*):	all funds committed	

The immediate objective of this project is to carry out a feasibility study on the production of container glass and glass table-ware in Uganda.

*) Figures ex computer run UMAP02/A as at 30 September 1989.

STUDY ON THE ESTABLISHMENT OF A PLANT TO MANUFACTURE TILES AND SANITARY WARE (SI/UGA/89/802)

IO branch:	Feacibility Studies	
Backstopping officer:	Mr. Klykov	
Approval date:	September 1989	
Estimated completion date:	1990	
Project inputs:	Short-term consultants	0.5 w/m
	Staff member missions	$ 7,000
	Subcontracts	$80,000
	Sundries	$ 1,500
Total allotment (Ex. PAD):	$91,000	

The project's objective is to provide high-level advice to the Government on the possiblility of establishing a factory to manufacture tiles and sanitary ware for indigenous raw materials in Uganda.

FELLOWSHIP IN ACCOUNTING AND FINANCIAL MANAGEMENT (FOOD-PROCESSING INDUSTRY) (XP/UGA/89/026)

IO branch:	Industrial Human Resource Development	
Backstopping officer:	Mr. Hanselmann	
Approval date:	May 1989	
Estimated completion date:	1989	
Project inputs:	Study tours	$ 5,500
Total allotment*):	$5,500	
Uncommitted balance*):	$ 347	

The objective of the project is to up-grade the professional knowledge of the candidate, to identify and apply skills and techniques that will better equip him to cope with his task to improve the financial stores control of the Uganda Grain Milling Company and its subsidiaries.

*) Figures ex computer run UMAP02/A as at 30 September 1989.

UNIDO's Completed Technical Co-operation Projects

Republic of UGANDA (1)
since 1972.
sorted by SPEC.ACT./ALL.ACC.CODES

Project Number	Backstopping Responsibility	Spec.Act./ All.Acc.Code	Project Title
DP/UGA/66/507	IO/IIS/INFR	31.4.02	Small industry development programme
DU/UGA/87/002	IO/IIS/INFR	J12103	Programme support project (Executing Agency: UNDP/OPS)
DP/UGA/72/009	IO/IIS/IMR	31.3.01	Assistance to the Uganda Development Corporation
TF/UGA/72/003	IO/IIS/IMR	31.3.01	Manufacture of dinner-ware and sanitary feasibility study on non-metallic products
SI/UGA/71/801	IO/IIS/IMR	31.4.B	Industrial management team for parastatal manufacturing enterprises
SM/UGA/73/801	IO/IIS/IMR	31.4.B	Industrial management team for parastatal manufacturing enterprises
DP/UGA/74/007	IO/IIS/IMR	J12206	Development of UDC industrial accounting system and staff
DP/UGA/68/019	IO/IIS/IMR	32.1.03	Industrial development and productivity
RP/UGA/83/001	IO/IIS/IMR	31.4.A	Technical assistance to the Ministry of Industry
DP/UGA/83/001	IO/IIS/IMR	J12207	Technical assistance to the Ministry of Industry
SI/UGA/82/803	IO/IIS/IMR	31.4.A	Assistance for initial operation of the Moon Enterprise Pencil Plant
DP/UGA/74/001	IO/IIS/IMR	31.4.E	Establishment of UDC consultancy group
DP/UGA/74/008	IO/IIS/IMR	31.4.E	Assistance to price advisory committee
RP/UGA/77/001	IO/IIS/IMR	31.7.A	Pilot plant for the production of prefabricated modular wooden bridges
RP/UGA/77/006	IO/IIS/IMR	31.7.A	Production of prefabricated modular wooden bridges
SM/UGA/75/024	IO/IIS/PLAN	32.1.01	Polyvalent planning mission for the industrial sector
DP/UGA/76/007	IO/IIS/PLAN	31.2.A	Assistance to the industrial planning unit
RP/UGA/77/002	IO/IIS/PLAN	31.2.A	Industrial planning unit

UNIDO's Completed Technical Co-operation Projects

Republic of UGANDA (2)
since 1972

Project Number	Backstopping Responsibility	Spec.Act./ All.Acc.Code	Project Title
RP/UGA/84/001	IO/IIS/PLAN	31.2.A	National workshop on the Industrial Development Decade for Africa (see RP/UGA/85/601) (IDDA)
RP/UGA/85/601	IO/IIS/PLAN	31.2.A	National workshop on the Industrial Development Decade for Africa (IDDA)
DP/UGA/74/020	IO/IIS/PLAN	31.2.D	Assistance to industrial planning and programming unit
RP/UGA/75/002	IO/T/AGRO	30.6.01	Fellowship in maintenance management
RP/UGA/78/003	IO/T/AGRO	31.7.C	Establishment of a sugar industry development centre
DP/UGA/81/001	IO/T/AGRO	J13103	Rehabilitation of Mukisa Foods Limited
SI/UGA/83/801	IO/T/AGRO	31.7.C	Community food processing centre
UC/UGA/85/254	IO/T/AGRO	J13103	Establishment of a food processing centre
SI/UGA/81/801	IO/T/AGRO	31.7.D	Survey of the leather products industry capacities in Uganda
SI/UGA/77/801	IO/T/MET	31.8.C	Assistance to the Uganda steel industry
DP/UGA/80/014	IO/T/ENG	J13312	Assistance to the Soroti Agricultural Workshop: manufacture of low-cost agricultural tools, implements and simple machines - preparatory assistance
SM/UGA/73/015	IO/T/ENG	31.9.B	Manufacture of low cost farm equipment
SI/UGA/74/034	IO/T/ENG	31.9.Z	Industrial repair and maintenance planning mission
RP/UGA/77/003	IO/T/CHEM	32.1.A	Assistance to the cement industry
DP/UGA/74/010	IO/T/CHEM	32.1.A	Assistance to Uganda cement industry
IS/UGA/71/803	IO/T/CHEM	32.1.B	Manufacture of dinner ware and sanitary ware, feasibility study of non-metallic products

UNIDO's Completed Technical Co-operation Projects

Republic of UGANDA (3)
since 1972

Project Number	Backstopping Responsibility	Spec.Act./ All.Acc.Code	Project Title
SM/UGA/73/803	IO/T/CHEM	32.1.B	Manufacture of dinner ware and sanitary ware, feasibility study of non-metallic products
SI/UGA/80/801	IO/T/CHEM	32.1.B	Establishment of small-scale brick plants in Masaka and Mrarara, preparatory mission
RP/UGA/76/002	IO/T/CHEM/PH	32.1.D	Assistance to the pharmaceutical unit
DP/UGA/74/031	IO/T/CHEM/PH	32.1.D	Establishment of a drug manufacturing facility
RP/UGA/74/002	IO/T/CHEM	30.4.03	Assistance to the PAPCO industries
SM/UGA/71/802	IO/T/CHEM	30.4.03	Assistance to the management of the PAPCO, paper industries
SI/UGA/77/802	IO/T/CHEM	32.1.E	Fact-finding mission to PAPCO Industries Ltd.
DP/UGA/81/008	IO/T/CHEM	J13423	Assistance in pulp and paper production - Pulp and Paper Company (PAPCO)
SI/UGA/84/801	IO/T/CHEM	J13420	Reviewing the technical report on the Lake Katwe salt project
SI/UGA/82/801	IO/OS/FZAS	31.6.A	Feasibility study for the establishment of a pesticide manufacturing plant
DP/UGA/73/011	IO/OS/IHRD	31.5.B	Fellowship for industrial training
RP/UGA/76/004	IO/OS/IHRD	31.5.B	Industrial training, study tour
RP/UGA/77/005	IO/OS/IHRD	31.5.B	Fourth general course on development banking, Bangalore, India 22 August - 10 September 1977
RP/UGA/77/007	IO/OS/IHRD	31.5.B	Fourth general course on development banking, Bangalore
RP/UGA/78/006	IO/OS/IHRD	31.5.B	Training in construction of low-cost pre-fabricated wooden bridges
RP/UGA/78/007	IO/OS/IHRD	31.5.B	Management of management centres course
RP/UGA/85/001	IO/OS/IHRD	31.5.B	Training in textile technology

UNIDO's Completed Technical Co-operation Projects

Republic of UGANDA (4)
since 1972

Project Number	Backstopping Responsibility	Spec.Act./ All.Acc.Code	Project Title
RP/UGA/80/001	PPD AREA/ECDC	30.9.Z	Orientation visit in the field of building materials and construction industries
RP/UGA/78/002	EPL REL/PROT	70.3.Z	Visit of the Minister of Industry and Power to UNIDO

ANNEX 6

LIST OF ON-GOING TECHNICAL ASSISTANCE PROJECT IMPLEMENTED BY VARIOUS BILATERAL AND MULTILATERAL AGENCIES

Project	Donor	Signa..Date	Committment 1000 US $
UDB Line of Credit.	A.D.B	09-Mar-84	17.544
UDB Line of Credit III.	A.D.B	00-Jan-00	39.318
Industry	EEC/UCB	18-Dec-84	0.020
Industry Sectoral Adjustment	IDA	00-Jan-00	60.000
Public Enterprise Reform	IDA	01-Jan-89	13.455
Precision equips.	IDA III	30-Nov-84	3.456
Industry	IDATAII	27-Apr-84	1.680
Industry Line of Credit UDB	OPEC	16-Jul-82	15.069
Industry Line of Credit UDB	OPEC	00-Jan-00	15.000
TA UDB	UNDP	01-Jan-01	2.160
85/009 Ind. Training Needs	UNDP	00-Jan-00	0.180
83/001 Asst.to Min.of Ind.	UNDP	01-Oct-85	0.591
Reh. Prod. Enterprises	USAID	01-Jan-87	6.850
Equity Share for DFCU	W.Germany	01-Jan-85	1.250
Plg.& Mgt.of Ind.Tr.Needs	A.D.B	01-Jan-88	0.325
Reh of ATM.	Abu Dhabi	25-Nov-78	4.834
African Textile Mills.	BADEA	25-Nov-78	4.700
African Ceramics Co./Manager	CFTC	01-May-88	0.075
Improv. Ceramic Industry	CFTC	01-Jun-88	0.125
Rehab. Engineering Workshop	CFTC	01-Feb-88	0.075
Retreading Plant	Cuba	00-Jan-00	0.000
Nyanza Textile.	C. D. C.	01-Dec-68	0.338
Kiira Saw Mills Ltd.	EADB	03-Aug-83	1.484
Uganda Cement Ltd.	EADB	12-Sep-85	1.495
Nyanza Textiles.	EADB	05-Nov-86	0.088
Sanyu Tissues Ltd.	EADB	29-Dec-72	1.193
Century Bottling.	EADB	14-Feb-85	1.640
L.Victoria Bottling.	EADB	05-Dec-85	1.242
Manufacture	EEC/UCB	18-Dec-84	0.081
The Phosph.Eng.12280	IDA	02-Sep-82	4.270
Beverages	IDA I	01-May-80	5.960
Cement Industry	IDA I	01-May-80	4.600
Wood & Paper	IDA I	01-May-80	0.720
Textile/Clothings/Shoes	IDA I	01-May-80	5.650
Textile Industry	IDA II	28-Jul-82	3.410
Cement Industry	IDA II	28-Jul-82	2.300
Textile Industry	IDA IRC	15-Sep-82	4.130
Hima Cement Factory	IDB	01-Nov-82	3.700
Textile Industry	IDB	01-Jan-01	2.100
Sheet Glass(study)	IDB	17-Mar-78	0.141
Hima Cement	IDB	00-Jan-00	0.000
Third Cement Factory	IDB	17-Mar-78	0.450
Grain Dehulling	IDRC	01-Jan-86	0.107
Textile Industry	India	01-Jan-01	1.740
Feasibility Pulp & Paper	Italy	17-Apr-89	0.000
E.A. Steel Corporation	Italy	23-Jul-84	12.100
Fishnet Factory	Japan	19-Mar-76	0.990

Project	Donor	Signat.Date	Committment 1000 US $
UGIL	Japan	13-Aug-69	1.310
84/018 Iron & Steel Ind.	UNDP	05-Feb-85	0.346
81/008 Pulp & Paper Prod.	UNDP	02-Mar-81	0.401
Tallow for Mukwano	USAID	21-Jun-88	4.000
Reh.Lira Cotton Mill.	USSR	00-Jan-00	0.000
Lira Cotton Mill.	USSR	19-Aug-83	4.800
Textile	U. K.	01-Mar-69	0.003
Nytil Ltd	U. K.	25-Jun-87	0.249
E.A Sawmill	U. K.	01-Jun-71	0.006
Steel Industry	U. K.	01-Jul-69	0.180
Madhavani	U. K.	01-Jun-69	0.062
Kinyala Sugar Works	U. K.	25-Jun-87	0.305
Cement Industry	U. K.	01-Sep-67	6.713
Agro-Ind. Inputs	U. K.	25-Jun-87	2.315
African Textile Mill	U. K.	01-Aug-71	0.029
African Textile Mill	U. K.	01-Dec-71	0.016
Hima cement	W.German VI	13-Aug-86	1.204
Hima cement	W.Germany	13-Aug-86	3.736
Uganda Cement Works	A.D.B	01-Jan-84	2.590
Lugazi Sugar Complex.	A.D.B	08-Nov-82	13.420
Uganda Cement Studies.	A.D.B	11-Dec-84	2.590
Lake Katwe Salt.	A.D.B	07-Nov-75	3.070
Lugazi Sugar Complex.	BADEA	01-Sep-83	8.000
Kinyala Sugar Works	BADEA	00-Jan-00	10.000
Lugazi Sugar Works	BADEA	00-Jan-00	0.000
African Basic Foods	CFTC	01-Jan-01	0.000
Production Soya products	CFTC	01-Jun-88	0.030
Bread Ltd.	CFTC	01-Jan-01	0.000
Metal Fabrication	CFTC	01-Jan-88	0.005
Rehab. Starch Production	CFTC	01-Oct-86	0.059
Kampala Ice Plant	China	25-Aug-87	0.060
Food Processing	Cuba	00-Jan-00	0.000
Bagasse	Cuba	00-Jan-00	0.000
Kinyala Sugar Rehabilitation	Cuba	00-Jan-00	0.000
Lugazi Sugar Ind.	C. D. C.	06-Jul-84	6.880
Nyanza textile Ind. Ltd.	EADB	07-Sep-78	1.260
Star Millers Ltd.	EADB	19-Sep-86	0.102
Papaco Ind. Ltd.	EADB	22-Mar-71	0.350
Kirinya Sugar Estates Ltd.	EADB	24-Feb-83	0.055
Uganda Cement Ind.	EADB	12-Dec-72	1.083
Nyanza textile Ind. Ltd.	EADB	03-Sep-73	1.250
Kinyala Sugar Works	EADB	00-Jan-00	4.000
Kisaasi Coffee Proc. Ltd.	EADB	09-Jan-87	0.165
LCU Oil Mill.	EADB	10-Nov-86	0.945
Kampala Knitwear Ltd.	EADB	07-Nov-80	0.046
Lake Katwe Salt Co,Ltd.	EADB	09-Jun-75	3.172
Nyanza textile Ind. Ltd.	EADB	28-Jun-82	1.981
Food Processing & Storage	F.A.O.	01-Jan-83	0.155
Kakira Sugar Rehabilitation	IDA	01-Jan-88	25.000
Agriculture Rehab. Credit	IDA ARC	20-Jul-83	3.600
Agriculture Rehab. Credit	IDA ARC	20-Jul-83	1.430
Tobacco Processing	IDA I	01-May-80	4.300

Project	Donor	Signat.Date	Committment 1000 US $
Tobacco Industry	IDA II	28-Jul-82	2.060
Beverage Industry	IDA II	28-Jul-82	2.380
Sugar Industry	IDA II	28-Jul-82	12.800
Kakira Sugar Works	IDATAII	27-Apr-84	0.030
Match International	IDB	01-Jan-88	1.453
Coffee Dust Disease Research	IDRC	01-Jan-84	0.096
Sugar Corp.Of Uganda	IFC	14-Oct-83	8.000
Kinyala Sugar Works	India	00-Jan-00	5.000
Lugazi Sugar Works	India	05-May-81	2.057
Lugazi Sugar Works	India	05-May-81	8.003
Lugazi Sugar Corp.	India	18-Nov-83	8.000
Kakira Sugar (REGGIANE)	Italy	01-Jan-80	1.850
Nytil Rehabilitation	Italy	17-Apr.89	17.000
Kakira Sugar (REGGIANE)	Italy	01-Mar-76	23.275
Lugazi Sugar Ind.	Kuwaiti Fund	04-Apr-84	10.000
Kinyala Sugar Works	Kuwaiti Fund	00-Jan-00	10.000
Kinyala Sugar Works	OPEC	00-Jan-00	0.000
Kinyala Sugar works	Saudi Fund	00-Jan-00	10.000
Hima Cement Factory	Turkey	00-Jan-00	0.000
81/001 Mukisa Food	UNDP	02-Mar-82	0.512
Lake Katwe Salt.	UNIDO	01-Jan-01	0.011
Sugar Works	U. K.	01-Aug-68	0.033
Madhavani	U. K.	01-Apr-68	0.012
Lake Katwe Salt.	W.Germany	01-Jan-01	0.660
DIGS(Steel flats & wire)	Australia	01-Jan-82	1.320
Kakira Sugar Work	A.D.B	01-Apr-88	21.900
Reh. of Ind, Sub-project.	A.D.B	26-Jun-80	8.772
Industry Line of Credit	A.D.B	01-Jan-01	12.224
Survey of Ind.Training Needs	A.D.F	01-Dec-87	0.330
Industry & Agri/UDB	BADEA	11-Mar-86	6.000
Auto recondition training	CFTC	01-Jun-85	0.064
Kampala Ice Plant	China	06-Jun-74	1.146
Supply of Steel Flats	Denmark	06-Jul-87	3.571
Kabale Ind. Ltd.	EADB	11-Jul-77	0.341
Jinja Constr. & Joinery.	EADB	17-Dec-84	0.549
Line of Credit UDB	EEC	23-Apr-80	2.027
Risk Capital - UDB	EIB I	05-Oct-82	10.525
Risk Capital - UDB	EIB II	05-Oct-82	3.378
Risk Capital - UDB/DFCU	EIB III	00-Jan-00	17.000
Small Scale Industry	IDA	00-Jan-00	15.000
Raw Materials	IDA III	30-Nov-84	9.951
Ind. Line of Credit.12480	IDA IRC	15-Sep-82	4.310
Ind. Line of Credit.12430	IDA IRC	15-Sep-82	26.560
Line of Leasing	IDB	05-Mar-84	6.000
Line of Leasing.	India	26-Sep-79	6.568
Lugazi Sugar II	Kuwaiti Fund	01-Nov-87	2.500
Tata Engineering Service.	Singapore	01-Dec-84	2.400
87/013 Industr. Dev.	UNDP	00-Jan-00	1.510
Rehab. of Prod.Enterp.	USAID	01-Jan-87	5.350
Reh. Prod. Enterpr.	USAID	01-Jan-84	6.000