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**INDUSTRIAL REGENERATION/REHABILITATION IN SOMALILAND\***

**AN OVERVIEW**

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## PREFACE

The main aim of this Somaliland briefing book is to provide ample background and information on the macroeconomy of Somaliland. The domestic primary resource base, the export potential and linkages to manufacturing receives due attention in this briefing book. Selected industrial sub-sectors and their rehabilitation needs are also examined.

In effect, this overview should provide the necessary orientation to the forthcoming REGs rehabilitation mission to Somaliland.

This briefing book has been prepared by the Regional and Country Studies Branch, Industrial Perspectives Division of UNIDO with inputs from Mr. Benjamin O. Botchway, an in-house consultant of UNIDO.

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# 1 SOMALILAND INDUSTRIAL REGENERATION/REHABILITATION ISSUES

## 1.1 Justification

The overall effect of protracted period war and civil strife - war with Ethiopia over the Ogaden and civil war among the country's dismembered tribal and political factions over control of the country and government - has been massive destruction of Somalia's basic infrastructure, industry, agriculture, health and social service and the economy in general. Existing production facilities (industrial, agricultural and services) such as factories and other small-scale enterprises of the formal and informal sectors - for example, food, leather processing and products, artisanal fish production and processing - and infrastructural facilities such as transport, communications, water, energy, health and education have been severely affected and are in urgent need of regeneration or rehabilitation.

Industrial regeneration/rehabilitation for overall economic recovery and growth in the war-devastated country of Somalia may require an assessment of: macroeconomic policies and planning; an overall and detailed assessment of rehabilitation needs and capabilities and prospects for rehabilitation, the concept of rehabilitation, its modalities and measures, and; investment resources for financing rehabilitation programmes.

However, a peaceful and conducive political environment is a necessary prerequisite for industrial and economic regeneration in Somalia at the moment. It is rather unfortunate to remark that the prospects for a peaceful settlement of Somalia's civil strife through peaceful and democratic processes to extricate the country from its economic and social predicaments appear very slim in the foreseeable future. This is due to the fighting between the rival tribal and political factions for the control of the capital city, Mogadishu and government. Briefly, Somalia can be described as a "nation without a state".

Due to lack of clarity over the present state of security and political affairs in Somalia (the South), it would be appropriate in the mean time to re-focus UNIDO's efforts in the field of industrial regeneration/rehabilitation on the relative peaceful Somaliland (the North- former British Protectorate of Somaliland) which declared itself as the independent Republic of Somaliland (with seat of government in Hargeisa) on 6th. June, 1991 (see political map in figure 1).

Other than financial and investment resources, the prevailing conditions in/and status of Somaliland (see map 1) listed below would present greater opportunities for viable economic regeneration/rehabilitation programme:-

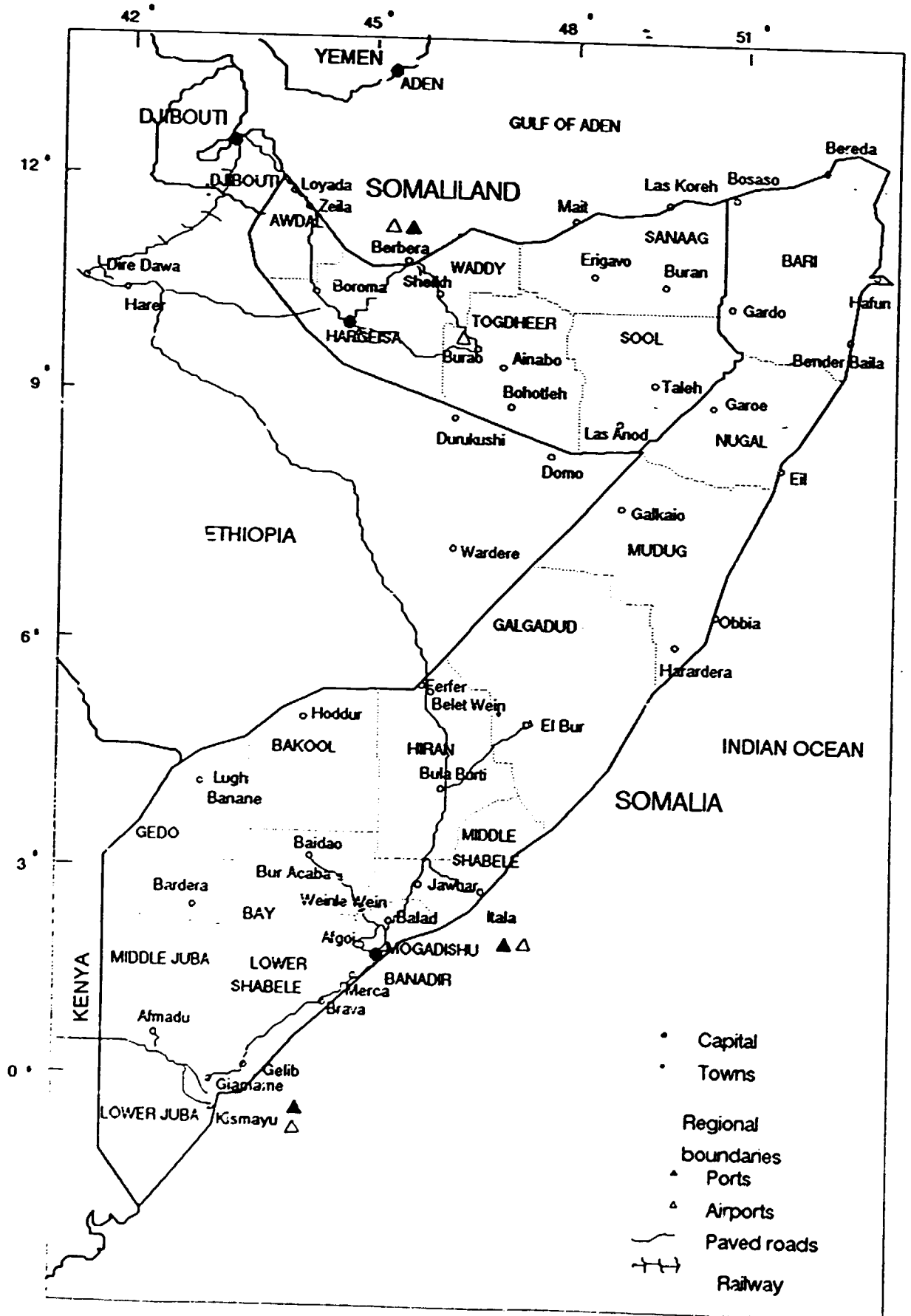
popularity of the government, the confidence of the elders of the clans in the government and vice-versa, and loyalties of clanfolks to their clan elders;

freedom of movement, the liberty to travel throughout the country without restriction;

a small and organized army and police force for the maintenance of law and order;

availability of experienced civil servants, professionals and businessmen and businesswomen - there may be the likelihood of more professionally qualified and experienced citizens resident abroad to return home when economic reconstruction is started.

Figure 1: Political map of Somalia and Somaliland



## 2 Somaliland: An overview

### 2.1 Geographical description

Somaliland lies between 8 and 11 degrees north of the Equator, and between 43 degrees and 49 degrees east of the Greenwich Meridian. Temperature varies with the seasons and altitude. Maximum temperatures around Berbera and the coastal region vary between 90 and 86 degrees Fahrenheit in March and September (humidities are 82 and 74 per cent respectively). Generally, temperatures are lower in winter than in summer.

Somaliland is influenced by the two major wind streams: the dry North-East monsoons in winter and; the wet South-West monsoons in summer. The North-East monsoon blows between October and March. April is a calm, hot and windless month. The wet South-West monsoon brings the life-giving rains in May and June. The period between July and September is basically dry, but rain may fall in late July and early September in the mountainous regions of western, central and eastern Somaliland. Rainfall is erratic and runoff is rapid. Annual average rainfall between the period 1947 and 1950 varies between 1.9 inches (the lowest in Berbera) and 18.8 inches (the highest in Borama). The wettest parts of Somaliland are the highland regions around Borama, Hargeisa and Erigavo regions.

Somaliland is basically arid. Rainfall is a crucial factor of agricultural, industrial and other productive activities. Pastoral activities and livestock raising (cattle, camels, sheep and goats), the backbone of Somaliland economy depend on the rainfall regime and vegetation. Inland away from the coastal mangrove swamps belt stretching from Zeila in the north-west to Las Koreh in the north-east is an extensive belt of non-cultivated rough grazing land with trees (more than half of the total land area). Pockets of wood and forest (north of Borama, Erigavo and south of Las Koreh) and arable land (around Borama, Hargeisa, Burao and Las Anod) are found.

### 2.2 Macroeconomic overview

Lack of data makes a detailed and up-to-date macroeconomic analysis of Somaliland difficult if not impossible. However, the basic feature of Somaliland's macroeconomy include the following:

- a predominant livestock sector (in value terms), cattle, camels, sheep and goats form the major export items, and more than half of the population is dependent on nomadic pastoralism for its livelihood;

- an export sector dominated by the export of unprocessed or semi-processed domestic resource-based products such as livestock, fish and fish products, bananas, hides and skins etc.;

- a large inflow of remittances from Somaliland citizens working in the Gulf States: a large portion of this inflow is believed to exceed the country's optimum foreign exchange earnings, a large portion of this is, however, unrecorded;

- a large share of total imports comprising consumer goods imports financed externally by citizens abroad;

- an uncontrollable free-market exchange rates determined by the inflow of remittances from citizens abroad and by imports of goods financed by citizens abroad;



### 3 Trade

Data and statistics on Somalia's trade are rudimentary. This makes it extremely difficult to make any inference for a precise description of the structure of Somaliland's trade. Evidence shows that trade between the North (Somaliland) and the South (Somalia) are insignificant. Prospects of trade between Somaliland and its neighbouring countries such as Ethiopia and Djibouti and the Gulf States are bright, but export trade in processed and semi-processed agro-based products is yet to be developed.

Remittances from Somalis abroad are the major capital inflows. Food imports financed by citizens abroad are also significant. These inflows (including undeclared or unrecorded remittances) are quite substantial, they are believed to exceed national foreign exchange earnings. It is not possible to give precise volume and value of capital and goods inflow into Somaliland.

Total merchandized trade balance (in value terms) in 1989 showed an export deficit of about 19 per cent. About 26 per cent of total imports were agricultural products including food and animal products (about 17 per cent of 1989 total merchandized imports). According to the Five Year-Development Plan 1987-1991 of Somalia, an accelerated decline in food imports are expected. In reality, this vision seems illusive, because of the enormous damage caused to production activities by the civil war.

Livestock is the dominant export item and largest foreign exchange earner of Somalia, contributing more than half of total merchandized trade (see table 1). Livestock exports in 1985 peaked at US\$ 81.9 million (about 76 per cent of 1985 total merchandized exports), but steadily dipped to US\$ 49.5 million (about 58 per cent) in 1989. Banana exports in value terms ranked second (with 25 per cent), and fish and fish products the third (14 per cent) on the 1989 total merchandized export list. Hides and skins placed fourth on the 1989 export list with a 2 per cent share of total exports.

Table 1: Merchandize trade, Somalia, 1984-1989

(Millions of dollars)

Sector, sub-sector	Imports				Exports			
	1984	1986	1988	1989	1984	1986	1988	1989
Agricultural products (total)	138.9	159.5	112.8	113.6	51.6	94.1	74.7	74.4
Food and animals	89.9	111.1	70.9	72.5	49.2	88.1	67.5	71.0
Live animals					34.1	70.7	43.8	49.5
Fruit and vegetables	3.7	3.1	6.8	5.1	15.2	17.4	23.7	21.1
Sugar and honey	3.0	31.6	7.1	7.6				
Hides and skins					0.6	2.4	2.8	1.8
Fish and fishery products					3.7	3.0	7.8	7.8
Total merchandize trade	466.0	447.0	458.0	440.0	57.0	100.0	85.0	85.0

Source: FAO Yearbook Trade 1989.

### 3.1 Livestock export

According to FAO statistics<sup>1</sup>, the most important merchandize item traded is livestock (on hoof). It accounted 58.2 per cent of total merchandize exports of Somalia in 1989. Back in 1984, however, livestock exports fell drastically low. This was mainly due to Saudi Arabia's import restriction imposed on Somali livestock exports allegedly on health and sanitary grounds. Shortly, after the Saudis waived the restriction, livestock exports peaked in 1985 at a value of \$81.9 million. Since 1986, the value of livestock exports has progressively decreased. The major factor accounting for the declining exports is the aftermath of the civil war and the cessation of conventional exports from Berbera. Compared to the previous year, livestock export in 1989 increased slightly to a value of \$49.5 million. Thus, accounting for 66.5 per cent of total agricultural products export. Somaliland's livestock export capacities would expand when the port of Berbera is rehabilitated and veterinary services improved.

<sup>1</sup> FAO Yearbook, Trade, vol. 43, 1989.

Table 2 shows the livestock (cattle, sheep and goats) trade pattern of Somalia in comparison to four selected African countries during the period 1978 and 198. Somalia imports practically, no livestock. Its exports of cattle reduced in both quantity and value terms due to the civil war. Cattle exports dropped from 47,823 head (valued at \$12.6 million) in 1987 to 20,000 head (valued at \$5.5 million) in 1989 with a negative growth of 129.1 per cent in value terms. Similarly, exports of sheep and goats combined fell from 1.1 million head to 800,000 head with a relatively small negative change of 36.8 per cent. Ethiopia imports fairly large head of cattle to satisfy its nutritional (protein) needs. Somaliland may in future capitalize on proximity advantages to exploit fully the benefits of the Ethiopian cattle market.

Before the civil war, Bosaso was a focal point for the export of livestock from Erigavo and Las Anod regions. It could be expected that Somaliland's livestock exports will in future be routed per Bohotleh through the port of Berbera to Saudi Arabia and to other Gulf States of Yemen and Dhubai. Saudi Arabia receives more than half of Somalia's livestock export. It could be expected that this trend would hold good for Somaliland given that the point of embarkation, Berbera is rehabilitated.

Breakdowns of total livestock export by region (South - Somalia and; North - Somaliland) and by category of livestock are not available. Data and trade statistics compilation await development. On the basis of official and information from reliable sources<sup>2</sup>, it can, however, be estimated that Somaliland exports twice as much sheep and goats than Somalia.

Due to paucity of livestock export data, an examination of Saudi Arabia's import statistics would be helpful. It could safely be used as a proxy for further elaboration on Somalia's livestock (including cattle, camels, sheep and goats) exports. The analysis of Saudi data could have significant implication for Somaliland's livestock exports. It has to be noted, however, that use of the Saudi import figures alone do not give an overall picture of Somalia's livestock economy. It tends to overlook Somalia's livestock exports to Djibouti, Ethiopia and to other potential and easily accessible markets of the Gulf Region including Yemen and the United Arab Emirates. Nonetheless, an analysis of the Saudi livestock import statistics is of significant would shed much light on the livestock economies of both Somalia and Somaliland.

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<sup>2</sup> Interview with Musa Farah, Senior Industrial Development Officer, United Nations Industrial Development Organization, Vienna; John Drysdale, *Somaliland 1991, Report and Reference*. Global-Stats Ltd., Hove, U.K., 1991, pp. 25-27; ILO, *Rural-Urban Gap and Income Distribution - The Case of Somalia*, Addis Ababa, 1982.

Table 2: Trade in livestock, Somalia in comparison, 1987-1989  
(Thousands of head; Millions of dollars)

Country, livestock	1987	1988	1989	1987	1988	1989
<u>Somalia</u>						
cattle				47.8 (12.6)	26.0 (7.2)	20.0 (5.5)
sheep/goats				1,066.6 (52.0)	650.0 (32.0)	800.0 (38.0)
<u>Centra! Afr. Rep.</u>						
cattle	20.0 (3.3)	10.0 (1.8)	10.0 (1.9)	5.0 (1.0)	5.0 (1.1)	5.0 (1.2)
sheep/goats	2.5 (0.8)	2.5 (0.8)	2.5 (0.9)			
<u>Chad</u>						
cattle				63.7 (28.0)	45.5 (21.0)	52.0 (23.5)
sheep/goats				80.0 ( 2.7)	100.0 ( 3.8)	110.0 (4.4)
<u>Djibouti</u>						
cattle				59.2 (3.3)	66.0 (3.8)	70.0 (4.1)
sheep/goats				9.0 (0.4)	4.2 (0.2)	5.0 (0.3)
<u>Ethiopia</u>						
cattle	0.4 (0.2)	0.9 (0.8)	1.0 (0.9)			
sheep/goats				215.0 (9.9)	240.0 (11.7)	195.0 (9.2)

Source: FAO Yearbook Trade 1989.

Note: Figures in parentheses are millions of dollars.

### 3.1.1 Export potential

Table 3 derived from Saudi imports of livestock shows the quantity, weight, value and competitive position of Somalia in relation to other livestock exporting countries between 1987 and 1989. Since the Saudi market presents the largest market opening for Somalia's livestock exports, analysis of the import figures can help gauge the livestock export potentials of Somalia and Somaliland as well.

In 1977, over a million head of sheep was exported to Saudi Arabia. This figure fell to 604,000 in 1988 and 522,000 in 1989. The value of sheep exports consequently dropped from US\$55.2 million in 1987 to US\$27.4 million in 1989. Similarly, camel exports dropped from 12,300 head in 1987 to a meagre 960 head in 1989. The declines in sheep and camel exports were due mainly to the cessation of traditional exports via cargo ships (not dhows) from Berbera. Contrary to the export trend of the other two livestock categories, the exports of goats (mostly from Somaliland) increased dramatically from 2,200 heads in 1987 to 23,000 heads in 1989 with a percentage increase of about 90 per cent.

Somalia's share of sheep exports on Saudi Arabia's market declined from 16 per cent in 1987 to 10.6 per cent in 1989. Camel exports fell even more markedly, from 90 per cent to 20 per cent. During the same period, however, exports of goats increased from 2 per cent to 13 per cent on the Saudi market.

The major competitors of Somalia on the Saudi livestock export market classified in terms of value in 1989 are shown in table 3.

Somalia was the second largest exporter of sheep to Saudi Arabia in 1987. Sheep export accounted 15 per cent of Saudi total sheep imports (Australia was the largest supplier with a share of 36 per cent). Concerning the exports of goats to Saudi Arabia, Somali place sixth contributing only 2 per cent share of the Saudi market requirement. With camel exports, however, Somalia ranked first with 82 per cent of the market share.

**Table 3: Somalia's competitors on Saudi Arabian livestock market, 1989**  
(Percentage of total value of livestock imports)

Sheep (Percentage share)		Goats (Percentage share)		Camels (Percentage share)	
1. Somalia	11	1. Somalia	6	1. Somalia	20
2. Australia	18	2. Egypt	12	2. Ethiopia	73
3. Syria	22	3. Turkey	40		
4. Turkey	38				

The competitiveness of Somalia on the Saudi livestock market is considerably affected by the prices of livestock. The average price per head of sheep and camels in the period 1987 and 1989 remained fairly constant. Contrastingly, the unit price of goats showed an upward trend. On the other hand, the price of livestock varies with the average unit weight of livestock. Thus, Australian and New Zealand sheep exports (sheep with the an average weight of 48 kilogrammes) maintain a competitive edge over Somalis sheep exports (sheep with an average weight of only 26 kilogrammes) on the Saudi market. With improved transport and veterinary facilities, and proper watering and feed, Somali livestock would be able to compete favourably on the livestock export market. Concerning Saudi Arabia and the Gulf States market, Somalia, and for that matter Somaliland enjoys the advantage of propinquity, since this would in theory reduce transport costs.

The Saudi market is extremely sensitive to special consignments such as cattle and sheep. Recent disputes between Saudi authorities and Australian and New Zealand exporters over the age and health of some of their livestock consignments resulted in the downturn of their market shares. Somalia would be in a better position to outedge its major and distant competitors and consolidate its position on the Saudi livestock market. This would, however, depend on improvements in the veterinary services system and the availability of veterinary drugs. Saudi demand for livestock also depends on the prosperity of their people, and indirectly, on the seasonal influx of pilgrims during the Haj.

A solid analysis of Somaliland's livestock economy depends to a greater extent on the availability of up-to-date and comprehensive data and information on the livestock sector including production and export figures. Although limited, the Saudi trade data offers important hindsight into the export potentials and competitive position of Somaliland whose livestock resource potentials include primarily goats, sheep and camels.

### 3.1.2 Problems and constraints

Several constraints hinder the expansion of Somalilands' (and Somalia's) livestock export sector. The major constraint is inadequate veterinary and sanitary service facilities. The fact that about 15 per cent of total herd sent to the veterinary station in Burao for examination die, because of lack of drugs is an attestation to the miserable state of the veterinary services system. The ultimate result of poor veterinary and sanitary services is low quality livestock export produce and less foreign earning. After the 1984 Saudi-imposed restriction on Somali livestock exports, the Saudis, in a second instance turned away in June 1991 a cargo of about 10,000 head of sheep on the same sanitary and health grounds. Fortunately, Yemen accepted the cargo. Exports of poor quality livestock would ultimately go to weaken Somalia's competitive stand on the export market, especially on the Saudi market.

The second constraint to Somalia's livestock export economy is the uncertainties associated with the organization of the livestock export business. Due to poor telecommunication facilities, banks at the port of embarkation cannot handle Letters of Credit. As a result, brokers export by "remote control". That is, agents in the Saudi, United Arab Emirates and Yemen pass word of demand a month in advance through reliable persons on dhows plying the Gulf of Aden to respective brokers in Somalia. Certainly, the uncertainties associated with the brokerage arrangements do not urge well for optimum expansion of livestock export capacities. Proper export arrangements would be needed to facilitate prompt, high quality and unflinching delivery of livestock consignments to the importer/market.

The third constraint to the livestock export sector is the inadequate transport services for transporting herds to the port of embarkation. It is not unusual that herds have to be led on foot for long distances to ports of embarkation. Such long march results in maceration and consequent poor health/death and low price of livestock on the export market.

Lastly, inadequate water and feed for livestock are constraints which affect adversely the quality of livestock and the expansion in livestock production. Provision of adequate water, for example through the development of wells and other watering systems, and expansion of extension services (especially, through improved grazing practices and techniques) are required to help increase production and boost the exports of livestock. Water and feed during transportation and at the holding grounds or ports of embarkation are needed to ensure that there is minimum loss of weight during transport across the sea.

### 3.1.3 Suggestions

Regeneration and development of Somaliland's livestock export sector would require close examination of the following:

- the present state of data and information on the livestock sub-sector and identification of means to develop or improve them;

- the linkages between the livestock sub-sector and other sectors of the economy and proposals to forge linkages;

- the present state of veterinary services and centres and related infrastructural facilities and proposals for upgrading veterinary and extension services;

- the physical infrastructure including transport and telecommunications facilities and water resources for livestock transport and shipment;

- the institutional infrastructure - ministries, agencies, and other institutions including

research units - and means to strengthen their capacities;

the banking, insurance and export related services including the brokerage arrangements and identification of means to improve them and;

the existing livestock export promotion and other regulations.

### 3.2 Export of bananas

Apart from livestock, banana exports is one of the most developed export sub-sector of Somalia. The export potential of packaged bananas and other fruits and vegetables such as processed tomatoes and grapefruit juice seems quite large.

Table 4 depicts bananas exports between the period 1984-1989. Bananas' share in total value of fruits and vegetables export is extremely large about 97 per cent. On the whole, export earnings from fruits and vegetables (mainly produced in the Juba and Banadir regions of the South) increased by about 28 per cent between the period 1984-1989.

Somalia exports high quality bananas. Italy is the largest importer of Somali bananas. Banana exports to Saudi Arabia are quite significant. About 523.2 thousand kilogrammes of bananas valued at Saudi riyals 183.6 thousands were exported in 1985. Earnings from bananas exports to Saudi Arabia were steady but relatively high about Saudi riyals 501.1 thousand<sup>3</sup> in the 1988 (third quarter) and 1989 (first quarter).

Unfortunately, the civil war has disastrously disrupted the export trade in bananas. Export earnings dropped markedly from US \$23.7 million in 1988 to US\$21.0 million in 1989. Prospects for rejuvenating the banana export sector appear, however, very bleak. The civil war affects adversely the most fragile commodity of all commodity exports, competition in the export market is also very strong.

Table 4: Exports of bananas, Somalia, 1984-1989

Year	Thousands of tonnes	Millions of dollars
1984	47.9	14.8
1985	45.3	13.3
1986	57.9	17.0
1987	64.0	20.5
1988	73.4	23.7
1989	70.0	21.0

Source: UNCTAD Commodity Yearbook 1991; FAO Yearbook Trade 1989.

<sup>3</sup> Foreign Trade Statistics 1985, 1988 (Third Quarter) and 1989 (First Quarter), Central Department of Statistics, Ministry of Finance and National Economy, Kingdom of Saudi Arabia.

### 3.2.1 Export potential

Since bananas are highly perishable, extra care is needed in the harvest, collection, transportation, packaging and shipment of the produce. Due to the drastic downturn in exports, the sub-sector may require rehabilitation. Towards this efforts, the following may require consideration:

- assessment of the bananas export sub-sector including its bottlenecks;
- examination of the packaging industry's linkages to the sub-sector and identification of means of improving the ancillary packaging services such as refrigeration and containerization;
- assessment of possibilities and potential for processing bananas for the domestic and export markets;
- examination of transport facilities and means to solve transportation bottlenecks
- examination of available agricultural inputs including manufactured products such as fertilizers, pesticides, plough implements etc., and ;
- examination if any of agencies and institutions (private or public) concerned with the production and marketing of bananas, and their modalities of operations.

### 3.3 Hides and skins exports

Although the potential for the processing of domestic resource-based products like fruits, vegetables, meat, fish and hides and skins for export exists, Somalia's manufacturing sector exports its products unprocessed or semi-processed. Possibilities for increased exports of wet blue hides and skins and finished leather, for example, have been discouraged by the monopsonist buyer, the Hides and Skins Agency (HASA). It is believed HASA's operations encouraged the smuggling of hides and skins to Kenya, Ethiopia, Dhubai etc., and created as a result shortages of skins and hides for the processing industries. With privatization policies and rehabilitation in place, expansion in capacities of the hides and skins and leather industry, especially in Somaliland could be expected in the future.

Hides and skins are livestock-related commodities. They are by-products of slaughtered livestock (cattle etc.) in abattoirs and small and informal slaughterhouses. Livestock slaughtering rates by type in Somalia between 1979 and 1990 are shown in table 5. Rates of slaughtering are higher for sheep and goats than that of cattle (especially, in Somaliland). Average rate of slaughtering is about 20 per cent. A common feature in the slaughtering process which also accounts for low recovery of hides and skins for further processing is the high rate of consumption of skins themselves in the diet of the people (a feature common to many leather producing African countries).

The collection of raw hides and skins is officially done by HASA and private dealers. A 1986 UNIDO study estimated that Somalia has a large hides and skins potential of about 38.3 million square feet. Due to poor preparation and collection methods and techniques, large quantities of hides and skins are wasted. Out of the estimated potential resources, only 13.3 million square feet of Somalia's hides and skins are actually recovered for the leather sector. Large quantities of hides and skins are wasted, thrown away or treated (cured) in a manner as to make unfit for leather processing. The recovery rate of hides and skins in Somalia is estimated at about 35 per cent, a rate lower than those of many African countries such as Ethiopia (75 per cent), Malawi (70 per cent), Zambia (60 per cent) and Burkina Faso (56 per cent).



Table 5: Livestock slaughtering rate, Somalia, 1979-1990

Year	Livestock population (Millions of head)			Livestock slaughtered (Millions of head)			Slaughtering rate (Per cent)		
	Cattle	Sheep	Goats	Cattle	Sheep	Goats	Cattle	Sheep	Goats
1979-1981	3.9	11.5	16.3	0.4	1.7	3.4	10.3	17.8	20.9
1988	5.0	13.5	20.6	0.5	2.7	4.3	10.0	20.0	20.9
1989	5.0	13.8	21.0	0.5	2.8	4.4	10.0	20.3	20.1
1990	5.1	13.8	21.1	0.5	2.8	4.4	10.0	20.3	21.0

Source: FAO Yearbook 1991.

Production of hides and skins vary among regions in both Somalia and Somaliland. A 1980 regional breakdown of hides and skins production by type is shown in table 6. Somaliland is a major producer of goats/sheep skins. Production is concentrated in the Northwest (with about 1.6 million pieces of skins), Togdheer (with 888,000 pieces of skins) and Sanaag (with 408,000 pieces of skins) regions of Somaliland. Together, the three regions of Somaliland account for 52.4 per cent of the total production of goats/sheep skins (North and South combined). The regions of Mudug, Banadir, Galgudud and Mugal are important goats/sheep skins production centres in the South. Regarding the production of bovine and camel hides, Somaliland trails behind the South with shares of 21.4 per cent and 7.8 per cent. The Northwest is the most important hides and skins production region in Somaliland, it accounts for more than 60 per cent share of the bovine/camel hides and skins produced in the North. The Banadir and Lower Juba regions of the Somalia are noted for the production of bovine/camel skins.

Somalia exports substantial quantities of raw hides, skins and furskins. The 1989 share of hides and skins in the country's total merchandized export was only 2 per cent, a fall from the previous years' level of 3 per cent. Hides and skins ranks fourth on the export list of agricultural and agricultural products. Somalia's exports rose from US\$ 1.5 million in 1966 to a peak of US\$ 4.2 million in 1975. Since then, Somalia has been experiencing a downward trend in its hides and skins exports. Despite hopes in 1987 (with export value of US\$ 3.3 million), exports of hides and skins slumped again in 1989 (with export value of US\$ 1.8 million).

The European market is crucial for Somali hides and skins exports. Italy, (the world largest importer), is the major trading partner. Spain also absorbs a substantial portion of the Somali exports.

Table 6: Annual hides and skins production by region, Somaliland and Somalia, 1980

(in thousand pieces)

Country, region	Goats/Sheep	Cattle	Camels
<b>Somaliland</b>			
1. Northwest	1,596.0	12.6	7.6
2. Togdheer	888.0	1.4	2.2
3. Sanaag	408.0	1.1	1.4
<b>Sub-total</b>	<b>2,892.0 (52.4)</b>	<b>15.1 (7.8)</b>	<b>11.2 (21.4)</b>
<b>Somalia</b>			
1. Bari	171.6	1.1	1.1
2. Mudug	432.0	2.5	0.7
3. Mugal	288.0	1.1	2.2
4. Galgudug	336.0	2.5	1.8
5. Hiran	162.0	3.6	1.4
6. Central Shebelle	162.0	5.4	1.8
7. Banadir	423.0	66.0	14.4
8. Lower Shabelle	186.0	21.1	4.0
9. Bay	52.8	4.0	2.4
10. Lower Juba	72.0	50.4	6.1
11. Middle Juba	46.8	12.1	1.8
12. Gedo	189.6	7.2	2.7
13. Bakool	106.8	1.1	0.7
<b>Sub-total</b>	<b>2,629.0 (47.6)</b>	<b>178.1 (92.2)</b>	<b>41.1 (78.6)</b>
<b>Total all regions</b>	<b>5,5210.0 (100.0)</b>	<b>193.2 (100.0)</b>	

Source: Report on the Mission to Somalia, Eric S. Stephens, ITC/FAO Inter-regional Programme INT/03/01, Project INT/65/19, March 1980.

Note: Figures in parentheses are percentage shares.

### 3.3.1 Problems and constraints

Several problems and constraints hinder the production and export of hides and skins in both Somaliland and Somalia. Of course, the immediate problem is the destruction of production and disruption of exports caused by the civil war. Other problems and constraints concern the actual production, collection, transport and export of hides and skins, particularly in Somaliland, these include the following:

low recovery rate of hides and skins and reduced quality level of raw hides and skins due mostly to poor production methods are major limitations to the exploitation of available potential for export;

- ineffective institutional facilities for the production, collection and marketing of hides and skins;
- lack of or inadequate extension services for production centres at the regional, district and local levels;
- unskilled and untrained personnel in the butchering sector activities, poor curing methods (particularly of small slaughterhouses in districts and the country-side), and poor collection and export facilities for hides and skins;
- low quality hides and skins due mainly to under-developed slaughtering methods, curing etc.;
- ill-equipped slaughterhouses, out-dated equipment and machinery, and lack of spare parts;
- poor collection methods- most slaughterhouses have only hides and skins sheds, and small slaughterplaces in the country-side have huts with very poor collection facilities;
- overall collection systems, including transport are under-developed and do not ensure that more hides and skins effectively reach the export market, and;
- lack of funds for entrepreneurs in the hides and skins sub-sector.

### 3.3.2 Suggestions

To improve Somaliland's hides and skins sub-sector so as to add more value to their production and exports, the following suggestions may need careful consideration:

- mapping and thorough assessment of hides and skins resources and potential;
- overall examination and assessment of rehabilitation needs of the hides and skins sub-sector, especially the macroeconomic environment, the human resource, physical, financial and marketing components of production:
- examination of the linkages between the hides and skins sub-sector and other economic activities, particularly the leather and leather products industry, and agriculture, and identification of the means to forge those links in order to increase both vertical and horizontal multiplier effects in the economy;
- examination of the slaughtering, collection, storage, transportation and export operations in order to identify the bottlenecks in these operations, and identification of means to solve these constraints;
- examination where possible of institutions and agencies concerned with production and marketing of hides and skins, and identification of effective regulatory mechanisms; and
- close examination of the small-scale hides and skins production enterprises and the operations of the private hides and skins merchants and exporters.

### 3.3.3 Prospects

The low recovery rates of hides and skins causes substantial economic losses and reduction of exports. When this problem is effectively solved, Somaliland would be able to develop to the full its hides export potential.

In the short-term, a successful rehabilitation programme would help to improve the production, collection, storage, transport and marketing operations. This would in turn boost exports and increase foreign exchange earnings accruing exports, especially of skins, since the international market price for hides and skins are at the moment favourable (international price of hides in 1990 measured in terms of US dollars per tonne of hides increased by 31 per cent as against the 1985 price level).

The problem of increasing carrying capacity of land is a major problem to the livestock and leather industry. With human resettlement programmes and increasing demands to provide food for the expanding population, vegetation for grazing would be scarce and grazing intensified. This would cause erosion and disruption of the ecological balance. The long-run effect of over-population and competition over scarce natural resources (land, vegetation, water, etc.) would be the reduction in the number of livestock and production of hides and skins.

### 3.4 Exports of fish and fishery products

Somalia and Somaliland have substantial fish resources but have neither the industry nor fleet to exploit them. Somalia catches only 10 per cent of its potential. Industrial fleet do most of the catching. The fish caught by the industrial fleet is invariably processed onboard at sea. Sorting, grading and freezing are performed. The produce is either carried to the export market by the fishing vessel, or directly transferred at sea to a carrier vessel for export. A substantial portion of fish is caught by artisanal fleet. The fish caught is processed - salted and dried. Only a small portion of the fish caught is industrially processed - canned or otherwise. Las Koreh (in Somaliland/North) and Mogadishu (in Somalia/South) were the major fishing and fish processing centres. The present status of fish processing in Las Koreh is, however, unclear. Unconfirmed reports suggest the activities of the fish processing plant have ceased during the mid-1980's.

Domestic consumption of fish is very low, only 0.2 kilogrammes per capita per year. This is due mainly to the storage and distribution bottlenecks and the general dislike for fish.

Since 1984, fish and fishery products exports on the whole increased steadily. Despite the downward trend in export values between 1985 (US\$ 3.4 million) and 1987 (US\$ 3.3 million), exports improved in 1989. About US\$ 7.8 million worth of fish and fishery products were exported.

#### 3.4.1 Problems, constraints and suggestions

The major constraint to the fishing sub-sector and invariably the exports of fish and fishery products is the lack of inputs and services, and deficient infrastructure.

Solution to the problems of the fishing and exports of fish and fishery products may require the following:

- examination of the state of the fishery sub-sector and its relationship to the fishery processing industry;

- assessment of the fish processing sub-sector;

- examination of the industrial and artisanal fishery operations and organizations, survey, especially of existing co-operatives and other associations related to the artisanal sector, and

identification of ways and means to improve the viability of the smaller enterprises; and

examination of policies and institutions related to the fishery industry and identification of better policy environment to help boost exports of fish and fishery products.

assessment of export promotion strategies and possibilities for the development of infrastructure such as fishing harbours at Las Koreh and Berbera.

The ensuing chapters will focus on the relationships between selected manufacturing industries (including building materials sub-sector) that are in dire need of rehabilitation and their linkages to the above-mentioned export sub-sectors. The expectation is that industrial rehabilitation will strengthen linkages between industry, especially agro-based industries and agriculture and increase thereby value added.

#### 4. Selected industrial sub-sectors for possible industrial rehabilitation

The key industrial sub-sectors selected for assessment in terms of their rehabilitation needs include: food processing (including milk); fish and fishery products; leather and leather products, and; the building materials sub-sectors. Although, the sugar sub-sector is a predominant manufacturing sub-sector in the South, it will also be included to make the analysis complete. The largest contributor to Somalia's (including North and South) manufacturing value added (MVA) is the food processing sub-sector. It accounted 33.5 and 32.0 per cent share of MVA in 1985 and 1986 (the latest available data)<sup>4</sup> respectively. Food processing is highly resource-based - its import content is estimated at 10 per cent<sup>5</sup> - and accounted the largest share of about 70 per cent in 1986 manufacturing employment<sup>6</sup>. The leather and leather products sub-sector accounted 4.1 per cent and 40.0 per cent of 1985 and 1986 MVA. Although the leather and leather products sub-sector offered less job openings - about 4 per cent share of 1986 total manufacturing employment - its import content is fairly low (40 per cent). Import composition of construction materials are very low 10 per cent (compared to petroleum 85 per cent and chemicals and pharmaceuticals 13 per cent)<sup>7</sup>. Structural clay, an important ingredient of building materials manufactures such as bricks has an import content of 0 per cent.

Exact figures on enterprises distribution in both North and South are not available. Evidence, however, shows that manufacturing industries are highly concentrated in the South. According to reliable sources, 82 per cent of the total establishments (1986) are concentrated in the Banadir (Mogadishu) region<sup>8</sup>. Only 6 per cent of the total number of enterprises are located in Somaliland (see figure 2).

Key industrial plants and factories in the Somaliland - existing, destroyed or closed-down as a result of the civil war or shortage of foreign exchange for imported inputs are listed in table 7 below.

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<sup>4</sup> UNIDO, *Industrial Development Review Series: Somalia, Industrial Revitalization Through Privatization*, p.12.

<sup>5</sup> Shire, Saad Ali, *The Performance of the Private Manufacturing Sector and the Impact of the Liberalization Policies in the 80's in Somalia*. A Report for the World Bank, Mogadishu, 1988, p. 4.

<sup>6</sup> UNIDO, *Industrial Statistics and Sectoral Surveys Branch*.

<sup>7</sup> *Five-Year Development Plan, Somalia, 1985-1991*.

<sup>8</sup> Saad, *op. cit.*, p.15.

Figure 2: Industrial map of Somalia and Somaliland

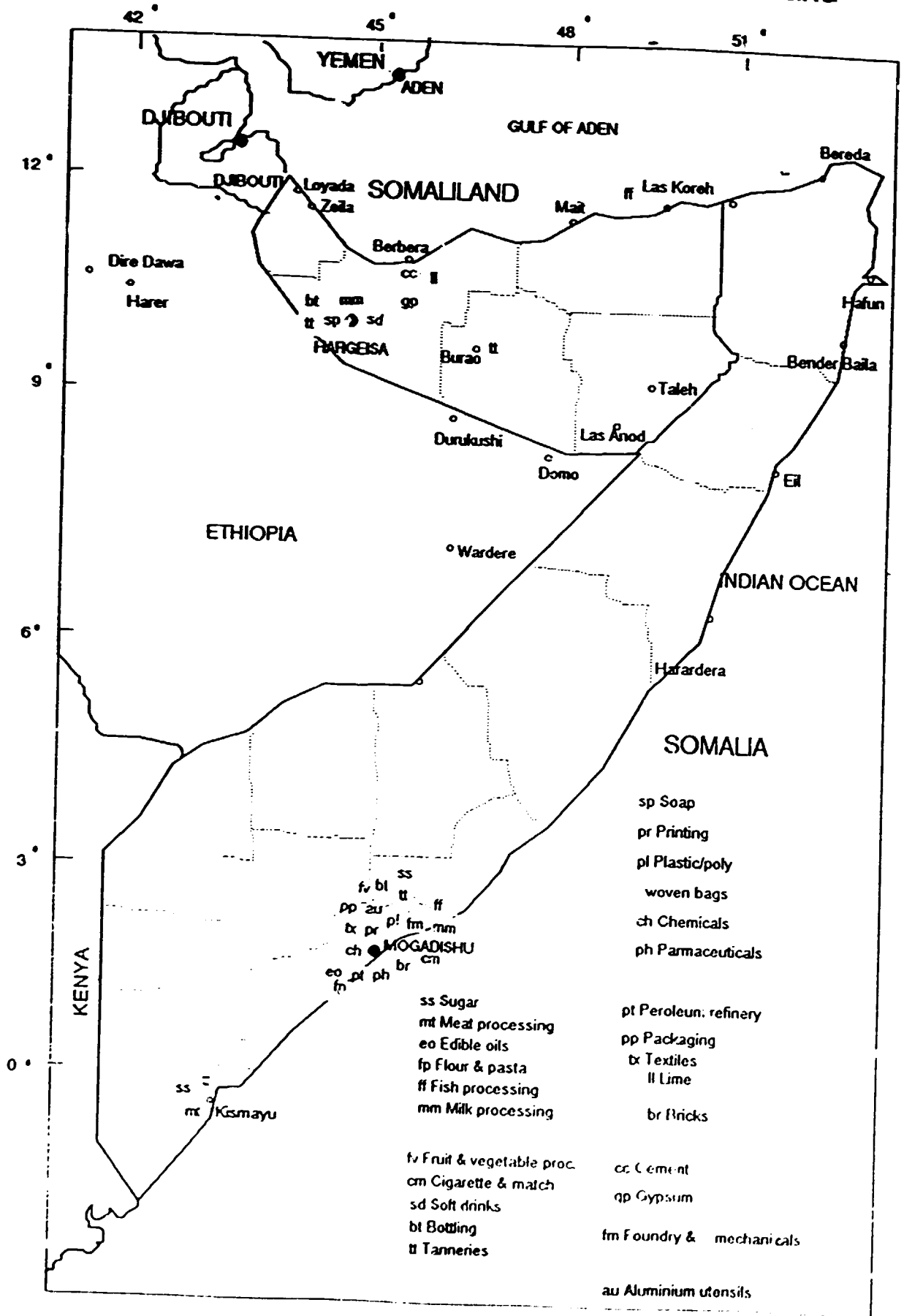


Table 7: List of key industrial enterprises for possible rehabilitation, Somaliland

Enterprise	Location	Production/Capacity utilization rate (1986)	Ownership	Present condition
Milk Factory	Hargeisa		private	destroyed or heavily damaged by civil war
Fish processing	Las Korch		private	ceased production in mid-1980's
Batoon Tanning Factory	Hargeisa	150 units of camel and cattle hides	private	destroyed by civil war
Other 2 tanning factories	Hargeisa	300 units of hides per day, 1,000 skins per day, capacity utilization rate 25 per cent	SOE's (Somali Leather Agency)	destroyed by civil war
2 tanning factories	Burao	100 units of hides per day, 1,000 units of skins per day, capacity utilization rate 25 per cent	SOE's (Somali Leather Agency)	destroyed by civil war
Cement plant	Berbera	200,000 tonnes of cement per year		destroyed by civil war
Asbestos plant	Berbera	12,000 tonnes of asbestos products per year		destroyed by civil war
Gypsum plant	Berbera	60,000 tonnes of crushed gypsum per year		destroyed by civil war

#### 5. Analysis of industrial rehabilitation needs: A Filière Approach

The main assumption is that industrial plants in Somaliland are destroyed by civil war and the very few that do exist (including small enterprises mostly informal) operate under extremely severe conditions. The ensuing analysis will, therefore, be based on pre- or post-civil war status of industry in Somalia and Somaliland.

The concept of filière serves as the main analytical framework of this work. It assumes that industrial production activities involves many different as well as complementary functions and operations of several actors. This implies that an industrial sub-sector cannot be seen or assessed simply as a set of autonomous plants or firms which individually have to be efficient. Rather, the functioning of an entire system of sub-sector depends on the efficiency requirements of each element - that is, plant and firm.

The filière approach is a useful industrial policy and strategy tool. Its operation entails a systematic economic assessment of the vertical (production processes within and outside the firm) and horizontal (services-related activities such as training, research, finance, maintenance; logistics, transport, insurance, accounting and ; design and market research) linkages at each stage in the production chain of an industrial sub-sector. This covers all the major stages from raw material base, through the various production stages to the final products and their distribution. The approach reveals not only the weaknesses and obstacles (including structural inefficiencies and constraints) at each stage of the production chain, thus helping to identify the prospects of the sub-sector, but also the possibilities of enhancing the performance and growth of the entire sub-sector through specific measures at each production stage. In the ultimate sense, the filière approach provides a framework or checklist of issues, actions and actors involved in industrial plant/unit rehabilitation.

Somaliland (and Somalia) is competitive in leather production. Industry is, however, confronted with several problems and structural inefficiencies. For the formulation of a rehabilitation strategy, it is essential to assess these obstacles at each stage of the leather production chain and examines the prospects for building up key economic linkages into efficient network of production.

Due to the problems of deficiency of data and information on industry, a thorough analysis of the selected industrial sub-sectors within the context of the filière framework will be extremely difficult. An attempt would, however, be made with the expectation that refinements would be made when relevant and up-to-date data and statistics on Somaliland's industry are available.

The filière system analysis will include the following steps:

- an assessment of existing sub-sectors including existing capacities of production, and the quantitative and qualitative aspects of linkages;
- an examination of the organization of the sub-system to identify ways of improvement and;
- determination of strategies and priorities for improvement of the sub-sector.

## 5.1 Food processing filières

In Somaliland there are reportedly a fresh milk factory (the other is in Mogadishu) and a soft drink/bottling plant in Hargeisa. Both plants suffered heavy physical damages during the civil war. To make analysis of the food processing filière complete, the sugar sub-sector (a predominant sub-sector of the South) will also be examined.

### 5.1.1 Milk factory, Hargeisa

#### 5.1.1.1 Existing sub-system

It is private venture owned by seven partners. It is a huge factory on a leased plot of land. It enjoys the locational advantages of proximity to milk producing centres, accessibility to easy source and adequate water supply and to ready market. The factory was, however, severely destroyed and plundered of its machines during the civil war.



### Raw materials/Capacities

Presumably, the major raw material for milk making is fresh milk produced domestically (Somalia produced 5.2 million tonnes of fresh milk in 1990 - the eighth largest fresh milk producer in Africa, accounting 4 per cent of total milk produced in Africa. The domestic raw material base for milk processing is under-developed. Milk processing is almost entirely based on imported skimmed milk powder. Fresh milk is also supplied by small private dairy farmers. There is adequate water for milk processing. Estimates of the production capacity of the plant are not available.

More information is needed on the production and quality of milk produce. Overall production and capacity utilization could be very low. Machinery stock was plundered, existing stock needs assessment. Application of the filière approach in the analysis may suggest the assessment and examination of the following; approach:

the raw material base;

existing physical capital stock, factory building, machinery and spare, power, storage and energy equipment etc;

production mix (milk, yoghurt, etc.), plant performance, product demand structure and market;

vertical and horizontal integration schemes including supply raw milk and insurance, financial and training services;

employment and labour relations etc., and

the constraints of the sub-system as a whole.

### Existing links

Apparently, domestic raw material supply, especially fresh milk is fairly large. Both the formal and informal resource flows when examined will give a comprehensive picture of linkages. Since milk production is destined entirely for the domestic market, the storage and marketing arrangements may need thorough examination. The following points may also need clarification:

the regulatory aspects: the rules and procedures which regulate various actions and decisions concerning investment, production and quality standards, and distribution;

the relation with financial institutions;

the relation with ancillary activities such as training, research, transport, distribution, services, etc., and

relation with upstream and downstream activities such as baking, confectionery making, and sugar and salt processing and packaging materials making.

### Organization of sub-system

The performance of the sub-system/production unit is mainly dependent on the relations between the various actors - from the managerial to the worker level. The set of rules, procedures, practices and routines govern the relations of the various actors need to be examined. These rules define : what information is to be transmitted; how are orders transmitted; how are payments made etc.

#### 5.1.1.2 Development strategy option

Milk production figures are presently not available. One may even assume that plant production are very low or production has ceased. A possible strategic goal aimed at resuscitating production would be rehabilitation to modernize existing plant and capacities, and the building up of the raw material base towards self-sufficiency. The major constraint to this strategy which is financial in nature, needs to be critically assessed.

#### 5.1.2 Soft drink: Somali Bottling Company, Hargeisa

##### 5.1.2.1 Existing sub-system

The bottling company was founded in 1975 with an initial capital of Somali Shilling 5.5 million. The company dominated the domestic market of Somaliland, supplying brands such as Pepsi Cola, Mirinda and Team.

##### Raw materials/Capacities

Most of raw material inputs were imported. Concentrates are imported from the United States and Europe, ground cork from Italy, carbon dioxide from Djibouti, and bottles and chemicals from Kenya. Sugar, an important ingredient in soft drink manufacturing is also imported (the South has large sugar potential). Adequate water supplies needed in the major phases of production is available.

Production varies with the seasons. In the hot months between March and September, production was 5,500 bottles per hour or 3,000 cases per day. In the remaining cooler months, however, production normally dropped to around 1,500 cases per day. Evidence of plundering of machinery and other physical capital may suggest production figures below the norm. Thus, present capacity utilization may be very low. The present stock of capital including , factory building, office equipment and stationary, machinery, power equipment etc., may need close examination.

Electricity is/was self-generated from a diesel-run generator. The company employed 100 full-time staff including a managerial staff of two expatriates. According to reports, the company was well managed and machinery well maintained. The present state management and organization will be worth examining in order to help assess the managerial as well as other rehabilitation needs of the company. Further examination of existing facilities and capacities may focus on the following:

the economics of potential domestic raw material resources vis-a-vis imported ones; and

the quality, handling and transformation of the raw materials.

### Existing links

External dependency on raw materials is large, and capacity utilization is believed to be very low. Consumption figures are not available to determine demand and supply gaps. If raw material base and other ancillary inputs such as glass and plastic containers, cartons, label printing facilities are developed, there are good reasons for a gradual build up of the whole chain of operations in the upstream and downstream activities.

Previously (before and during the civil war), the company obtained authorization from the Central Bank and commercial banks to import sugar and other inputs. The long delays and difficulties in the acquisition of foreign exchange were major constraints to importation and consequent capacity utilization. As a result of foreign exchange allocation difficulties, the company bought foreign exchange on the free market to import sugar.

In order to seek possible measures for production integration as well as greater linkages with other sub-sectors, there will be the need to examine the existing or potential linkages between the bottling company and the other sub-sectors glass and plastic bottling, carton making, label printing, can making, sugar and chemicals (see figure 2). The company's relations with financial institutions, and connections to training, research, transport, distribution and services including repairs and maintenance agencies may need examination.

### Organization of sub-system

Evidence before the devastation caused by the civil war showed that the enterprise was well managed and maintained. The present management structure and management tasks relating to production, delivery and sales may require examination.

#### 5.1.2.2 Development strategy option

This may include a combination of modernization strategy through rehabilitation and development of raw material base for self-sufficiency.

### 5.1.3 Sugar processing

#### 5.1.3.1 Existing sub-system

Three state-owned factories located in the South produce refined sugar from sugar cane; two factories at Jowhar near Mogadishu and the other in the Juba region. The Jowhar factories were owned by the Italian company SNAI. They were nationalized in 1970. The Juba Sugar Complex, the largest state-owned industrial enterprise was established in 1977.

### Raw materials Capacities

Domestic sugar cane is the major raw material input for the sugar refining industry. Despite the slump in sugar cane production - a fall from 4.5 million tonnes (50,000 kilogramme per hectare) in 1989 to 2.4 million tonnes (40,000 kilogramme per hectare) in 1990 - in theory, Somalia has more than enough potential for sugar cane production to meet the requirements of its sugar industry. Other processing inputs include energy, gases such as sulphur dioxide.

Sugar production from the Jowhar Factory as compared to the Juba plant is minimal. Production rose slightly from 2,700 tonnes in 1985 to 3,300 tonnes in 1986 against the installed capacity of 40,000 tonnes of refined sugar per year. Production reached its lowest ebb about 7 tonnes of sugar in 1987. This trend bespeaks the under-utilization problems. Despite series of rehabilitation works in 1983 and 1986 to regenerate production, capacity utilization rates have not been better. Production at the moment is at a standstill. This is mainly due to the decline in the sugar cane supplies from the SNAI estate - with output falling from 16,700 tonnes in 1980 to a few hundreds of tonnes in the following years - was the main problem of the factory. Waterlogging and increasing salinity; lack of maintenance of irrigation system; labour shortages; transport system breakdown and; technical and managerial deficiencies in factory operations helped to cause the decline in cane production.

Affiliated to the SNAI's Jowhar sugar complex is a profitable factory manufacturing liquors, perfumes and pharmaceutical alcohol based on alcohol produced by the sugar mill. The factory is also equipped for the manufacturing of detergents, plastic products such as bottles, jerry cans and sandals from imported granules. Imported plant machinery including mixing vats, evaporators and mixing machines are in need of rehabilitation. Scarce foreign exchange and unfavourable political and economic climate are major problems of capacity utilization. There is a large potential domestic and foreign demand for its products including ones like lemon oils and African liqueurs.

With an installed capacity of 67,000 tonnes of sugar per year and 30,000 tonnes of molasses per year, the Juba complex (comprising a cane plantation of 8,195 hectares and a mill) is the largest industrial complex in the South. It employs over 5,000 workers. Sugar cane from the estate is the main raw material. Output reached about 27,000 tonnes of refined sugar in 1984 and 1986 (about 38.5 per cent of capacity). Constraints to optimum capacity utilization include: scarcity of diesel oil for irrigation pumps, scarcity of water, thus accounting for low sugar cane yields; fixing of sugar price by the Government (comparatively low to imported sugar) and high competition from imported sugar. Reports suggest that sugar is smuggled in from Kenya and sold at exorbitant prices.

All of the sugar produced is consumed locally. There is a great gap between demand and supply. Estimated demand in 1990 was 124,000 tonnes. Annual sugar consumption (in both North and South) in the period 1985-1987 was 6.64 tonnes per thousand inhabitants (compared to 7.41 in 1977-1979)<sup>9</sup>. The sugar sub-sector accounted 69.4 per cent of total refined sugar consumption, the difference of 30.6 per cent was imported in the period 1985-1987. This indicates that there is much more room for expansion to meet both local and external demand for refined sugar.

The filière approach may call for close examination of the following:

- the vertical integration links between the Jowhar sugar mill and its affiliated factory unit to explore the possibilities of increasing upstream production in the sugar complex;
- the overall raw material supply, and ways of developing sugar cane production at the sugar complexes;
- the ways of efficient and economic utilization of by-products at each stage of sugar processing;
- the employment and wage structure, company tax so as to make suggestions for increasing workers welfare and government revenue;
- linkages between the sugar sub-system so as to forge economic integration;
- the status of installed machinery (wear and tear, maintenance etc.), spare parts and other inputs to help assess rehabilitation needs of plant and machinery, and;

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<sup>9</sup> UNIDO, *African Industry in Figures 1990*, Sales No.: E.91.III.E.17, 1991, pp.142-143.

the quality of sugar cane and how it is handled and transformed.

#### Existing links:

Dependency of the sugar sub-system on domestic sugar cane is fairly large. A notable feature in the relationship between production and raw material supply is the huge deficit in sugar cane supply (a case example at the Jowhar mill). Policies to stimulate private farmers and other small-scale producers to supply sugar cane to the cane-deficit mills at mutually agreeable prices will be worthwhile. Somalia imports large quantities of sugar to meet domestic demand. For instance, in 1986 alone, Somalia imported US\$ 31.6 million worth of sugar (including honey). Although the value of sugar and honey imports decreased from US\$ 7.1 million in 1986 to US\$ 7.6 million in 1989, sugar imports still exert considerable burden on the depleting foreign exchange reserves of the country.

Potential for strong linkages to other economic sectors such as agriculture exists. If cane production can be developed through agronomic and organizational improvements, the sugar sub-system would be built up to produce a whole range of intermediate goods (by-products) such as molasses, bagasse and trash. Use of these intermediate products in upstream productive activities and stages would contribute to increased domestic MVA. With adequate technology, skills and financial resources, the upstream development of the sugar sub-system would in practice generate in the upstream products which could be used by the rest of the economy of Somalia (see table 8).

**Table 8: Links between the sugar filière and other economic sectors**

Sector	Product from sugar cane and sugar processing
Food industry, Health	Proteins, carbohydrates, vitamins, aminoacids, beverages, fats and oil enzymes, and pharmaceutical products.
Agriculture	Fertilizers, pesticides and animal feeds.
Construction	Bagasse boards.
Chemical industry	plastics, solvents, fuels, and packing and intermediate chemical products.
Energy	Fuel alcohol, biogas and bagasse.
Transportation	Fuel alcohol.
Light industry	textiles, bitumen, polishes, chemicals, printing paper, news print paper, etc.
Communication	Insulating materials.
Heavy industry	Resins for casting molds.

Source: ICIDCA-GEPLACEA-PNUD, "Handbook of Sugar Cane Derivatives".

Deriving from the weak state of the sugar sub-system development, certain remedial actions need to be taken to build it up for economic and system integration. This may involve the examination of the following:

the ways and means to develop a strong raw material base;

the existing links between the training, research (laboratory etc.) transport, packaging, distribution and services activities;

the existing regulations and other institutional bodies (private and public) affecting investment, production and distribution, and;

the relations with financial and development institutions, and possibilities of acquiring assistance, especially in the field of industrial rehabilitation;

#### Organization of sub-system

A 1983 German-financed feasibility studies called for the rehabilitation of the Jowhar complex. The proposed rehabilitation programme included a complete re-organization of the management system. A follow-up of the programme was supervised by the Italian Government. The state of the rehabilitation programme which included the re-organization of management and training programmes for managers and technical staff is very unclear.

In contrast to the poor performance of management at Jowhar, management of the Juba Sugar Estate and Mill was quite progressive. A specialized consulting firm, Booker Agriculture International Ltd. saw to affairs of management. An assessment of the training programmes for managers and technicians of the complex is worthwhile.

Since the sugar manufacturing enterprises are state-owned, the Government was the principal actor determining decisions, negotiations (for example, for loans), the allocation of resources, worker behaviour and relations, production targets, delivery of goods, and the determination of prices of sugar. Positive liberalization and privatization measures would bring a decisive change in the business environment. Prices of sugar would then not be determined by the government, but by the open market mechanism in line with the cost of raw materials and foreign exchange inputs.

For efficiency in both management organization and in the overall sugar sub-system, the following points would be worth considering:

examination of the management structure of the sugar estates and mills, and the relations among the various actors of the sub-system;

examination of the modes of co-ordination within the sub-system;

examination of tasks of management, for example, to seek improvement at both vertical and horizontal levels of production: diversification by integration of different production processes within the complex, for example, the production of liquors from by-products at the Jowhar sugar mill and; the utilization of science and research, and other industrial services.

### 5.1.3.2 Development strategy option

Structural goals for the sugar filière will involve the integration of all related activities, especially agriculture and other upstream manufacturing sub-sectors. A suggested strategic approach for the development of Somalia sugar industry may be industrial rehabilitation through:

- a systematic rehabilitation of the existing sub-sector to increase capacity and value added;
- diversification of the sugar industry by increasing the production and use of derivatives and by-products in industry and other economic sectors; and
- the development of raw material base (sugar cane) for self-sufficiency in the sugar industry.

### 5.2 Leather filière

World total demand for hides and skins is expected to exceed supply. This will mean increases in raw material prices (see table 9), a trend which would most probably have favourable impact on Somaliland's leather industry.

The share of leather sector in Somalia's (of North and South) MVA increased considerably from 2.4 per cent in 1985 to 2.9 per cent in 1986. It stagnated during the civil war period from 2.5 per cent in 1987 to only 1.2 per cent in 1989<sup>10</sup>. In 1986, about 501 workers were engaged in the leather sector - about 3.4 per cent of total manufacturing employees - and wages and salaries earned accounted 4.7 per cent of total wages and salaries in manufacturing<sup>11</sup>. Data and statistics on small-scale cottage enterprises and other informal sector activities of the leather industry are incomplete.

Leather processing enterprises are concentrated in the Waddy and Togdheer regions of Somaliland. Of the 7 mechanized tanneries in Somalia (in both North and South), 5 (including 4 SOE's and 1 private-owned) were in Somaliland: 3 located in Hargeisa, one of which was privately owned and was specialized in cattle and camel hides for upper and sole leather, and; 2 state-owned tanneries in Burao. In addition to the mechanized tanneries, about 25 dispersed cottage tanneries were in operation. Somali Leather Agency (SLA), the state-owned monopoly purchased and exported hides and skins. It controlled the activities of the private and public sector tanneries, both exports and imports of raw material and ancillary inputs, and fixed prices (generally low) for raw hides and skins.

<sup>10</sup> UNIDO, Global Econometric Database, PPD/IPP/GLO.

<sup>11</sup> UNIDO, Industrial Statistical and Sectoral Surveys Branch.

Table 9: World supply and demand for leather, 1988-2000

(Millions of square feet)

Demand and supply	1988	1990	1995	2000
Total demand	15,143	15,621	18,460	21,700
Total supply	15,121	15,829	18,407	21,521
Supply surplus	(22)	(208)	(109)	
Chicago Hide Price (1980 UC Cents	63.97	61.27	77.82	79.34

Source: Landell Mills Commodity studies.

### 5.2.1 Existing sub-system

Information on the post-civil war status of the leather manufacturing plants - in Hargeisa, Burao and other dispersed small cottage industries - in Somaliland are scanty, hence the need of information on their operation including production, marketing, and related problems. When available, such information would help in the help to analyze and identify the regeneration/rehabilitation needs of tanneries and the leather system.

#### Production/Capacities:

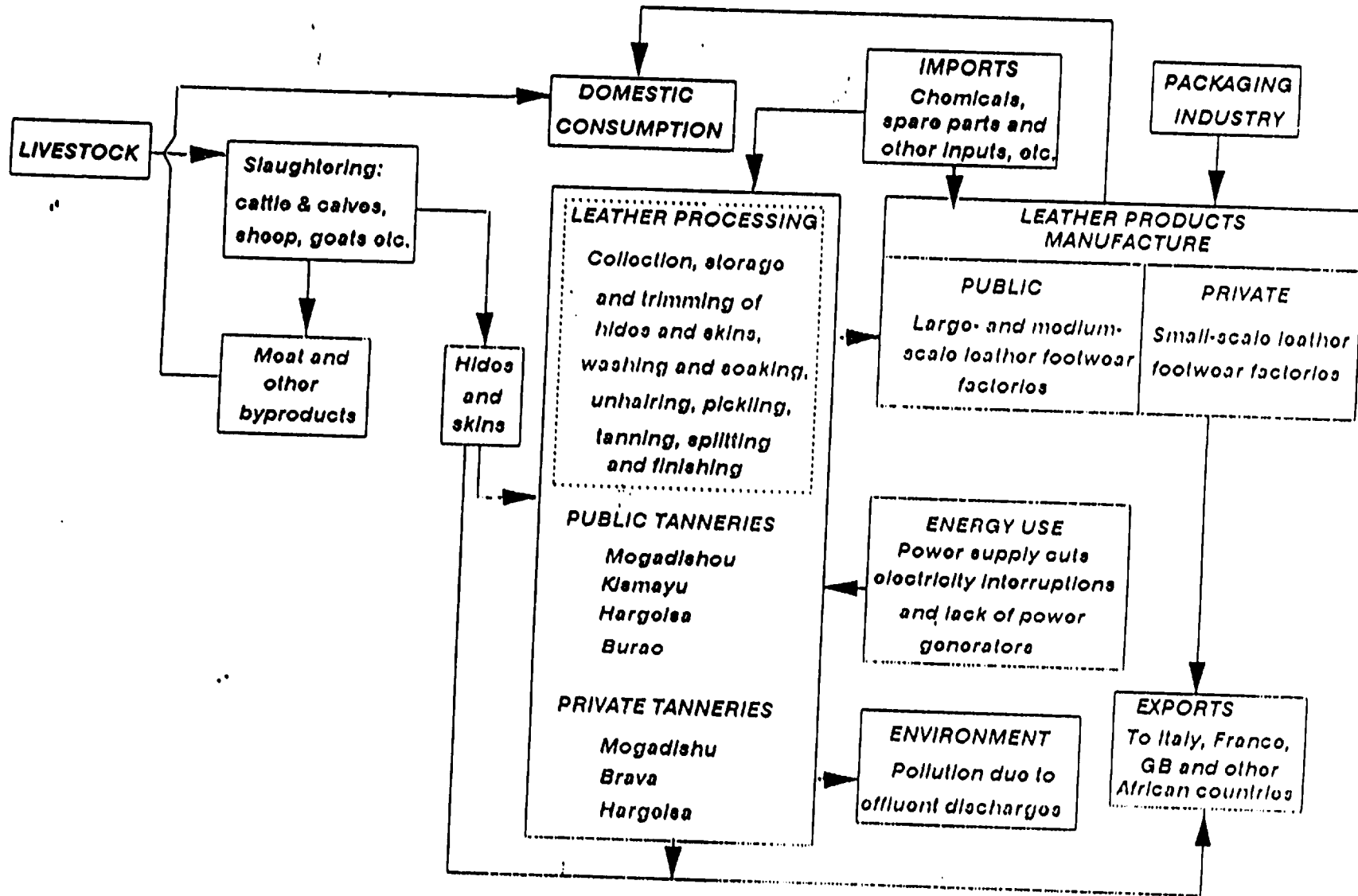
Light wet-blue leather<sup>12</sup> (see figure 3) is the main leather type produced in Somaliland. Domestic raw skins and hides constitute the main raw material input. Livestock reared mostly on the basis of nomadic pastoralism (and on settled farming basis) constitutes the resource base of the leather industry. Livestock production could in theory, generate a more dynamic forward linkages to the industrial sector, because it provides inputs for the production of meat as well as of hides and skins. Sustained development of the livestock sector would provide more than sufficient raw materials for all tanneries in Somaliland to work at full capacity. In 1980, Somaliland produced 52.4 per cent of goat- and sheepskins, 7.8 per cent of cattle skins and 21.4 per cent of camel skins of total hides and skins produced in the North and South.

Other related raw materials of the leather sub-system are water used as process water, fuel oil, electricity energy, and imported chemicals, machinery and equipment. Lack of regular water supply and inefficient effluent disposal system have been significant problems of tanneries in Hargeisa. Between 1985-1987, Somalia consumed 90.3 tonnes of vegetable tanning extracts, 25 per cent more than the period 1977-1979. All the vegetable tanning

<sup>12</sup> Basically, leather is obtained by treating (tanning) raw hides and skins to remove hairs and make the hide or skin resistant to disintegration and putrefaction in humid environment. Natural (vegetable resins from trees and bushes) and synthetic (salts of aluminium, chromium, zirconium etc.) materials are major tanning agents. Several other auxiliary materials and chemicals (wetting agents, acids, alkalines, salts, enzymes, fats and oils, and dyes) are used for finished leather. Two main kinds of leather are produced: heavy (which has lost grounds, due to increasing use of rubber and synthetics for footwear soles etc.) and light. Light leather processing may be divided into 3 phases: semi-tanned (wet-blue leathers); semi-finished leather (crust leather from wet-blue) and; finished leather (from crust leather).



Figure 3: The leather (wet-blue) and leather products filière, Somalia and Somaliland



extracts required in the leather sector were imported<sup>13</sup>.

Installed capacities of Somaliland's tanneries in 1986 are depicted in table 7 above.

Inadequate information makes the assessment of the production chain of the plants in Somaliland difficult. A 1987 UNIDO study estimated, however, that 0.4 million pieces of wet-blue leather were produced at Hargeisa and Burao yearly<sup>14</sup>. All the tanneries were operating at low capacity in recent years. At times production has practically been at a standstill. The major and immediate causes of capacity under-utilization has been breakdown of the economic system due to civil war. Other factors accounting for low capacity utilization were:

the shortage of raw material supply, over 70 per cent of available hides and skins were not commercialized due to the low price offered by the SLA, and the poor systems of curing and collection, and illegal exports of raw hides and skins to Dubai, Kenya, etc.;

low level of skills and inefficient and inadequate machinery (old and constant breakdowns) at all levels of the production process - fleshing, liming, pickling etc., - in the tanneries;

lack of foreign exchange for spare parts and for the import of chemicals (except salt, lime and other local tanning materials) for tannery operations, etc.

Wet-blue production processes is entirely integrated. Dried raw stock of hides and skins obtained locally were pre-soaked and mechanically treated in the tanneries to enable fleshing (removal of flesh tissues) and trimming (removal of unwanted parts). Liming and unhairing processes require inputs of lime and other agents. Pickling which requires imported chrome for tanning is followed by wringing, a process which involves the mechanical removal of water from the leather. Wringing determines the product quality and marketing advantages.

No identifiable links are known to exist between the tanneries and the leather products sector, for example with shoe factories and plants. Presumably, such linkages would exist between the small rural tannery units whose production output (relatively low) are destined for the domestic market. There is no export of leather footwear from Somaliland. The building of tanneries to produce finished leather in Somaliland would entail large investment resources. In the short term, it would be extremely difficult for Somaliland to enter the international leather market and obtain satisfactory price for its finished leather products. Since finished leather requires reliable outlet and adequate price guarantee, the rehabilitation of the existing wet-blue leather sector to produce at optimum efficiency and profitability would remain the best option in both the short and medium term.

Export earnings from the leather system activities in Somaliland is difficult to estimate. However, export earnings from hides and skins (for both North and South) were US\$ 28.2 million and US\$ 18.0 million in 1988 and 1989 respectively.

The following remarks on the leather sub-system development can be made:

the indigenous raw material base are large (that is, fresh hides and skins from livestock and vegetable tanning resins), acute water supply shortages and inefficient systems of tannery effluent disposal are crucial problems which need further consideration;

the recovery rate of available raw materials are low, thus effective measures would be needed to

<sup>13</sup> UNIDO, *Africa Industry in Figures 1990*, op.cit.

<sup>14</sup> UNIDO, *Sectoral Study on the Hides and Skins, Leather and Leather Products Trade and Industry: Terminal Report*, Somali Democratic Republic, BR/SOM/86/001, January 1987.

improve the collection system of hides and skins to ensure that more hides and skins reach the leather processing sub-system and trade;

machinery and equipment are old, poorly maintained, worn-out or destroyed through civil war, a detailed information on the production process and their constraints would be needed to help assessment rehabilitation needs and prospects, and;

information on both quantitative and qualitative aspects of linkages between the leather sub-system and the whole economy is scanty, there would, therefore, be the need to assess of the networks of production within the sub-system, and between the sub-system and sub-sectors such as livestock and meat processing in order identify recommendations for developing economic linkages.

#### Existing links:

The Somalia Leather Agency (SLA), a state-owned was the main body that the processing and export of wet-blue leather. Direct sales to domestic upstream industries are/were limited or non-existent. The private enterprise, the Batoon Tanning Factory at Hargeisa and the numerous dispersed small cottage tanneries sold mainly to the domestic market. Prices offered by the SLA to primary producers were very low, this encouraged smuggling of leather into Ethiopia, Djibouti and Kenya. Since, the operation of all private sector tanneries depended on the goodwill of the SLA, they could not earn or save much-needed foreign exchange for imports of raw materials.

No vertical integration schemes are reported to exist between the large tanneries and small cottage tanneries. Leather processing in the cottage tanneries are believed to be under-developed. Capital infrastructure and technology are simple or rudimentary, especially in the case of the cottage tanneries. Although raw hides and skins are sufficiently available, there are good reasons for not further building up the whole of the leather production chain. The market opening and price of wet-blue leather are appreciably favourable.

From the standpoint of existing linkages, the examination of the following would help uncover the main structural imbalances in the leather system:

- the existing regulatory aspects, including the rules and procedures which regulate the various actions and decisions affecting the leather filière, for example those concerning investment, production and distribution;

- the working environment of the leather system including the institutional and economic environments which affect functioning of the sub-system;

- the existing production and export promotion strategy;

- the relation with public, district and local administration;

- the relation with financial institutions and suggestions for attracting investment resources for rehabilitation;

- the ancillary activities such as training, research, transport, distribution, services and environmentally-sound and energy-saving production methods of the sub-system;

- the quality and dissemination of information within the leather sub-system;

- the price system (both domestic and international) and its role in decision making processes;

the quality aspects of leather product with respect to handling and transformation (especially, at the wringing process stage).

the possibilities of treating effluent from tanneries;

the possibilities of handling retanning and finishing operations of hides in plants or new plants, and;

the relation with sub-regional, regional and international agencies and bodies in matters of development of the leather system.

### 5.2.2 Organization of sub-system

The organization of the leather filière and crucial issues relating to its sustenance was determined almost entirely by the SLA - relations between the various actors within and without the sub-system was influenced by the SLA rules and activities.

Decisions relating to production mix, quality, price, and imports of auxiliary/intermediate goods and materials such as machinery, equipment and chemicals were determined by the SLA. Similarly, appointments, especially to the top echelons of management were by Government decree. Managers, as a result had very little freedom as to the overall planning operation of the individual tanneries. Managers were pre-occupied with the sales of raw hides, leaving the production of leather in the second place of priority. Evidence show that the SLA has not lived up to its expectation. There would be an urgent need, therefore, to restructure the SLA into a kind or regulatory institution devoid of all monopolistic characteristics to regulate the exports of raw hides and skins.

A re-assessment of legislations and institutional infrastructure governing the production, domestic and export trade would help in some way to regenerate the leather sector. Liberalized trade and a free market system would, for example, allow uncontrolled management decision as to the acquisition of raw-stock, negotiation and conclusion of contracts with foreign customers, investors and development partners.

Concrete efforts designed to build up the leather system would require the examination of the following;

the organizational structure of the leather filière including the structure of relations among the various actors of the sub-system and the comparison of the existing organizational structure to the normative filière in order to identify the sub-system's deficiencies;

operation units of plants and the structure of co-ordination within them, and;

the invested interests of actors in the sub-system and how these relate to effective functioning and development of the filière.

### 5.2.3 Development strategy option

Up-to-date information and data on the existing filière in Somaliland would guide the strategies and measures needed for the development of the leather sector. Meaningful strategy options such as modernization of existing tanneries and development of raw material base (hides and skins) when simultaneously implemented would help to increase employment, increased wages and salaries, strengthen linkages between agriculture and industry, and balance regional income disparities. Industrial rehabilitation through the modernization and expansion of capacities would involve measures designed to help improve the collection systems of hides and skins, improve machinery operation and maintenance, train staff at various levels of production and management, improve the organizational structure and planning of production in tanneries, increase the inflow of investment resources and technical assistance from development partners.

### 5.3 Fish processing filière

Compared to other countries such as Senegal and Kenya, the fish and fishery products processing sub-sector of Somalia is under-developed. Available information on the sub-sector in Somaliland is scanty. Processing of fish and fishery products was undertaken in Las Koreh, further information on the processing units and activities would be required.

#### 5.3.1 Existing sub-system.

##### Production/Capacities:

Somalia has substantial fish resources, but lacks the industry, skills, fleet and inputs to exploit them. Fish and other aquaculture reserves include species such as tuna, small pelagic species, large demersals, spiny lobsters and shrimps (see table 10).

**Table 10: Estimated annual reserve potential for fish production, Somalia, 1987**

(Thousands of tonnes)

Species	Potential estimate
Tuna and mackerel	8.0
Small pelagic species	100.0
Shark and bay	30.0
Large demersals	40.0
Spiny lobster (shallow water)	0.5
Spiny lobster (deep water)	1.5
Shrimps	0.4

Source: Ministry of Agriculture, Ministry of National Planning, Somalia.

Local market is very limited due mainly to poor storage and transport facilities and the general dislike for fish as a source of protein in nutritional requirement. The per capita consumption of fish between 1980 and 1982 was only 2.1 kilogrammes far below consumption in Kenya (3.6 kilogrammes per capita) and Burundi (3.5 kilogrammes per capita).

Fish is extracted by industrial/commercial and artisanal fleets. The former accounted for 60 per cent of total fish caught in 1984, and the latter 40 per cent. Fish caught by industrial fleet when processed onboard -sorting, grading and freezing - were exported by the fishing vessel or directly transferred at sea to another vessel for export. Fish which was not exported on-sea were processed at Las Koreh. Facilities included a cold store and

cold freezer. Cold storage capacities ranged from 400 tonnes to 900 tonnes. Salting and drying are the main processing methods for the artisanal fisheries. About 56 per cent of fish caught in Somalia (North and South) in 1980 were frozen and exported, the remainder was consumed domestically.

Artisanal fishing operations differ from industrial fishing in several respects. Artisanal fishing is less capital-intensive. Unlike the industrial fisheries, they lack processing and preservation facilities and hence, suffer a lot from spoilage - recovery rates in the artisanal sector are very low.

The artisanal sector engages subsistence and small-scale fishermen. Employees are mostly self-employed or workers in small family or village groups. They are paid in cash or in kind on a share basis and do not receive wage as such. Industrial/commercial fisheries on the other hand are operated mostly on joint-venture basis by businessmen or companies. Fisheries or fish plant workers receive wages and salaries.

In terms of manpower requirements, the artisans employ as twice as much workers as the industrial fisheries. In addition to fishermen who do the actual catching, a host of workers are engaged in the post-harvest and ancillary activities such as marketing and curing of fish. A large number of people (especially family members) depend directly on the artisanal fisheries for their livelihood. As opposed to the artisanal sector, the industrial fisheries sector is more efficient in terms of productivity (high catch per caput). However, industrial vessels are not as efficient as artisanal boats when it comes to energy consumption or returns on capital investment.

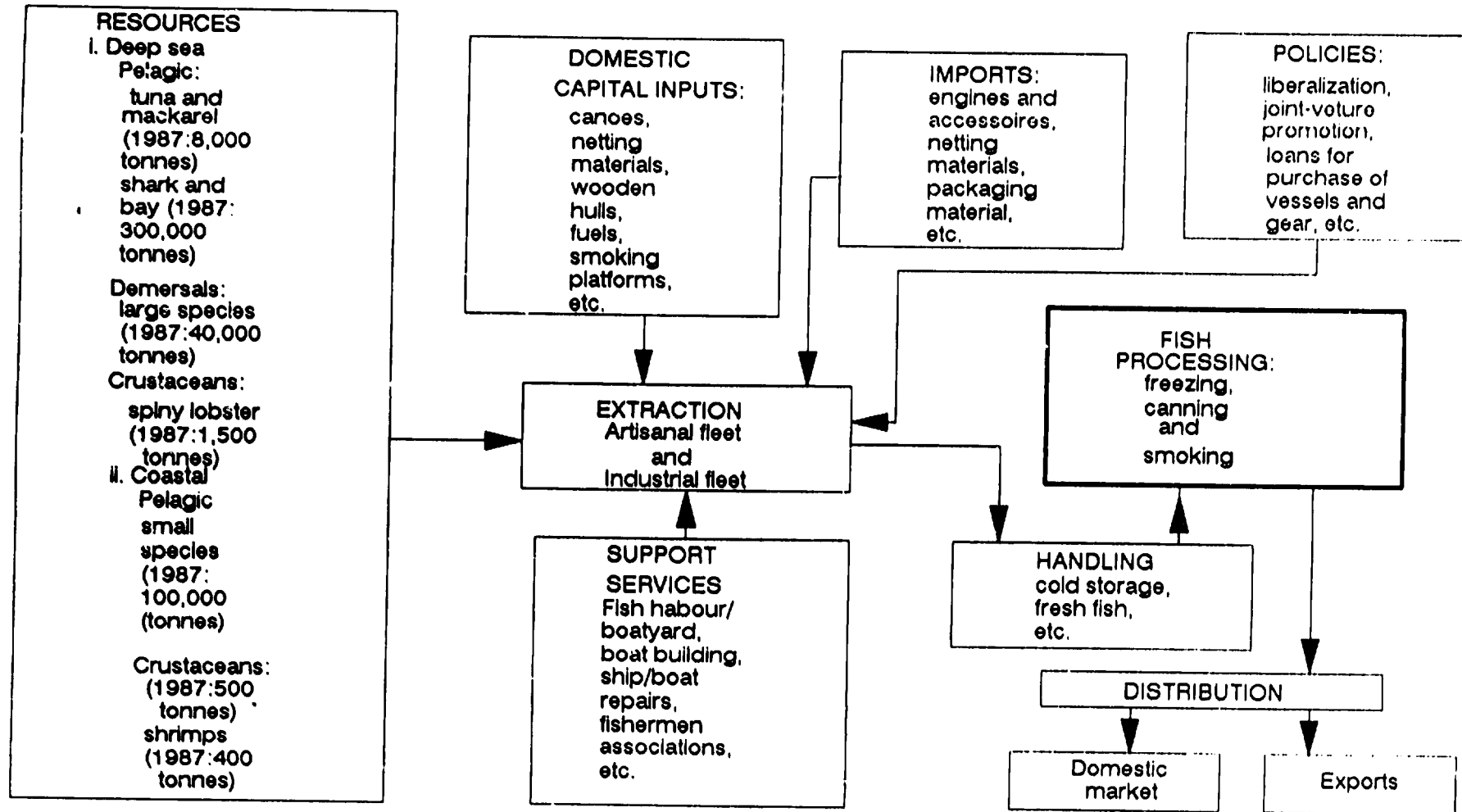
Industrial inputs and services inputs include locally manufactured inputs such as vessels and small boats, hooks and lines, gill nets or traps, and services such as boat repair and maintenance, harbour/dock and transport facilities. Other imported inputs include ice-making machinery, processing equipment, fishing gear, packaging equipment, spare parts, etc.

#### Existing links:

The fish and fishery products sub-sector constitute important source of foreign exchange for Somalia. Exports totalled US\$ 7.8 million in 1988 and 1989 respectively and accounted 9.2 per cent of total merchandise trade. Commercial fishing - mainly joint-ventures - are largely manned by expatriates and financed through foreign funds. Fish and fisheries products imports are minimal or nil.

With regards to fish processing, there is no information on upstream activities such as the reduction of fish and fisheries products to meal, feedstock or oil in the fisheries and fish processing sub-system. Linkages of the sub-sector to other economic sectors (including research, financial services etc.) and industry itself are under-developed (see figure 4). Normatively, a fledging fish and fishery products sub-system would generate several economic linkages as described in table 11.

Figure 4: The fish and fisheries products filière, Somalia and Somaliland



Sources: Ministries of Agriculture and National Planning, Somalia; UNIDO, Special Measures and Activities Division.

Table 11: Fisheries sub-system inputs and linkages to industry and other economic sectors

1. Industrial inputs
<p><b>a. Small, coastal (continental shelf) fisheries</b></p> <ul style="list-style-type: none"> <li>- Simple fishing gears, locally made on non-industrial scale, sometimes using synthetic fibre (for twine, lines, nets and cordage);</li> <li>- Fishing boats (made of wood) individually built or in small shipyards, the boats are equipped with oars, sails or imported outboard engines.</li> </ul> <p><b>b. Large offshore operations, up to factory ship level</b></p> <ul style="list-style-type: none"> <li>- Large fishing gears made from synthetic fibre (purse seine, trawl net);</li> <li>- Fishing vessels built in shipyards using various industrial inputs, such as: metal sheets, engines, electric generators, winches, fish finders (echo-sounders), navigation equipment, radars, etc.;</li> <li>- Infrastructural requirements including port facilities for discharging catch and supply of food, fuel, water, spare parts, refrigerated storage (chilled or frozen), canned fish, fish meal and oil;</li> <li>- Other inputs like fuel, packaging material (tinplate, cartons, boxes), various equipment, testing and quality control instruments, ancillary materials (salt, oil, spices, etc.)</li> </ul>
2. Industrial linkages
<ul style="list-style-type: none"> <li>- Metallurgical industry: steel sheets, alloys (for boat building), tinplate (for fish canning);</li> <li>- Engineering industry: shipyards, boat building, engines, electricity generators, navigation and electric equipment, winches, refrigeration equipment, fish processing equipment, steam boilers, pumps, maintenance and repair. etc.;</li> <li>- Chemical industries: synthetic fibre, plastics, protective paints, petrochemical products (fuel, lubricants), packaging materials (paper), plastic, coatings;</li> <li>- Agro-based industries: edible oil, industrial processing of fish (canning, fish meal and oil production), package design and packaging, testing and quality control of processed products, ancillary materials and packages, production management, product development;</li> <li>- Non-technical aspects: industrial planning, investment and feasibility studies, general management, institution building and training.</li> </ul>

Source: UNIDO, Industrial Development Strategies for Fishery Systems in Developing Countries, vol. 1, PPD.30, April 1987, p.40.



### 5.3.2 Organization of sub-system

Somalia's government policies influenced the sale and export of fish and fishery products. Government policies controlled the sale and export of dried fish through a parastatal company. Unsuccessful attempts were made to organize artisanal fisheries and communities into co-operatives. It is expected that privatization and liberalization policies would encourage private entrepreneurship and increase productivity and profits.

A wide range of problems and constraint hinder the development of the fish and fishery products sub-system, these include the following:

restrictive government policies hindering foreign and private operations, and inadequate fishery resources management policies;

poor and inadequate infrastructural and services facilities for fish processing;

poor processing standards and high loss and spoilage rates due to inadequate storage and transport facilities;

lack of investment funds and credit facilities;

limited domestic market and inefficient marketing systems;

general lack of domestic intermediate and capital goods inputs

lack of spare parts, extraction and processing infrastructure;

lack of skilled manpower vis-a-vis equipment operation, and;

small export market.

### 5.3.3 Development strategy option

Any viable and well-defined strategy for the development of the fish and fishery products sub-system would seek a simultaneous and harmonious development of both the industrial and small-scale artisanal fisheries. The development strategy opted would have to consider the economic, social, biological and environmental dimensions of development. An intended rehabilitation programme for the development of the existing fishery sub-system (including the fish and fishery products processing plants and units) in Somaliland would help ensure optimum use of fishery resources.

The following may be required to help identify the industrial rehabilitation needs of the sub-system:

an evaluation of fishery resources potential, and export potentials;

examination of domestic raw material input flows and identification of ways and means to facilitate optimum use of resources;

assessment of policies and institutions (including capacities and capabilities) related to the fisheries system;

identification of main fisheries types and their organizational structure - industrial and small-scale artisanal and identification of fish processing units;

examination of fish processing operations to help identify their deficiencies in order to suggest solutions to them;

assessment of infrastructural and services facilities for fish processing;

examination of local attitudes to fishing and fish processing to identify ways of promoting fishing as an occupation and means of livelihood for the people;

examination of the links between industrial and small-scale artisanal fishing (in terms of flow of innovation in technology, information, decision-making, etc.);

examination of extension services, skill training requirements, transfer of technology, and available credit facilities, especially to the small-scale fishery sector;

examination of "informal organizations" such as fishermen associations and identification of ways of strengthen their activities to the benefit of the sub-system;

examination of possible upstream and downstream activities associated with the sub-system, and;

examination of possibilities for regional and interregional co-operation, bilateral and multilateral assistance for the development of the fish and fishery products processing sub-sector.

#### 5.4 Building materials filière

The building materials industry (covering activities for the production of materials that temporary or permanently incorporated in construction activities) in Somaliland can play a key role in the growth of national product, employment and investment. The cement, gypsum and clay products sub-sectors are the major components of the building materials sub-system in Somaliland. Expansion possibilities in these sub-sectors would largely depend on the following: the improvement of production processes and expansion of domestic production in order to help reduce cost of construction; the promotion of increased local content in production, in other words, the development of domestic raw material base; the production of building materials on small-scale basis to suite local market requirements, and; emphasis on the use of certain products such as clay bricks in the construction sector, especially for low-cost housing etc.

Efforts of national reconstruction and economic regeneration in Somaliland would create a great demand for manufactures from the building materials industry. Social and economic infrastructure would need developed in order to assist cater the needs of the people and industry - for example provision of shelter for more than 600,000 internally displaced refugees<sup>15</sup>, and provision of low-cost housing for the expanding urban population of Hargeisa, Berbera, Burao, etc.

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<sup>15</sup> World Resources 1990-91.

### 5.4.1 Existing sub-system

#### Production/Capacities:

Generally, domestic raw materials for the building materials sub-system are under-utilized. This situation is largely due to the problems of productivity and quality levels in the building materials sub-systems. Critical statistical data on investment in the building and construction industry and the demand for housing and construction materials are not available. For estimation and projections of demand for products of the sub-sector, substantial data would be needed. In theory, the sources of demand for building materials would vary according to the type of structure, whether housing, public utilities, commercial building or infrastructure. In the case of rehabilitation of ailing and devastated industries in Somaliland, materials for the construction of industrial plants, units and ancillary infrastructure would be increasingly needed.

Since scanty data on the building materials sub-sector in Somaliland exist, inference would be made from the Somalia's sector and sub-sector performance. The building and construction sector expanded significantly in the late 1980's. Its share in GDP (in current market prices) accounted 2.16 per cent and 3.29 per cent in 1985 and 1988 respectively, an indication of eventual increases in the demand for building and construction materials.

Available statistics show, however, that national demand for building and construction materials was not fully met. Somalia imported large consignments of building and construction materials to fill the wide supply-gap. About US\$ 11 million worth of construction materials were imported in 1989 and 1990<sup>16</sup>. Somalia's trade in basic building and construction materials for the period 1980-81 is shown in table 12 below.

Table 12: Somalia: trade in building materials, 1980-81

(Percentage of total trade)

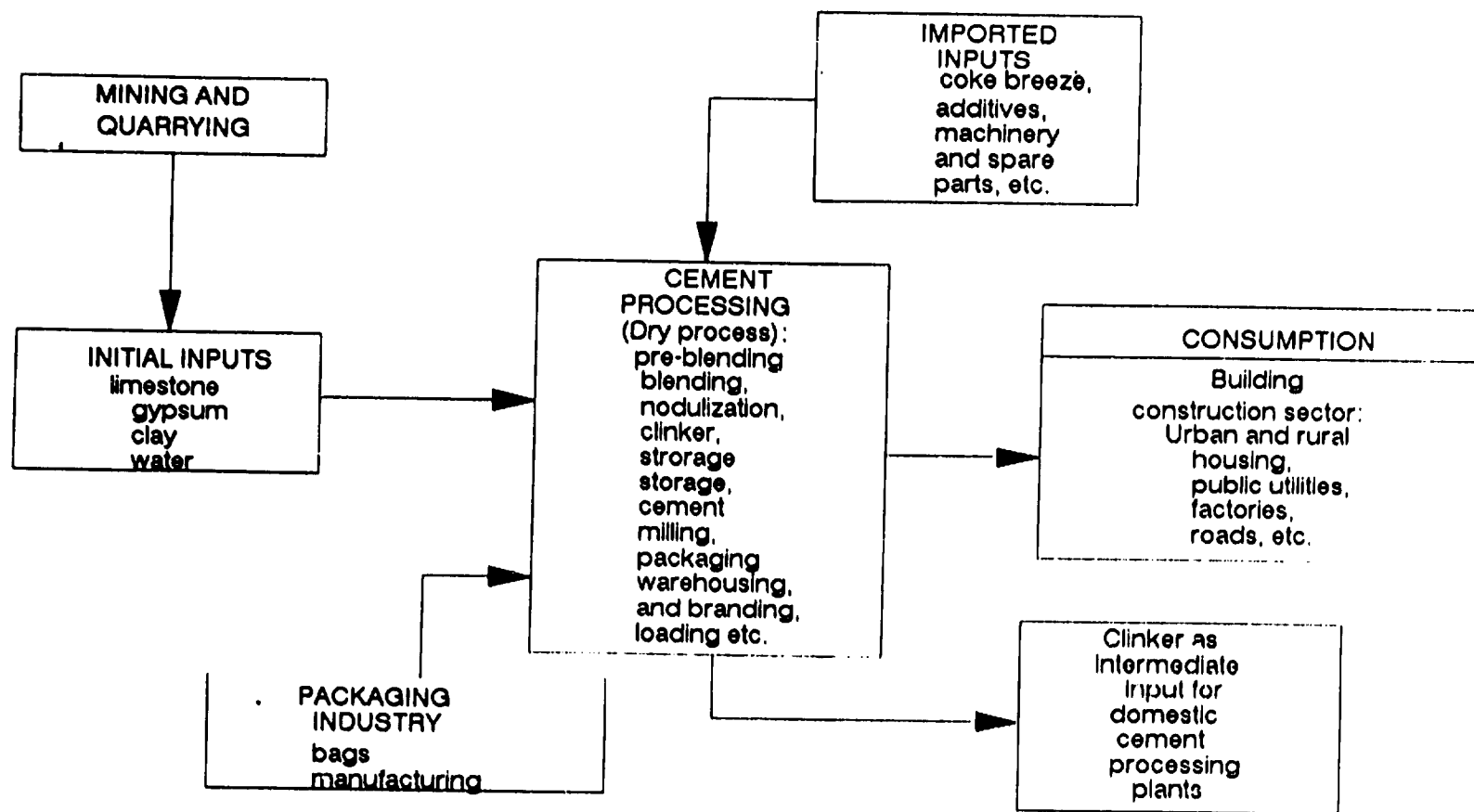
SITC	Goods	Imports		Exports	
		1980	1981	1980	1981
661	Lime, cement, fabricated building materials	4.4	4.0	0.1	-
662	Construction and refracted materials of clay	0.1	0.3	-	0.0
664	Glass	0.1	0.0	-	-
665/6	Glassware and pottery	0.2	0.1	0.0	0.0

Source: UNIDO, Industrial statistics and Sectoral Studies Branch.

The Berbera Cement Factory is the largest (in terms of production, employment and investment capital) enterprise in the building material sub-system. It was commissioned in 1987 with a projected output of 200,000 tonnes of cement (1988). Domestic limestone, gypsum and clay are/were the main raw material inputs (see figure 5). Imported coke breeze, additives, machinery and spare parts also constitute important inputs to cement production. Two ancillary plants in Berbera produce asbestos cement (with a capacity of 12,000 tonnes of

<sup>16</sup> Five-Year Development Plan 1987-1991, Somaliland.

Figure 5: The cement filière, Somaliland



asbestos products per year) and gypsum (pilot plant with an ultimate capacity of 60,000 tonnes of crushed gypsum per year).

Local demand for cement reached over 200,000 tonnes in 1987 causing a supply-gap. This was due largely to capacity under-utilization caused by: machinery breakdowns, lack of spare parts, electricity supply interruptions, raw material transport difficulties and consequent delays in raw materials delivery; problems of production process, and; lack of working capital foreign exchange for the import of machinery and other inputs. A major constraint to plant operations is the high cost of operation due to sheer size of the plant. Advancements in the field of technology would enable the construction of small-scale or "mini" cement plants (and iron plant). Such small-scale cement plants are renowned for their cost-effective operations<sup>17</sup>. Because of the bulkiness of raw material inputs and cement itself, the location of the Cement Factory at Berbera was primarily determined by the factors of source of raw material and proximity to market.

Considerations of economies of scale are far less critical for the small-scale burnt-clay brick and wood processing and fabricated metals units, especially in the rural areas of Somaliland. Burnt-clay brick making is entirely based on domestic raw materials such as sand, clay and firewood or coal for firing (see figure 6). The rehabilitation of the brick industry could not be based on the traditional brick drying and firing process since Somaliland has scarce energy resources such as local timber or firewood. It would be then feasible to stabilize clay with cement, since this production mix would cut down the consumption of cement in general, ensure optimum quality standard required for construction activities.

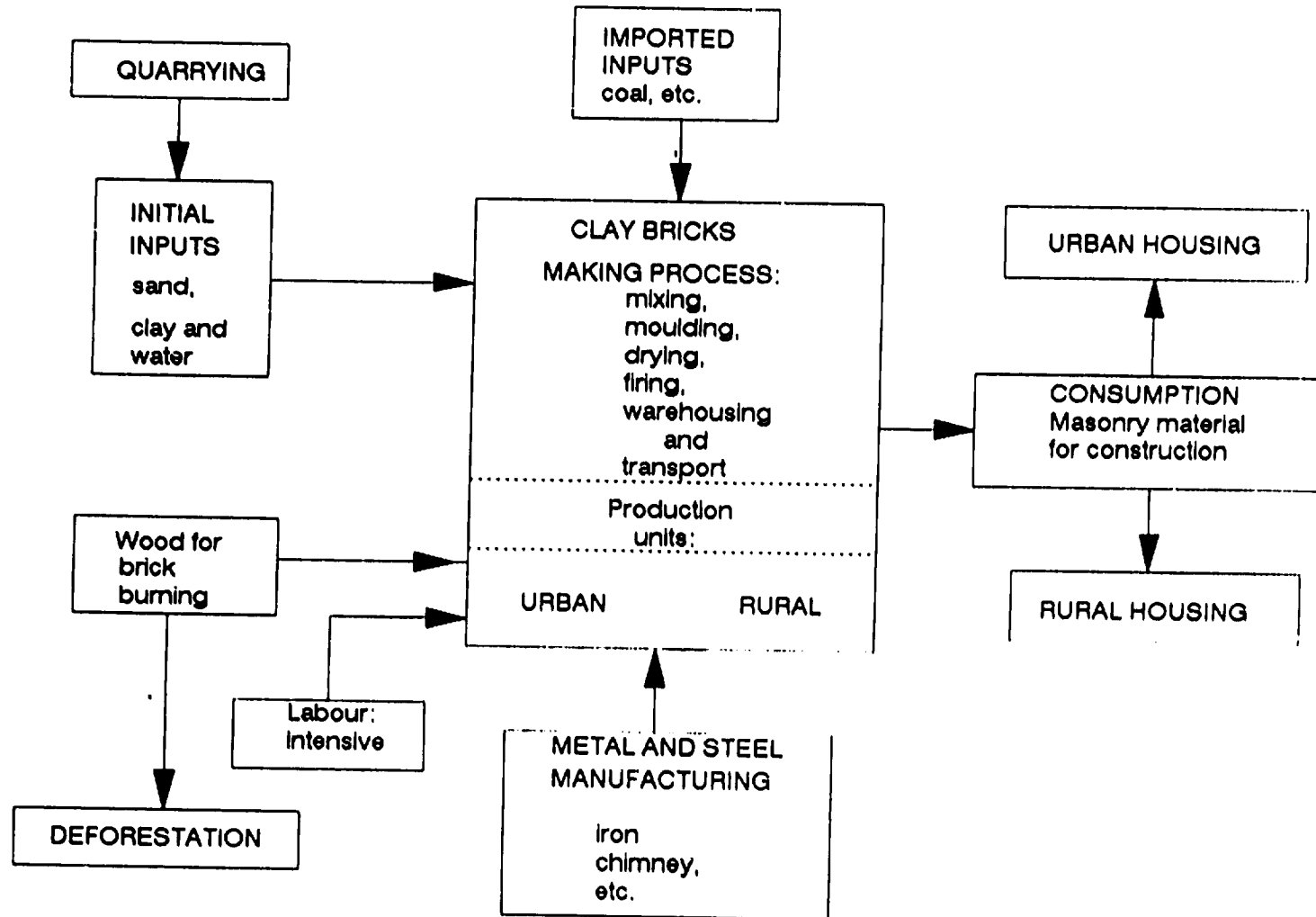
#### Existing links and organization:

Organization of the cement sub-system is complex compared to the small-scale operations of the other building materials sub-system such as burnt-clay brick making, small-scale metal working for the housing and construction sector, wood working, etc. This entails decision making regarding production processes, delivery of raw materials, investment resources, maintenance, application of R&D, marketing, finance and accounting services etc. Government policies such as price policies influence production and functioning of the sub-system. But, with liberalization, the cement sector's subventions (of Portland cement) would be discontinued to ensure the development of other building materials (other alternatives of cementitious binders) sub-sectors. Generally, the small-scale building materials sector operate with inadequate capital, thus preventing them to build up adequate stock of either raw materials or finished produce.

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<sup>17</sup> UNIDO, Fred Mouvenzadeh, Measures and Actions to Increase the Production of Industrial Building Materials in the Context of Enhanced Import Substitution, ID/WG/425/3, 17 August 1984.

Figure 6: The clay brick filière, Somaliland



#### 5.4.2 Development strategy option

Rehabilitation of the building material sub-sector would be a measure to increase capabilities for the production of co-ordinated building material components required by Somaliland's industry and economy. Rehabilitation, however, would need to be tailored to local conditions and resource potential. The following items may serve as effective basis for proper industrial rehabilitation programme for the sub-sector:

an appraisal of existing building material filière and sub-system taking into consideration the role of the informal small-scale sector activities which engages local craftsmen;

survey of domestic raw materials (mapping) potential and their location;

examination of the ways and means of distribution of building materials since this may affect the nature, size and volume of the manufactured building materials;

appraisal of available information base on building materials and technology;

examination of the level of skills and training requirements of building materials processing plant and units including the artisanal sector;

examination of stages of production of units of sub-system to identify deficiencies and problems of operation in order to help identify remedial actions;

examination of operations of enterprises in order to assess their rehabilitation needs (physical and infrastructural- machinery, factory, spare parts, raw materials supply, etc.; human- skill training, management, social security, etc.; financial, marketing etc.) and possibilities of financial and technical assistance from development partners;

examination of policies and institutions related to operation of the sub-system;

examination of environmentally-sound and energy-efficient technologies and efficient raw material utilization techniques;

examination of possible regional and inter-regional co-operation in significant areas for complementarities and development of the sub-system, and;

examination of the ways and means of reinforcing linkages between sub-sectors of the building material system for a holistic and complementary growth.

## 6 Conclusion

The severe and alarming political and economic conditions in the Horn of Africa have motivated the United Nations and its specialized agencies such as FAO, WHO, etc., to increase humanitarian and economic relief programmes in that civil-war-ravaged country of Somalia. Since industry is a crucial component and an engine of socio-economic development, UNIDO would have an essential role to play in the developmental process in both Somalia and Somaliland.

Indications of normalcy in political climate and assured personal security in Somaliland, would prompt UNIDO to re-focus its technical assistance on Somaliland.

In fact, Somaliland's potential for the processing of domestic resource-based products like meat, fish and fish products, hides and skins, and earth-based materials (lime, gypsum, sand etc) for domestic market and export are large. Somaliland's manufacturing sector, however, exports/exported its products unprocessed or semi-processed. Possibilities for increased exports of wet-blue leather, for example, have not been utilized. This is mainly due to physical and human disruptions suffered by most of the production units and factories. Malfunctioning and under-utilized are also caused by the shortages and delays in raw material supply, lack of maintenance and poor condition of machinery and equipment, lack of working capital and foreign exchange to import necessary inputs and machinery spare parts, lack of training at all levels of management, unskilled technical and production personnel, and above all the worse state of economic climate and environment in which industry is operating.

It is expected that simultaneous efforts to regenerate/rehabilitate the civil-war ravaged industry and improve the macroeconomic policy framework would in the long-run help increase value added and promote economic linkages, especially between agro-based industries and agriculture in Somaliland.