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FINAL REPORT

ON

MARKET SURVEY AND FINANCIAL PROJECTIONS

OF

EAST AFRICAN STEEL CORPORATION (EASCO) JINJA UGANDA

PREPARED FOR

THE MINISTRY OF COMMERCE, INDUSTRY & CO-OPERATIVES

GOVERNMENT OF UGANDA

BY

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TABLE OF CONTENTS

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3.0 ABBREVIATIONS

E.A.C	-	East African Community
EASCO	-	East African Steel Corporation
G.C.I.S	-	Galvanised Corrugated Iron Sheets
GDP	-	Gross Domestic Product
KBO	-	Kagera Basin Organisation
MPED	-	Ministry of Planning & Economic Development
MFEP	-	Ministry of Finance & Economic Planning
NRM	-	National Resistance Movement
PTA	-	Preferential Trade Area for Eastern and Southern African States
SRM	-	Steel Rolling Mills, Jinja
TUMPECO	-	The Uganda Metal Products and Enamel Company
UIA	-	Uganda Investment Authority
UNIDO	-	United Nations Industrial Development Organisation
Ug. Shs	-	Uganda Shillings
US $	-	United States Dollars

Note: Ministry of Planning & Economic Development (MPED) was recently merged with the Ministry of Finance to form the Ministry of Finance & Economic Planning (MFEP).

4.0 EXECUTIVE SUMMARY

EASCO MARKET STUDY AND FINANCIAL PROJECTIONS

This study was carried out on behalf of UNIDO to support the Government of Uganda and any other authority interested in the rehabilitation of the East African Steel Corporation (EASCO) at Jinja, Uganda.

The report is based on:

(i) Previous studies and reports on EASCO and the metal industry in Uganda.

(ii) Discussions and interviews of EASCO staff.

(iii) Survey of steel product producers, dealers and consumers in Uganda.

(iv) Documents and materials available at EASCO.

(V) Relevant secondary data from the statistics department, MFEP.

(VI) Other relevant literature like symposium papers on steel industry in Uganda.

(vii) Own observations and experiences in Uganda and abroad.

The objectives of the study are as follows:-

(a) Collect information on the steel consumption of Uganda, with a break down by major types and sizes for 1970-91.

(b) Forecast the trend of steel consumption up to the year 2000 based on the past, present and predicted consumption, industrial growth, structural changes of the economy & international comparison.

(c) Prepare an overview of export possibilities for steel products.

(d) Compile the available steel production capacities in Uganda, its rate of utilization, problems of modernisation and possibilities for their resolution.

(e) Elaborate the steel price mechanism prevailing in Uganda and the same for export.

(f) Collect information on the competitors of EASCO and predict the strengths and weaknesses of the new plant. Make recommendations for the marketing strategy and the market niche to be aimed at.

(g) Compile information on the availability of raw material, its prices with special emphasis on the present and long-term availability of steel scrap, system and methods of scrap collection and preparation, scrap dealers and terms of trade.

(h) Collect data on the short and long-term energy supply of EASCO and on energy prices.

(i) Compile information on the availability of skilled labour required for EASCO.

(j) Prepare the operating results and cash flow projections for the first 12 years of EASCO's operations.

(k) Prepare recommendations on the basis of the findings.

The steel industry is the main engine for sustainable economic advancement. It provides the crucial forward and backward linkages in an economy paving the way for take-off into the next stage of high volume industrial production. Indeed, steel production/ consumption level in a country is an indicator of economic activities and the standard of living of the populace.

The consumption of steel products in Uganda has been on the downward trend since the 1970s striking an all-time low in the early 1980s when the per capita consumption hovered around one kg per annum. Consumption has, however, picked up albeit slowly, due to the massive reconstruction and rehabilitation efforts facilitated by the incumbent NRM Government since 1986.

Three steel plants and numerous fabrication establishments are expected to be operational soon. With quality, standardization and efficiency, the export potential looks promising, more so with the ongoing initiatives to promote regional market integration like the Preferential Trade Area (PTA) and Kagera Basin Organisation (KBO).

Capacity utilisation of production units in the country is generally very low and this is the culture that EASCO must aim at reversing. Capacity building, professional management, energy conservation, production efficiency, quality control, standardization,and an integrated marketing strategy are imperative variables that must be addressed seriously and results achieved, if EASCO is to be a major force in the PTA region.

The constraints in terms of competition, technical expertise and productivity are far from being insurmountable as demonstrated in the report. However, it is noteworthy that success will depend on the clear headedness and vision of management and also the capacity and initiative of the work force, bearing in mind that this production unit has been idle for nearly a decade and as a result the morale is very low indeed.

The project is envisaged to achieve cumulative earnings, from a deficit of US $ 1,648,000 in 1994 to a surplus of $18,525,000 in 2005 (over a 12 year period) and it is hoped that by the year 2005, all the outstanding loans with interest would have been paid off. During this 12 year period, the plant is expected to operate at a weighted average of 44% in 1994 increasing to 83% in 1997, after which stable levels reign till 2005 which is not too ambitious, given the comparative advantage EASCO has in Uganda and the size of total investment in land, buildings, plant and machinery to the tune of US$ 36,240,000.

The Uganda Government's expected revenue from the EASCO project, based on the assumption of a 10% sales tax on the total sales turnover of about US $ 128 million over a 12 year period is around US$ 12.8 million which will be a bonus for the Treasury. However, the project is found to be technically feasible and financially viable. Besides, there will be wind fall gains in terms of employment creation, boost to the morale of the staff and development of linkages in both upstream and downstream activities.

Finally, we are glad to note that the present management at EASCO has already started operating the Bolts and Nuts unit, Oxygen unit and the Strip Mill unit (though partially) with renewed vigour and determination, and this proves our claim that the plant can be re-activated in stages.

5.0 STEEL CONSUMPTION IN UGANDA: 1970-1991

5.1 Background

In the 1960s, steel consumption in Uganda was at a high level due to high demand from the domestic sector, the agricultural industry and construction. On the African continent, per capita steel consumption in the country was among the highest.

Indeed, the East African Steel Corporation (EASCO) was the most modern steel plant in the East and Central African region. The country was a renown producer of high quality steel products both for the domestic market and for export. The steel industry engineered the remarkable growth of the economy in the 1960s which was estimated at an average of 5.1% per annum.

Uganda's economy witnessed traumatic changes in the years following a coup d'etat in 1971. The new regime launched the so-called "economic war" in 1972 under which major entrepreneurial groups of non-citizen Asians and non-Africans were expelled. This was followed by economic mismanagement, instability and insecurity of both the people and the property. The sum effect was virtual isolation of the economy from the international market for goods, services and technology. Even the local demand for goods & services contracted sharply due to widespread poverty and general economic decline. The industrial sector, especially the steel sub-sector was among the hardest hit. The economic development therefore took a backseat.

The return of a popular Government in 1980 did not improve the situation at all as the country by then had plunged into civil war and political strife. In addition, economic difficulties were brought to bear on Uganda by the international situation in the early 80's which were characterised by high and volatile interest rates, dwindling external reserves and declining demand of raw materials by the developed world. National economic reconstruction and the revival of the steel industry therefore could not be realised quickly.

However, since 1986 the economic outlook has been improving. The formation of a broad-based coalition of various power groups in the country under the NRM Government slowly improved the security and stability in the country . Economic re-construction has therefore been revived largely by increased inflows of external finance due to enhanced confidence of both the donors and the foreign investors.

The rehabilitation and re-construction efforts have stimulated the demand for steel & steel products. As of now,local production cannot meet the country's needs which have to be supplemented by imports. But the fact is that local producers have so far failed to face the challenges of international competition in terms of quality,standardisation, production efficiency and prices, leading to imports gaining .a strong foothold in the market leaving the local producers with high levels of stocks.

5.2 Steel Imports 1970-1991

Local consumption as of today constitutes mainly of imported steel products in addition to what is produced within the country.

Data on steel imports is based on the "Annual Trade Reports"of the Customs & Excise Department, Ministry of Finance & Economic Planning.

Table I below on page 3 gives the full break down of steel imports into the country by major types. Explanatory notes for the table are attached:

[illegible] OF STEEL & STEEL PRODUCTS [illegible]

PRODUCT	[illegible]	[illegible]	QUANTITY (Tonnes)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	QUANTITY (Tonnes)
Bars, Rods, Angles, [illegible]	[illegible]	[illegible]	17,320	33,5[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Universals, plates & [illegible]	[illegible]	[illegible]	25,5[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Rolled strip or hoop, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Track materials	[illegible]	[illegible]	545	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tubes, pipes, fittings and other conduits	[illegible]	[illegible]	7,397	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Powders, Ingots, blocks									
Ferro alloys									
Wire Rod									
Stranded Cables & [illegible]									
Nails, screws, nuts, [illegible]									
rivets & similar [illegible]									
Tools, cutlery, hand [illegible]									
Household articles									
Sponge, caddled bars and [illegible]									
Blooms, billets & slabs									
Coils for re-rolling									
Castings, louvres, frames, [illegible] and reservoirs									
Casks, Drums, Cans & [illegible]									
Fish traps, Tanks, Grinding [illegible] and Cores									
Fittings, forged hooks & other such articles									
TOTAL	[illegible]	[illegible]	5[illegible]	52,856,1[illegible]	21,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

SOURCE: Annual Trade Reports; Customs & Excise Dept., MTTP.

SECTION 1

VALUE (US$)	1974 QUANTITY (Tonnes)	[illegible]	1975 QUANTITY (Tonnes)	VALUE (US$)	[illegible]	[illegible]	QUANTITY (Tonnes)	VALUE (US$)	197[illegible] QUANTITY (Tonnes)	VALUE (US$)
[illegible],079	1,28[illegible]	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]	2,[illegible]72,236	-	5,134,1[illegible]
[illegible],?08	5,[illegible]	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]	17,549,736	-	12,746,4[illegible]
[illegible],717	165		737	3,215,[illegible]	[illegible]	[illegible]	72[illegible]	3,337,?43	-	894,6[illegible]
[illegible],7[illegible]3	1,[illegible]		2,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12,66[illegible]	-	9,974,[illegible]
				[illegible]	[illegible]	[illegible]	[illegible]	590,725	-	117,7[illegible]
			355	[illegible]	[illegible]	[illegible]	[illegible]	4,12[illegible],344	-	3,306,64[illegible]
[illegible],1[illegible]7	8,931	[illegible]		[illegible]	2,[illegible]	[illegible]	[illegible]	10,556,397	-	31,524,47[illegible]

SECTION 2

19					19			1990		1991	
	QUANTITY (Tonnes)	VALUE (US$)			QUANTITY (Tonnes)		QUANTITY (Tonnes)	VALUE (US $)	QUANTITY (Tonnes)	VALUE (US $)
86	-	5,184,[illegible]			[illegible]	[illegible]	3,2[illegible]	2,202,[illegible]	4,300	3,259,951
86	-	12,746,[illegible]			-	[illegible]	3,7[illegible]	5,2[illegible]	4,693	5,441,202
83	-	804,[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	1,748	1,940,718
83	-	8,974,[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	5,650	4,248,479
85	-	117,[illegible]			[illegible]	[illegible]	0,0[illegible]	20,[illegible]	18	19,199
84	-	3,306,[illegible]			[illegible]	[illegible]	-	-	-	-
					51	[illegible]	47	303,[illegible]	255	502,596
					[illegible]	[illegible]	2[illegible]	138,[illegible]	919	709,186
					-	[illegible]	917	3,[illegible]	1,234 18.1	3,201,932 20,593
							1,[illegible] [illegible]	[illegible] [illegible]	3,572 95	1,424 72,285
							[illegible]	[illegible]	67 78	101,113 228,852
							[illegible]	[illegible]	270	392,513
							177	273,[illegible]	157	352,013
87	-	31,524,47[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	25,286.1	21,392,576

SECTION 3

NOTES (TABLE I);

(1) Source: Annual Trade Reports; customs and Excise Department, Ministry of Finance & Economic Planning.

(2) Data for 1981-1989 was destroyed, according to the customs & Excise Department. Attempts to get the missing data from an alternative source were fruitless.

(3) Categorization of products varies with the years and it's therefore very difficult to standardize them. Some like wire Rods are therefore repeated.

(4) Quantities refer to the amounts that entered the country. There is no available data for re-exports thus there is no provision for them.

(5) Apparent price & Quantity discrepancies can be explained by the following:-

(i) Different countries of origin and pricing of products

(ii) Grouping of various related items under one category without isolating the quantities, prices or sources of each individual item.

(iii) Wars and instability like in 1979 leading to a very low level of imports.

(iv) Galloping inflation and variance in exchange rate regimes.

(v) Currency conversion like in early 1980.

(6) The values, except for 1990 & 1991, are given in shillings(Ug.) rather than in convertible Currency, just as from source, due to frequent changes in the exchange rate even over a one year period. There is therefore no realistic exchange rate figure which can be used to cater for imports of a particular year as they constitute different consignments over 12 months.

5.3 LOCAL PRODUCTION OF STEEL

Uganda has 3 steel production plants viz EASCO,Steel Rolling Mill and Sembule Steel Mill, in addition to numerous small metal fabrication establishments.

In the 1960s and early 1970s, EASCO used to produce quality steel products for the entire region of East and Central Africa. As of now, only SRM in Jinja is operational but despite its monopolistic status, it experiences difficulties in marketing its products in the face of competition from imports. Capacity utilisation is only about 50% and unsold surplus stocks are common, eventhough demand for steel products is on the increase due to vigorous re-construction efforts and economic activities in Uganda.

Over the past decade, capacity under-utilisation was acute and most of the steel fabrication establishments were operating at as low as 10% capacity. The steel industry in Uganda is dominated by small-scale fabrication establishments using mostly obsolete technology. The few bigger establishments which employ more advanced technology are not competitive enough in terms of quality, standardisation and production efficiency. The local products therefore face stiff competition from imports, which according to dealers are generally cheaper and are of a better quality. This explains the fact that local producers face marketing problems, despite increased market demand.

Steel production statistics, like all forms of data in the country are sketchy due to poor data collection and information management in Uganda. Visits to the relevant Government departments yielded only the following tables II-V which show the steel establishments, their capacities (installed & utilisation), the items produced and their production levels. The information as presented in the tables II-V confirms the belief that the steel sub-sector over the above period was on a decline.

Further, the economic mismanagement and the general decadence of the industrial sector in Uganda over the last two decades has been well documented. It is noteworthy that the steel sub-sector was one of the hardest hit. The extra-ordinary situation that prevailed in the country which involved gross economic inactivity, insecurity and instability renders the data for 1973-1980 unreliable as a basis for extrapolations. However, the data serves as an indicator as to the level of industrial decline that Uganda's economy underwent over the period and provides a guide to the potential of the steel sub-sector, once economic revival is realised.

TABLE II: PRODUCTION OF MANUFACTURED COMMODITIES OF SELECTED ESTABLISHMENTS: 1984 - 1991

Commodity	Sector I SIC Code (Rev 3)	Unit	Installed Capacity	1984	1985	1986	1987	1988	1989	1990	1991
Steel Ingots	2710	Tonnes	22,000	1,406	2,487	867	923	1,121	-	-	-
Corrugated Iron Sheets	2710	Tonnes	20,000	1,953	2,410	1,062	642	723	1,377	1,254	2,296
Steel Beds	2811	Number	36,000	4,213	5,523	3,151	8,083	880	2,098	1,089	2,436
Steel Doors and Windows	2811	Tonnes	480	94	82	108	169	148	404	321	388
Hoes	2893	'000Pcs	3,600	185	414	515	633	519	532	803	784
Enamel Ware	2893	'000ozs	3,000	43	13	32	12	3	3	-	-
Other Misc. Metal Products	2899	Tonnes	26,360	2,087	2,896	2,687	1,872	3,232	1,704	1,791	4,609

Source: Stat. Dept, MPED

TABLE III: INSTALLED CAPACITY AND PERCENTAGE UTILISATION, MANUFACTURING ESTABLISHMENTS: 1984 - 1991

Commodity	Sector I SIC Code (Rev 3)	Unit	Installed Capacity	1984	1985	1986	1987	1988	1989	1990	1991
Steel Ingots	2710	Tonnes	22,000	6.4	11.3	3.9	4.2	5.1	0.0	0.0	0.0
Corrugated Iron Sheets	2710	Tonnes	20,000	9.8	12.1	5.3	3.2	3.6	6.9	6.3	11.5
Steel Beds	2811	Number	36,000	11.7	15.3	8.8	22.5	2.4	5.8	3.0	6.8
Steel Doors and Windows	2811	Tonnes	480	31.3	27.3	36.0	56.3	49.3	134.7	66.9	80.0
Hoes	2893	'000Pcs	3,600	5.1	11.5	14.3	17.6	14.4	14.8	22.3	21.8
Enamel Ware	2893	'000ozs	3,000	1.4	0.4	1.1	0.4	0.1	0.1	0.0	0.0
Other Misc. Metal Products	2899	Tonnes	26,360	7.9	11.0	10.2	7.1	12.3	6.5	6.8	17.5

Source: Stat. Dept, MPED

TABLE IV: INDUSTRIAL PRODUCTION STATISTICS: 1981-1983 (SELECTED COMMODITY AND ESTABLISHMENTS)

Establishments (1)	Commodity Produced (2)	Unit (3)	Installed Capacity, p.a (4)	Production 1981 (5)	Production 1982 (6)	Production 1983 (7)	% of Capacity utilization 1981 (8)	% of Capacity utilization 1982 (9)	% of Capacity utilization 1983 (10)	Change in Capacity utilisation 1982/81 (11)	Change in Capacity utilisation 1983/82 (12)
48. E.A Steel Corporation Ltd	(a) Finished products	Tonne	19,000.0	1,264.0	1,004.0	1,657.0	6.7	5.3	8.7	(1.4)	3.4
	(b) Ingots	Tonne	22,000.0	1,801.0	1,446.0	2,341.0	8.2	6.6	10.6	(1.6)	4
49. E.A Steel products Ltd	Miscellaneous Metal Products	Tonne	1,417.0	49.0	50.0	119.0	3.5	3.5	8.4	-	4.9
50. Sembule Steel Mills Ltd	Miscellaneous Metal products	Tonne	5,380.0	N/A	360.0	384.0	-	6.7	7.1	-	0.4
51. Uganda Metal Industries Ltd	Miscellaneous Metal products	Tonne	1,380.0	73.0	16.0	298.0	11.8	1.2	33.9	(10.6)	32.7
52. Cable Corporation Ltd	Cables and conductors	Kms	4,500.0	965.0	1,053.0	2,963.0	1.7	1.1	14.8	(0.6)	13.7
53. Tumpeco Ltd	Beds	Pieces	36,000.0	5,392.0	797.0	1,789.0	15	2.2	5	12.8	2.8
54. Uganda Baati Ltd.	G.C.I.S.	Tonne	9,000.0	68.0	1,873.0	2,647.0	0.8	20.8	29.4	20.0	8.6
55. Tororo Steel Works Ltd	G.C.I.S.	Tonne	11,000.0	359.0	745.0	340.0	3.3	6.8	3.1	3.5	-3.7
56. Uganda Hoes Ltd	Hoes	'000 pieces	3,000.0	406.0	195.0	52.0	13.5	6.5	1.7	(7.0)	-4.8
57. UCMA Engineering Corporation Ltd	Hoes	'000 pieces	6,000.0	3.0	49.0	72.0	0.1	0.9	1.2	0.7	0.1

Source: MFED & Min. of Industry

INDEX OF INDUSTRIAL PRODUCTION
Table V: Annual Summary 1984 - 1991 (1987=100)

Group/Sub-Group	Number of Establishments	Weight	1984	1985	1986	1987	1988	1989	1990	1991
Steel and Steel Products	19	5.30	110.7	133.1	105.9	100.0	87.2	98.9	107.7	149.3
Iron and Steel	6	1.51	217.3	249.4	95.3	100.0	125.1	74.1	57.5	130.8
Structural Steel	4	2.28	69.8	73.8	71.6	100.0	66.4	134.6	131.0	166.9
Steel products	9	1.51	66.4	107.1	167.7	100.0	80.9	69.9	122.6	141.2

Source: STAT. Dept. MPED

NOTES (TABLES II-V):

(1) Source: Statistics Department, Ministry of Finance & Economic Planning.

(2) East African Steel Products Ltd. (Table IV) is different from EASCO. It is located in Jinja and produces a range of metal products like pipes while EASCO is at Masese.

(3) There is an acute shortage of production data in Uganda, and more so on the steel sector due to numerous unregistered small fabrication Units, most of which operate in the informal sector.

(4) Data in the above tables is neither exhaustive nor elaborative. For instance, Steel Rolling Mills is not included. However, this is a reflection of a poor data bank in the country. Under these circumstances, the data from the statistics department, is the best available indicator on steel production.

(5) An entry of "0" or "___" does not mean that nothing was produced in the respective year. It is only an indicator for the establishment whose data was not available and incorporated by the source.

(6) "Other miscellaneous products" though not mentioned by source include pipes, wire mesh, barbed wires, ridges, slashers, axes, etc.

(7) Table V Groupings:-

(i) "Steel and Steel Products" is a major group which constitutes establishments dealing in the production of steel or its products or both.

(ii) Iron & Steel is also a major group comprising of units which are involved in both steel & iron.

(iii) "Structural steel" is a sub-group and involves firms exclusively producing steel structures.

(iv) Steel products is also a sub-group which constitutes units involved in the transformation of steel into other ancillary products.

(v) The groups are therefore not mutually exclusive and the data is presented in the format as obtained from source.

6.0 CONSUMPTION FORECASTS

6.1 Past and Present Consumption

In the pre-Colonial era, steel consumption levels in Uganda were negligible as the level of development was too low to enable widespread exploitation and use of the steel resource. The advent of the colonisation of Uganda facilitated the transfer of technology and changes in consumption patterns of the populace and their way of life. The 1940s and '50s saw great leaps in economic advancement. There was massive industrial growth in the country and the Steel Industry provided the necessary link between various establishments. Coupled with the availability of the raw materials and the cooperant factors like the infrastructure and utilities, Uganda emerged as a steel production centre in the east and central African region. At this time, the economy was buoyant and the populace enjoyed a relatively high standard of living. Per capita steel consumption was among the highest in Sub-Saharan Africa.

In the 1960's after independence, economic growth continued on the upward trend and the steel sector played a major role in this phenomenal growth. Steel consumption per capita attained the highest levels ever through tremendous final and intermediate demand over the decade.

Over the 1970s economic decline set in due to gross mismanagement, insecurity and misrule. The genesis of the fiasco is to be found in the so-called "Economic War" under which the enterprising non-citizen Asians were expelled. The industrial sector collapsed, the infrastructure deteriorated and institutions decayed. The steel sub-sector suffered from dwindling demand as a result of the diminishing level of activity of the linkage establishments together with the diminishing purchasing power of the population. Steel consumption per capita declined tremendously over the decade. This continued over the early '80s due to continued infighting and economic inactivity.

Since 1986 however, the NRM Government has restored peace, stability, security and the rule of law in most parts of the country. The regime has managed to build investor confidence, both local and foreign. The international donor community is so far impressed and as a result, the inflows of Aid /Grant funds are substantial. The Government has launched a massive Rehabilitation Programme supported by the Donor Community which covers diverse areas as roads, railways, flowing water, institutions to mention but a few. Under structural adjustment, the government has liberalised the foreign exchange regime and embarked on the "Privatisation" programme. This has led to increased availability of foreign exchange and an increase in foreign investment. The housing and construction industry is booming both in the public and private sector. Consumption of steel in the country has been on the upward trend in the last 3 years.

A number of downstream activities in the steel sector are expected to grow significantly in the next few years due to increased demand for their products.
Notable among the areas are:-

(i) Fasteners, Screws, Nails, Bolts & Nuts.

(ii) Factory building materials such as Rounds, Angles, Flats and Structurals.

(iii) Railways- Track materials, Spares and Wagons.

(iv) Power generation and distribution gadgets & materials.

(v) Construction materials for storage facilities and housing.

(vi) Ingots/Billets for the Engineering Industry.

All these areas are poised to achieve high growth rates for some years to come and have been accorded high priority as outlined in "The Way Forward" a strategy paper prepared recently by the Government of Uganda. Clearly therefore, the future of the Steel Industry in Uganda is bright.

6.2 Industrial Growth and Structural Changes

By 1980, the Industrial Sector in Uganda was virtually incapacitated and production levels had hit their lowest since their establishment. Amin's tenure of misrule dealt a fatal blow to the sector. The rehabilitation initiatives of the early '80s were forestalled by incessant civil strife and continued mismanagement. Efforts at economic adjustment in 1981 under the auspices of the IMF and World Bank were abandoned by 1983, due to the intensifying civil war. The Government could not afford to effect the stringent and unpopular adjustment conditionalities in the face of growing dissent. Though the adjustment process was central to the revival of the economy, the internal climate could not allow the Government to unleash the painful adjustment programmes on the populace. Economic growth therefore took a back seat among Government priorities over the period 1980-'87.

The coalition of various interest groups that came to power in 1986 under the NRM restored peace and stability. By 1989, bold economic measures had been taken. The infrastructure has been largely rehabilitated and the process is still going on. Stimulative structural and institutional changes have been effected which are conducive to Industrial growth. Economic and commercial liberalisation has stimulated foreign and local investment.
The Industrial Sector has been revived with the rehabilitation of the dilapidated manufacturing establishments which had turned into relics of the past glory of the '60s. New industries have also been set up, especially in the Small-Scale sector.

Indeed, the Industrial Sector presently contributes over 20% of the country's GDP. The Gross Domestic product has also been on the upward trend, growing by an average of 4-6% per annum, over the last 5 years. The trunk roads have been re-tarmacadamised in most parts of the country and the feeder roads have been largely graded. This will propel economic growth through increased productive activity, in the agricultural and manufacturing sectors. However, the most visible growth is in the Housing and Construction Sector. The conscious economic policies have discouraged speculative dealings and encouraged tangible investments especially in the value-added small-scale industrial ventures. All these steps have boosted the consumption of steel and steel products in the country.

To summarise, the steel sector is acknowledged as the heart to the industrial activity of a country which in turn, is a measure of the economic strength of the nation. In present day Uganda industrialisation is one of the foremost government priorities and the Steel Sector is central to the industrial fabric. The current economic development policies of the government aim at restructuring the economic orientation towards industry and steel is a crucial parameter for the industrial development strategy. With continued economic growth and a conducive environment for investment, steel consumption will remain on the upward trend due to its forward and backward linkages. Measuring by the past higher consumption levels, the intermediate period of turmoil and the newly established economic revival in Uganda, the Country can arguably attain the steel consumption levels of the '60s within about 10 years. Presently, countries like Zimbabwe, Botswana and Kenya Consume as much as 20 times the amount consumed in Uganda while the country used to be ahead of some of them. The stage is already set for economic development and steel consumption levels therefore are expected with time to reach comparable ranges with the progressive African Countries like Kenya, Zimbabwe and Botswana at an average of around 30/kgs per capita.

7.0 OVERVIEW OF EXPORT POSSIBILITIES

As noted earlier, the East African Steel Corporation (EASCO) in its initial years served as a regional producer for East and Central Africa. The industrial decadence of the 1970s took its toll on this establishment, just like the rest of the economy, and by the early '80s, Uganda was a net importer of steel products.

Rehabilitation efforts started in the early '80s both in the private and public sectors but as of now, only one steel rolling mill viz. Steel Rolling Mills, Jinja is operational. Another one in the private sector is under erection viz Sembule Steel Mills, Kampala while the EASCO plant is yet to be erected and commissioned. All the plant and machinery is on site awaiting finalisation on the part of the Government to start the erection and commissioning.

Noteworthy however, is the finding that despite Steel Rolling Mills at Jinja enjoying a monopoly status at present, all is not well in the market arena. Sizeable stocks of unsold steel products are reported although there is visible increase in demand for steel products due to the economic recovery through rehabilitation and reconstruction drives of the past few years.

The explanation is found to lie in the import factor, where steel imports are preferred to the local goods. Reasons for this range from quality through standardisation to price differentials. One more reason is through "tied aid" to the economic programmes under which donors insist on procurement of steel materials where applicable from the donor countries rather than buying locally. Evidently, the marketing problem is multi-faceted and the solution should be sought in the same vein, starting from increasing production and price competitiveness by local producers in Uganda.

The international market in the steel industry is very competitive and is more so for a land-locked developing country like Uganda. The regional arrangements of the '60s which enabled industrial specialisation along the lines of comparative advantage had ensured the growth of the steel industry in Uganda but all this was turned to nought in the "lost decade" of the '70s.

However, all is not lost and with a clear-headed strategy and infusion of "technology leaps" in the steel production sector in Uganda, taking a leaf from the Indian sub-continent's experience, the renown export potential from Uganda is very substantial.

Uganda's steel products were renown for good quality and durability and even today steel dealers and consumers in Uganda testify to the durability of some of the steel products.

Besides, the current drives for greater regional cooperation and economic integration initiatives like the Kagera Basin Organisation

(KBO), PTA and the E.A.C to which Uganda is a party provide a wider scope for export potential.

The country is endowed with viable deposits of iron ore which can sustain the steel industry once the scrap becomes more and more scarce. There is an estimated 30 million Tons of hematite deposit in the Kashenyi range of mountains in the Muko region of Kabale district in addition to magnetite deposits at Sukulu Hills in Tororo (T.S Adriko, Minister of Industry & Technology in a closing speech of the symposium on the Metal industry in Uganda, April 1990). Noteworthy is the fact that the Muko deposits exploitation plans are well underway and infrastructural requirements like the railways are planned, under the auspices of the Kagera Basin Organisation.

Nevertheless, the current economic order calls for tremendous efficiency in production, high quality and international standards, so as to be able to compete favourably in the international market. These goals are within reach of EASCO and the steel industry in general but efforts in the areas of general and production management, quality control and marketing are imperative, if exports are to become a reality.

In the case of EASCO, technical assistance has been recommended in some of the above areas and international standards should be easily realised.

All in all, the steel industry in Uganda faces bright prospects, given its comparative advantage. The raw materials are available and rehabilitation efforts are at an advanced stage. Regional developments are conducive to export trade and the demand is on the increase. With proper management, quality control, production planning and shrewd marketing initiatives, nothing should stand in the way of sizeable exports of steel products. However, a detailed Export Market Survey is recommended once EASCO is back in operation.

8.0 THE STEEL INDUSTRY IN UGANDA

8.1 Available production Capacities

The total steel production capacity in the country is in the region of 100,000 metric tonnes. The industry comprises of 3 major steel plants, either in operation or which will shortly be, in addition to downstream metal fabrication establishments using both modern and local technology. For selected establishments, the installed capacities, production levels and growth indicators are shown in the statistical data attached.
(Refer to Tables II & III)

8.2 Rate of Utilisation

Capacity utilisation in the steel sector is presently very low. Since the economic decline of the seventies, under utilisation has been the norm in Uganda's industrial sector. Most establishments closed down altogether in the "lost decade" and through the '80s improved a little. However, the improvement in capacity utilisation has not been very impressive.

The indicative index of industrial production for the decade from 1981 shows marked growth between 1981 to 1984, after which decline sets in up to 1988. It then picks up and increases at an average of about 4% per annum up to the present year. Capacity utilisation for the selected establishments presently stands at an average of about 25%, though statistics to this effect are inconclusive.

8.3 Modernisation problems

Uganda, like most developing countries, exhibits an agrarian economy. The industrial sector is still in its infancy accounting for as low as 20% of the Gross Domestic Product (GDP). Even then,the sector constitutes mainly Agro-processing Units and other small-scale establishments devoid of any mass production activities.

The country is handicapped by lack of technical and managerial expertise, investment capital and technology. The infrastructural facilities to support a modern industrial production sector are inadequate and the needed institutions such as an industrial development bank, and an industrial research and development organisation are not available.

The per capita income of the populace stands at around US$ 250 per annum with most of the population subsisting around the poverty line. In such a situation, most steel products are beyond the reach of the population and indeed, Uganda has one of the least steel consumption per capita levels in the whole world. Even compared to other developing countries in East and Central Africa, Uganda's per capita consumption of steel has been one of the very least. For instance, the following table shows the estimated per capita consumption of steel per annum in selected countries as of 1985.

TABLE VI: PER CAPITA STEEL CONSUMPTION (Kgs)

COUNTRY	QUANTITY	COUNTRY	QUANTITY
UGANDA	1	KENYA	14
BURUNDI	3	BOTSWANA	32
RWANDA	5	ZIMBABWE	47
TANZANIA	4		

SOURCE: Proceedings of the symposium on the Metal Industry in Uganda; Dept. of Mechanical Engineering, Makerere University, April 1990

However, consumption levels have been moving upwards since 1987 due to massive rehabilitation and re-construction efforts geared at reviving the economy. At the present economic growth rate of about 4-6% per annum, consumption levels are projected to be fairly comparable to the neighbouring countries by the end of the decade.

The main hinderance to the growth of the steel industry seems to lie in the economic set-up prevailing in the country. There is lack of integration in the economic fabric so much so that foreign countries have exploited the situation. They supply huge quantities of steel products which can be manufactured within the country. These imports usually arrive at lower prices than the fledgling indigenous establishments can afford to compete with and since there are no anti-dumping laws, this trend is likely to continue. Hence, necessary corrective measures are required to be looked into.

The result has been an ironic situation where the country is very much in need of steel products in her reconstruction phase,and the few existing steel establishments are reportedly suffering from marketing problems.

Another problem is the availability of the main raw material viz scrap. According to a paper presented by Mr. Abid Alam of Steel Rolling Mills, Jinja at a symposium on the metal industry in Uganda in April 1990, the available scrap estimated at 200,000 MT will last about 4-5 years. As of now, one can arguably estimate that the existing stock will last between 3 to 4 years and yet, it is grossly uneconomical to import scrap. The iron ore alternative may take longer than 3 years to be fully operational, unless extra diligence is exercised.

Many Industrial Houses from overseas have expressed their willingness and desire to look into the Iron ore/Sponge iron project at Muko in Kabale District including agencies like UNIDO and hence Uganda government should take advantage of this opportunity to establish this project without much bureaucratic delays.

8.4 Possible Solutions

One major constraint for modernisation is lack of development capital. Modernisation requires the injection of large amounts of long term finance which can be solicited from foreign investors, local entrepreneurs and financial institutions based in Uganda and from overseas.

Technical and Managerial expertise shortage in the short term be solved by engaging foreign experts in key positions for Ugandan establishments. However,a long-term solution calls for the restructuring of the country's education system to incorporate more vocational training aimed at capacity building to alleviate the situation.

Technology can be transferred from more advanced and industrialised economies through import of state-of-the-art machinery and equipment, and through technical assistance programmes, funded by Multilateral and Bilateral Aid Organisations. However, the technology transferred should be appropriate and cost-effective. It should be able to serve the local needs and should fit within the general economic development policy framework. The technology transfer personnel should be adaptable to local working conditions and familiar with the constraints in Uganda. The infrastructure and industrial utilities need to be upgraded so as to ensure efficiency. The supply of electricity and water should be reliable and at reasonable rates. The communications and transport systems should be improved to ensure easy coordination of supplies and transportation of both raw materials and finished products.

The demand problem can be solved by cultivating consumer confidence through stringent quality control and standardization measures, besides establishing a structured dealership network throughout the country. Greater efficiency will also reduce the unit cost of production enabling the products to be more competitive in the International Market.

General Economic development however is the more lasting solution. The steel industry is the backbone of the industrial sector which in turn is the prop of economic advancement. Growth of incomes is necessary to support the steel industry and conscious economic policy is also called for to encourage the establishment of linkages within the sector.

Finally, the raw material problem can be alleviated by tapping for the iron-ore alternative on time. Deposits have been evaluated and found to be economically viable. What is required therefore is proper planning and coordination to ensure the smooth running of the steel sector.

Though the steel industry, like other sectors in Uganda's economy, faces tremendous problems of modernization, these are not insurmountable. A host of possible solutions do exist. Nonetheless, the fact that these problems are in the main macro in scope cannot be over emphasised. This therefore calls for a multi-sectoral approach to their resolution.

9.0 THE STEEL PRICE MECHANISM

9.1 The Local Market

On the local scene, the steel price is largely determined by the market forces of demand and supply and also the exchange rate variations between the US$ and UShs. The market for steel is presently liberalised with free inflow of imports dispelling any monopolistic connotation. At the present time though Steel Rolling Mills at Jinja is the only operational establishment in the country, it enjoys little if any monopolistic advantages. It is unable to command prices in the face of competition from cheap imports. Indeed, it is reportedly experiencing marketing problems mainly due to lower-priced imported substitutes, bearing in mind that there is no standardization of steel products in the country.

The cost-plus element is also taken into account in the pricing of steel products within the country. Production, transportation, distribution, local taxes and other attributable costs are all incorporated in the final price of the products. There are therefore different prices for Ex-factory, Delivered products, Wholesale and Retail. Price discrimination is also practised in the form of discounts for bulk purchasing and also for delivery services. A customer buying huge quantities pays a smaller price per unit with delivery at minimal cost than his counterpart purchasing smaller quantities and collecting the products from the retail outlets.

The steel product establishments sell their products to wholesalers who then distribute to the retail outlets in the country which in turn sell to end-users who are mainly individuals. In cases of large contractors being the consumers, the retail outlets are often by-passed. The contractors usually buy from the wholesalers or in majority of cases from the steel producers/fabricators themselves direct. Along this distribution chain, the unit price increases to cater for each party's profit and the distribution costs. However, it must be emphasised that all this is effectively taking place in the context of open market within the framework of laissez-faire economics.

9.2 The Export Market

The steel industry is at the heart of all industrial activities and it sustains most of the other sectors of the economy including agriculture. It is the engine for economic growth and development. All the developed industrial nations have built their economies on a strong steel sector base and the developing countries are vying for capacity building in the steel industry. However, many of the industrialised countries have either exhausted their deposits of the raw material viz iron ore or did not even possess the deposits in the first place and now they mainly depend on the import of

either the raw material or intermediate products for further processing. Another category of countries with out iron ore deposits or with insufficient steel production are mostly among the Least Developed Countries, which depend on imports of finished steel products.

Currently, the International steel market is highly competitive with the market structure tending to perfect competition since the collapse of the COMECON bloc of countries. The producers and sellers are both numerous and so there are no price setters as far as pricing is concerned. Hence, efficiency is very crucial in the steel industry to keep costs low. The exploitation of "economies of scale" through large-scale operations is imperative so as to allow competitive pricing within the laws of demand and supply. It is worthy to note that transport constitutes a sizeable part of the final price as the products are heavy and bulky. Besides, prices for exports are of course usually higher than the ex-works prices. Other costs include insurance, import tariffs, forwarding and clearance charges, commissions, etc, in addition to the production costs.

Standardization and quality control are very crucial in the International Steel Market. These greatly influence demand for particular types of steel products especially "structural steel" and this exerts tremendous bearing on the prices. The production and supply of steel products from Uganda must therefore conform to the International Market requirements and at the same time must be price-sensitive to the buyer's needs.

10.0 EASCO'S NEWPLANT

10.1 The Competitors

The major competitors for EASCO will be the Steel Rolling Mills at Jinja, a subsidiary of the Alam Group of Companies. As of now, it is the only operational scrap processing plant in the country and enjoys the local production monopoly. The plant has an installed capacity of about 12,000 MT per annum, but currently operates at about 50% capacity.

They get the scrap mainly from Uganda Railways, Uganda Electricity Board, the Army, Cooperative Unions, Ministry of Works and Transport and the sugar factories. This is besides the smaller amounts of scrap collected form individuals. At their rate of scrap collection and accumulation of stockpiles, they estimate that the entire stock of scrap in Uganda may last for about 3-4 years only.

Therefore Steel Rolling Mills, Jinja has vested interest in the Kilembe iron ore and the Muko project to exploit the iron ore as an alternative to the scrap.

SRM was importing billets from Zimbabwe and refractory bricks from India. The plant now produces steel products such us Angles, Rods and sections and sells mainly to contractors, local fabricators and stockists. The terms of sale are also extended on a selective basis.

The main problem as of now seems to be the scarcity of scrap and the slack in demand. Stocks held at the factory are substantial.

G & A conducted a field survey amongst consumers and retailers (a copy of the survey questionnaire is enclosed for reference) who confirmed that imports are generally of better quality, standardized and cheaper.

Sembule Steel Mills is another potential competitor. It is presently installing a rolling mill but reportedly without an arc furnace for scrap processing. As of now, it produces steel products like Rods, Wire, etc from intermediate products.

They distribute through appointed agents in the major towns of the country and their customers range from construction firms through government bodies to small stockists and individual end-users.

They get some inputs like Rods locally and import steel products from other countries like Kenya, Germany and India. The total workforce is in the region of 250 people.

The main constraints for the establishment are listed as competition from imports, high power costs and fluctuations, high taxes and lack of inputs in the open market in Uganda.

The main competitors are numerous fabricators who procure intermediate products like billets and wires and then shape them into final products. These incur lower costs and might provide stiff competition.

Nevertheless, the biggest and most lethal competition will come from the steel imports which are usually of high standard and quality. Moreover, they are produced on a mass scale and efficiently, so that their prices are very competitive. This is the force that EASCO must reckon with, if one is looking for ways and means of overcoming the present constraints.

10.2 Strengths and Weaknesses

The new plant at EASCO enjoys quite a number of built-in advantages. It has the past reputation and good will to build on. EASCO was reknown in the PTA region for its quality products. This will greatly facilitate the market acceptance of the new plant's products.

Another strength lies in its location. It is at Masese, Jinja,the industrial heart of the country. The transport infrastructure, power, water,and other utilities are available on a regular and reasonable basis.

The new plant also enjoys the status of being a part of the old establishment with all the advantages of structural assets on site. As such, take-off is likely to be easier as compared to an infant industry.

The new rolling mill and continuous casting plant has another advantage of linkage with other productive units at EASCO complex. Then, there is the one and only Bolts and Nuts unit in the country and an Oxygen Plant which together with the Strip Mill and the main plant form a MINI STEEL PLANT Complex. This will ensure a well coordinated production of steel products.

The new plant however faces a number of weaknesses. To begin with, the Italian terms of the loan were not exactly honoured and this has raised some issues which need to be resolved. Some of the plans for the erection and commissioning are still missing. Some parts of the machinery may also be required and in addition services of Danieli will be needed at least at the supervision level during the period of erection. Also the repayment instalments are long overdue and yet the plant is not yet operational. Hence there is the inevitable dialogue with the Italians for rescheduling of the loan and accumulation of interest todate.

Another handicap is expertise, both in the technical and managerial fields. This is a nation-wide problem and expatriates are recommended at least for a period of 3 years to ensure quality of production, establishing modern management systems and financial control.

The country at large lacks quality control and standardization modes and hence the local producers' goods cannot match the imports. The new plant must therefore guard against such a trend and establish a new wave of producing competitive goods and taking the lion's share of the domestic market.

Another weakness is the availability of the raw material namely scrap. It is estimated that once in production, the scrap available in the country will last only between 3 to 4 years necessitating an alternative source viz the exploitation of iron ore deposits. While other plants already have advanced plans for alternatives, the new plant will be lagging behind in these efforts.

Minimum local effective demand is yet another weakness. Despite the need for steel products, the local populace lack the purchasing power due to widespread low incomes. Indeed, the per capita consumption of steel in Uganda is among the lowest in the world. As such, the foreign market should be part and parcel of the new marketing strategy of EASCO.

In the final analysis, the new plant faces the challenge of weaknesses but by the same token, it manifests a host of strengths which should be exploited to the maximum so as to withstand the competition from both the domestic producers and cheap imports from other countries.

10.3 Market Niche and Strategy

10.3.1 The market Niche

EASCO will be producing steel products and oxygen. The target market should be in phases, that is the short term and the long term.

A market survey revealed that though steel consumption in the country is comparatively low, local production would not be able to satisfy the demand if imports were restricted. In the same vein, the reason for the competitive edge enjoyed by imports hails from their better quality, standardization and also lower prices. As such, the target should be to achieve production efficiency, quality and standardization. They can then compete favourably in the local market in the short term. But even in these initial stages, experimental exporting should be carried out so as to gauge the response from potential importers from overseas and develop a strategy for the longterm. When stable levels of production are

achieved in 2-3 years and EASCO's products are well established as a household brand in the domestic market, then a comprehensive strategy can be developed for a thrust on the International Market. With the rehabilitation and reconstruction of the country in full gear, local demand for quality products is projected to increase tremendously in the next 1-2 years. Various rehabilitation and new projects are in the offing as evidenced by the approvals for such projects issued by the Uganda Investment Authority and hence the local market is envisaged to expand tremendously . It is this expanding market that EASCO should initially aim to capture so that it helps propel the plant into the higher capacity utilisation for both the local and international market, especially the P.T.A region.

10.3.2 The Marketing Strategy

An aggressive sales promotion campaign will be imperative once the new plant is commissioned. The mass media should be deployed to inform potential customers of the products of EASCO such as the Radio, Television and Newspapers. Besides colourful brochures and posters are recommended as the basic instruments for public displays and as point-of-sale material.

Another imperative is innovation in branding, so that the products of EASCO bear an appropriate trade mark of the establishment. This will necessarily go with the identification of high quality products so as to act as a sales promotion tool.

Adherence to standardization and international convention with regards to sizes should be aimed at, if any marketing headway is to be achieved.

As for the distribution, attractive incentives like delivery products, discounts for bulk buying and price discrimination in favour of wholesalers should be instituted. Distribution Centers/Depots at key points should also be established in major towns in the country, so that the products are easily available to the customers nationwide. This has hitherto been a major limiting factor in the marketing of steel products by virtue of their bulk and weight, which is currently ignored by other suppliers/producers.

The international scene viz the regional markets like the P.T.A and Kagera Basin Organisation (K.B.O) and E.A.C which are being revived could be taken advantage of. The establishment therefore should aim at exploiting this regional arrangement as a stepping stone into the international marketing arena.

However, Uganda as a land-locked country has some inherent disadvantages in the export of steel products. The exception is the neighbouring countries of Rwanda, Burundi, Sudan and Zaire.

Competition from Kenya & Zimbabwe in the P.T.A region is likely to be quite stiff besides a newly emerging supplier namely S.Africa as it slowly re-joins the community of nations.

Hence, Uganda is unlikely to become a major steel or steel product exporter despite P.T.A preferences and therefore EASCO's main strategy should be moulded along the local market.

11.0 STEEL SCRAP AND OTHER RAW MATERIALS

11.1 Scrap Availability

Steel scrap is the major raw material that will be used. Currently, only the Steel Rolling Mills Jinja is processing scrap. The conversion rate of scrap into usable steel is around 85%.

The long term availability of scrap is a major factor that must be looked into. Even now when only one arc furnace is operational at Steel Rolling Mill, Jinja in the whole country, steel scrap has become scarce and is a source of concern for all those involved in the steel industry.

Sizeable quantities are usually obtained from the ministry of Works and Transport, the Army, Ministry of Agriculture, Uganda Railways, etc.

The major types of scrap available in Uganda, in order of quantity are Structural Steel (54.4%). Cast Steel (20.8%). Cast Iron (47.4%) Alloy Steel (70%) and Non-ferrous Scrap (0.4%). These types are however not mutually exclusive.

A survey in 1987 by UNIDO experts who toured Uganda indicated a total of 201,270 tons of scrap. This was classified as readily available scrap for processing 51,450 tons, potentially available scrap 137,800 tons and another 12,015 tons estimated in areas not surveyed at the time. Scrap processing in Uganda hasn't been intensive since 1987 to-date and therefore the available quantities should be reasonably close to the above figures.

At the envisaged capacity utilization by all the steel plants (present and prospective), the scrap will last for about 3-4 years only, after which alternatives will have to be sought. Scrap or Billets can be imported where possible.

However, the most sustainable and prudent alternative is to exploit the Iron ore deposits coupled with the possibility of creating employment opportunities and generating ancillary economic activities in the regions where Iron deposits are available in abundance like Muko in Kabale district and the Sukulu hills in Tororo.

11.2 Scrap Prices and Terms of Trade

As intimated in the foregoing, the stocks of scrap in Uganda are small and cannot sustain the steel industry in the longrun. Presently, even the single scrap processing plant in the country is already feeling the pinch with the terms of trade of the scrap soaring at a fast pace.

The price structure of the scrap depends on its quality and therefore ease of processing is a determining factor. The type of scrap weighs heavily on the final price realised.

Another factor in the scrap pricing is the location of availability. The material is quite bulky and heavy, thus transportation and collection costs are quite exorbitant and hence the distance from the processing center is an influential variable in the scrap price. In Uganda, most of the scrap is scattered in various places denying the scrap collectors the economies of scale.

The current average scrap price per ton is US$ 50 delivered to Jinja but is on the upward trend due to increasing scarcity and collection costs. The terms of trade for the scrap dealers has been improving since the Steel Rolling Mills (SRM) began its operations. As pointed out earlier, once Sembule and EASCO are in operation, it will tremendously boost the demand for scrap in the face of diminishing supply. In the long-run therefore, the terms of trade of scrap will be more stringent with tremendous relative price increases to reflect the growth in effective demand, amidst increasing scarcity.

11.3 Scrap Collection and Preparation

Steel Scrap is scattered all over the country and its economic use requires collection and preparation at a central location. This brings to the realisation of the need to establish regional collection centers from where scrap can be transported 'en mass' to the central processing plant.

The available scrap in Uganda requires to be collected, prepared and processed for charge into the Electric Arc Furnace. In the Regional collecting centers, manual techniques can be used for cutting and processing the scrap. Equipments for handling and transporting scrap from the site to the processing facility will be required.

The mode of collection should be by the establishment and the individual scrap dealers. The former can organise specialised transport and equipment in the actual collection of the scrap from the owners, while the latter can transport the scrap by themselves to the collecting centers where they will be paid, at transport cost plus price.

12.0 ENERGY SUPPLY OF EASCO

The East African Steel Corporation (EASCO) plant is located in Jinja, the industrial heart of the country. One of the main factors behind this industrial culture cultivated over the years is the presence of the Owen Falls Dam at the source of the Nile, which has a production capacity of Hydro Electric power to the tune of 150 MW.

Secondly, EASCO has been in operation before and the energy infrastructure like electric lines and transformers are already installed. Some expenditure will definitely be required like renewing old transformers but the major energy grid is already laid.

Presently, the capacity and efficiency at the dam have dropped somewhat and power supply is therefore unreliable. This may cause some disturbance in the short term. However, rehabilitation efforts are underway at the dam to get all the turbines working.

Government has long-term plans of developing alternative sources of energy such as Bio-Diesel which will come in handy to supplement the Hydro Electric Power (HEP).

However, energy is one of the issues Uganda will have to come to terms with but EASCO being located at Jinja, the problem will not be very severe. Though some power fluctuations occur from time to time, the problem has not reached crisis levels yet. Moreover, as the rehabilitation work is going on and the situation is likely to improve soon, there is no cause for alarm.

At the usage rate of 1500 KWH per ton of Steel produced, (this includes power for lighting, moving cranes, etc) the cost of electricity works out at approx US$ 50 per ton.

For a fledgling infant Industry, this appears to be too high, both in the short term and long term and so, it is advisable for management to enter into meaningful dialogue with Uganda Electricity Board (UEB) and work out a realistic price for electricity consumption by EASCO.

13.0 SKILLED LABOUR AVAILABILITY

EASCO's new plant will require an estimated 184 employees for two shifts of 8 hours/shift as suggested by the technical consultants M/S VOEST-ALPINE INDUSTRIAL SERVICES of Linz/Austria. These are envisaged to comprise of three categories.

(i) Managerial/Technical	-	15
(ii) Labour Collar Workers	-	148
(iii)Labourers/Security	-	21
Total		184

The first category comprises of people with specialised skills in Management, Finance, Sales and Marketing, Steel Production and Metallurgy.

Uganda has suffered from a lopsided education system which does not take into account the need for practical and specialised skills. Most of the country's graduates in their relevant fields lack practical skills.

However, an expatriate Chief Technical Manager is recommended who will oversee the production planning, scheduling and quality control of EASCO's operation for a period of about 3 years. In other areas where it is felt that the local manpower falls short of the skills required, this may have to be filled in by experts from overseas for some period during which time local personnel will gain experience from them.

It must be emphasized that skilled manpower per se is not a problem, but the real constraint is non-performance which has come to characterise Uganda's economy in general.

Hence a strong top management team is needed so as to propel the establishment into profitability and regeneration of economic activities in the steel sector in Uganda.

14.0 FINANCIAL PROJECTIONS

ASSUMPTIONS/EXPLANATIONS ON EASCO FINANCIAL PROJECTIONS

1. Outstanding Loans:

i) The original Italian Government Loan was US$ 12.1M but no repayment has been made and acrued interest of US$ 1.4M is added to make a total of US$ 13.5M and the interest rate is at a rate of 4% per annum.

ii) Uganda Government Loan is US$ 4.0M followed by another Government Loan of US$ 1.0M which makes a total of US$ 5.0M at a concessional interest rate of 10% per annum.

iii) Estimated Erection/ Commissioning charges including Consumables are taken as US$ 2.0M and the funds are to be borrowed at a rate of interest of 15% per annum.

iv) The proposed Working capital Loan of US$ 0.5M taken at an interest rate of 40% per annum.

v) Outstanding Creditors of EASCO are at around US$ 1.0M and their charges for the credit is taken at an interest rate of 30% per annum.

(2) Outstanding debts:
These at the moment amount to UShs 34,765,065 (approx.US$ 27,812) as advised by EASCO staff but this has not been verified by the consultants.

3) Danieli of Italy still owes US$ 450,000 to EASCO as per contract but its disbursement is likely to be tied, and therefore it is left out of our projections here.

4) Fixed Assets.

Break-up of Assets	Approx. market value(in US$)
Land & Building	13,000,000
Residential Property	7,000,000
Plant and Machinery	13,200,000
Furniture and Equipment	100,000
Motor Vehicles	100,000
TOTAL	33,400,000

Note: Motor vehicle Market value is based on our survey on 19th September 1992 when we visited EASCO.
Selling prices of products in the projections are exclusive of sales Tax.

TABLE VII: EASCO OWNED VEHICLES

Type	Number Quantity	Approx. Value (USHS.)	Year of Manufacture/purchase
7 Ton Tipper	1	15.0m	1987 / 2nd hand
5 Ton Tipper	1	15.0m	1987
Pick-Ups (single, double)	2	15.0m	2 years old
Toyota Mini Bus [14 seater]	1	6.0m	1986
Car (Japanese)	1	4.5m	1987
Saloon Violet	1	4.5m	1986
Saloon Ajenta	1	3.0m	1985/ 2nd hand
Mini Bus Dukato (8 seater) Fiat	1	6.0m	1985
Tractor	1	15.0m	1987
3 ton Fork lift	1	16.0m	1987
Total	11	100.0m	

TABLE VIII: EASCO'S LAND

Land	Area	Lease Period	Outstanding Period
Walukuba Labour Quarters	10 acres	91 years	50 yrs (approx.)
Steel Factory Complex	52.9 acres	94 years	50 yrs (approx.)
Nut and Bolt Factory	18.21 acres	92 years	50 yrs (approx.)
Total	81.11 acres	-	-

HOUSES:

(i) Masese Housing Estate (12 units in 6 blocks)

(ii) Walukuba Housing Estate (56 units in 14 blocks)

TABLE IX: RAW MATERIALS & OTHER REQUIREMENTS AT 20,000 M.T.P.A STEEL BILLETS

Item	C.I.F. Value (US $)	Total Quantity	TOTAL VALUE (US $)	Procurement Frequency
RAW MATERIALS:				
Furnace oil (reheating billets)	0.272/litre	3 MLitres	272,000	
Ferrosilicon	1500/TON	60 MT	90,000	six monthly
Ferro Manganese	1400/TON	30 MT	42,000	six monthly
Ferro Silico	1400/TON	200 MT	280,000	six monthly
Graphite Electrodes	2500/TON	140 MT	350,000	six monthly
Flourpar	200/TON	60 MT	12,000	six monthly
Hard Coke Powder	700/TON	30 MT	21,000	six monthly
Lancing pipes	3/piece	2000 pcs	6,000	six monthly
Sisal rope	30/roll	300 Rolls	9,000	six monthly
Thermocouples (Catridge)	2/p.c	6500 pcs	13,000	six monthly
Dolomite (Dead Burnt)	600/TON	250 MT	150,000	six monthly
Furnace Oil (Melt-Shop)	0.272/litre	100,000 l	27,200	Weekly
Scrap	50/TON	23,000 MT	1,150,000	monthly
Copper Moulds	3000/p.c	60 pcs	180,000	6 monthly
TOTAL	-	-	2,602,200	-
REFRACTORIES:				
High Alumina (20 and 30 mm)	1.5/piece	6000 pcs	9,000	6 monthly
Chrome Magnesite Bricks	1.8/p.c	24000 pcs	42,200	6 monthly
Roof Sets	7500/set	16 sets	120,000	6 monthly
Silica Alumina Bricks (Ladle & Tundish)	22/piece	35000pcs	770,000	6 monthly
Magnesium Ramming Mass	1200/TON	400 MT	480,000	6 monthly
Fire Cement	1000/TON	120 MT	120,000	6 monthly
TOTAL	-	-	1,541,200	-
SUNDRY CONSUMABLES & USABLES:				
Protective overalls	30	30 pcs	900	Quarterly
Heavy duty shoes	20	200 pcs	4,000	Quarterly
Helmets	100	50 Nos	5,000	Quarterly
Uniforms	30	200 pcs	6,000	Quarterly
Oxy-cutting torches	50	20 Nos	1,000	Quarterly
Wheel barrows	100	20 Nos	2,000	
TOTAL	-	-	18,900	-

5. Depreciation of Assets is taken at the rate of:

2% for Land & Building (factory)
2% for Residential property
8% for Plant and Machinery
10%for furniture and Equipments
25%Motor Vehicles

Note: (a) After 4 years, vehicles worth US$ 400,000 will be purchased
(b) The depreciation method used is the straight line approach.

6. The Rolling mill full capacity is 20,000 MT/year

a) Wire rods:
sizes
6mm
8mm
12mm
16mm
20mm
25mm
32mm

b) Flat (coils):
size (mm)

17.5 x 2.5

c) Rebars (Round & Squares)
10mm
12mm
16mm
20mm
25mm
32mm

d) Flat:
Size(mm)
25 x 3
35 x 3
50 x 6
95 x 17.5

e) Angles:
sizes (mm)

20 x 20 x 3
30 x 30 x 3
40 x 40 x 4/6
50 x 50 x 6

For all the above items produced by rolling mills, average price per ton is taken at US$ 600.

7. Nail Wire:

Nail and binding wire of various sizes ranging from 6.05mm to 1.6mm.
Full production capacity of Nail wire is 250 MT/year
Average price per ton is approximately US$ 600.

8. Strip Mill:

Sizes of strip for baling purposes that can be produced are:
Sizes(mm)

19.8 x 0.84
19.8 x 0.68
19.8 x 0.70
25 x 0.25 (strapping material)

The strip mill at full capacity can produce 250MT/year.
Average price per ton is approximately US$ 700.

9. Bolts and Nuts:

Full production capacity 250MT/year.
Bolts 8mm-14mm x 100mm
Hexagonal heads in metric specifications by only cold forging only and corresponding nuts.

Average price per ton is a approximately US$ 1000

10.Oxygen Plant:

The full capacity is 48,000 cylinders per annum, in 6 cubic metre cylinders. The plant's full capacity is 90 cubic metres per hour. Price per cylinder is taken at US$ 20.

11. Variable Costs:

(a) Packaging Materials

Only Bolts and Nuts need packing.
Price per each gunny bag is taken at UShs.2,000 and 4 bags are needed to pack one ton of bolts and nuts. ie US$ 6.4 is required to pack one ton and at 250T capacity,
6.4 x 250 =US$ 1,600. The cost of packaging materials is included in the "Sundry consumables and usables".

(b) Power consumption is taken at 1500 kwh per ton for all the factory (including all aspects of lighting & heating). Cost per ton is approx US$ 50. The fixed cost of electricity per annum US$ 230,400

12. The whole plant will require 184 employees to operate at two 8-hour shifts. The cost for managerial staff is taken at US$ 300 per month.

13. (i) Manpower Costs (Salaries & Benefits):

	Number	Monthly pay Rate	Annual Pay
Managerial-	15	$300	54,000
Blue collar Workers-	148	$160	284,160
Labourers/security-	21	$100	25,200
Total	184	-	363,360

(ii) Manpower Structure

Managerial/Skilled

General Manager	1
Personnel Manager	1
Finance Manager	1
Sales Manager	1
Planning & Controlling Manager	1
Purchase Manager	1
Plant Manager(Steel Plants)	1
Plant Manager(Rolling Mill)	1
Accountant	1
Chief Maintenance Engineer	1
Secretaries	5
	15

13. cont'd.

Blue Collar workers

Production	76
Maintenance	34
Material handling	14
Transport	24
	148

Labourers/security

Security Chief	1
Guards	16
Drivers	4
	21

(iii) Chief Technical Manager's remunerative package is taken at US$ 60,000 per year for the first three year period and then he will be substituted by a local expert at a cost of US$ 25,000 per annum.

14. Fixed Costs	US$ per year
Cost of Advertising/Mkt Research	20,000
Office & Administration expenses.	15,000
Insurance	65,000
Audit and Legal fees	5,000
Other fixed costs	9,000

15. The exchange rate used in the projections is US$ 1= UShs. 1250

16. The projections are made for 12 years. Since the depreciation for the entire machinery is taken at 8% per annum, the book value of the machinery would be reduced to zero at the end of the 12th year.

17.Capacity Utilisation

Year	1	2	3	4	Stable Levels
Rolled steel	45%	65%	75%	85%	
Strip	40%	60%	70%	75%	
Wire	40%	60%	70%	75%	
Bolts/Nuts	40%	60%	75%	80%	
Oxygen	50%	60%	70%	80%	
Weighted Average Capacity	44%	63%	74%	83%	

Note: Capacity Utilisation for projected operating costs is given by the weighted average of the individual unit capacities.

18. Apart from sales of products produced by EASCO, there are other projected sources of income, if prudently utilised. These are:-

    i) Rent from the Kampala depot located at Old Portbell road about US $ 6000 per annum.
    ii) Workshop approximately US$ 3000 per annum.
    iii) Engineering consultancy US$ 3000 per annum.
    Total (other income)= US$ 12,000 per annum.

19. Corporate tax is taken at 35% of the net profit and the first five years is taken free of tax, since the present project will qualify for a 5 year tax holiday under the new Uganda Investment Authority plan.

20. Purchase of raw materials will be on cash basis, especially of scrap to meet market conditions.

21. Repairs and maintenance costs is taken at 2% of the market value of machinery after allowing for inflation at a rate of 5% per annum.

22. The cost of industrial land per acre is taken at US$ 15,000 per acre. Which works out at 81.11 x 15,000 = US$ 1,216,650.

23. Interest on all loans for 1993 is capitalised.

24. Tax holiday is for 5 years from 1994 to 1998 as per Uganda Investment Code of 1991.

25. Projections of cashflow are worked out for 12 years when loan repayment is envisaged to be completed and at the same time the machinery would have been written off.

26. Working capital loan and creditors are paid off in 3 years after the grace period of 2 years ie. by 1998.

27. Selling prices of products in the projections are exclusive of sales tax.

28. Weighted average is taken when calculating projected operating costs.

29. Training expenses totalling US$ 150,000 are recommended for the first 3 years of operation.

30. Oxygen used internally by EASCO is assumed to be very small and therefore has been left out of the projections.

31. Production overheads are estimated at US$ 42,000 per annum at a weighted average capacity utilisation of 83%.

EAST AFRICAN STEEL CORPORATION
FIXED ASSETS/DEPRECIATION SCHEDULE

	Approx. Market Value	Rate(%)	Annual Depreciation
Land and Factory Buildings	13,000	2.00	260
Residential Property	7,000	2.00	140
Plant and Machinery	13,200	8.00	1,056
Furniture and Equipment	100	10.00	10
Motor Vehicles	100	25.00	25
	33,400		1,491
Interest during Construction	1,840	0.00	0
Initial W. Capital (value of scrap, refractories etc in stock)	1,000	0.00	0
Total Initial fixed Investment	36,240	-	1,491

EAST AFRICAN STEEL CORPORATION

LOAN SERVICE SCHEDULE (US $ '000)

YEAR	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Balance at start												
Italian Loan	13,500	13,500	13,500	12,150	10,800	9,450	8,100	6,750	5,400	4,050	2,700	1,350
Uganda Government	5,000	5,000	5,000	4,500	4,000	3,500	3,000	2,500	2,000	1,500	1,000	500
Erection & Commissioning	2,000	2,000	2,000	1,800	1,600	1,400	1,200	1,000	800	600	400	200
Working Capital	500	500	500	333	166	-	-	-	-	-	-	-
Creditors	1,000	1,000	1,000	666	333	-	-	-	-	-	-	-
TOTAL	22,000	22,000	22,000	19,449	16,899	14,350	12,300	10,250	8,200	6,150	4,100	2,050
Interest Charge												
Italian Loan (4%)	540	540	540	486	432	378	324	270	216	162	108	54
Ugandan Govt. (10%)	500	500	500	450	400	350	300	250	200	150	100	50
Erection & Comm (15%)	300	300	300	270	240	210	180	150	120	90	60	30
Working Capital (40%)	200	200	200	133	66	-	-	-	-	-	-	-
Creditors (30%)	300	300	300	200	100	-	-	-	-	-	-	-
TOTAL	1,840	1,840	1,840	1,539	1,238	938	804	670	536	402	268	134
Repayment												
Italian Loan	-	-	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350
Uganda Government	-	-	500	500	500	500	500	500	500	500	500	500
Erection & Commissioning	-	-	200	200	200	200	200	200	200	200	200	200
Working Capital	-	-	167	167	166	-	-	-	-	-	-	-
Creditors	-	-	334	333	333	-	-	-	-	-	-	-
TOTAL			2,551	2,550	2,549	2,050	2,050	2,050	2,050	2,050	2,050	2,050
Balance at Close												
Italian Loan	13,500	13,500	12,150	10,800	9,450	8,100	6,750	5,400	4,050	2,700	1,350	-
Uganda Government	5,000	5,000	4,500	4,000	3,500	3,000	2,500	2,000	1,500	1,000	500	-
Erection & Commissioning	2,000	2,000	1,800	1,600	1,400	1,200	1,000	800	600	400	200	-
Working Capital	500	500	333	166	-	-	-	-	-	-	-	-
Creditors	1,000	1,000	666	333	-	-	-	-	-	-	-	-
TOTAL	22,000	22,000	19,449	16,899	14,350	12,300	10,250	8,200	6,150	4,100	2,050	-

EAST AFRICAN STEEL CORPORATION
PROJECTED OPERATING COSTS (US $ '000)

YEAR	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
CAPACITY UTILISATION (Weighted Average)	44%	63%	74%	83%	83%	83%	83%	83%	83%	83%	83%	83%
FIXED COSTS:												
Salaries & Benefits	363	363	363	363	363	363	363	363	363	363	363	363
Adverts & Mkt Research	20	20	20	20	20	20	20	20	20	20	20	20
Office & Administration	15	15	15	15	15	15	15	15	15	15	15	15
Electricity	230	230	230	230	230	230	230	230	230	230	230	230
Refractories	1,540	1,540	1,540	1,540	1,540	1,540	1,540	1,540	1,540	1,540	1,540	1,540
Insurance	65	65	65	65	65	65	65	65	65	65	65	65
Audit / Legal fees	5	5	5	5	5	5	5	5	5	5	5	5
Other fixed Costs	9	9	9	9	9	9	9	9	9	9	9	9
TOTAL FIXED COSTS (Excluding Depreciation)	2,247	2,247	2,247	2,247	2,247	2,247	2,247	2,247	2,247	2,247	2,247	2,247
VARIABLE COSTS:												
Raw Materials	1,384	1,982	2,328	2,611	2,611	2,611	2,611	2,611	2,611	2,611	2,611	2,611
Repairs & Maintenanc.	227	291	306	321	337	354	372	390	410	430	452	474
Training Expenses	50	50	50	-	-	-	-	-	-	-	-	-
Electricity (unit Charge)	440	630	740	830	830	830	830	830	830	830	830	830
Sundry consumables & usables	9	13	15	17	17	17	17	17	17	17	17	17
Production overheads	22	32	37	42	42	42	42	42	42	42	42	42
Chief Technical Manager	60	60	60	25	25	25	25	25	25	25	25	25
TOTAL VARIABLE COSTS	2,192	3,058	3,536	3,846	3,862	3,879	3,897	3,915	3,935	3,955	3,977	3,999
TOTAL OPERATING COSTS	4,440	5,305	5,783	6,093	6,109	6,126	6,144	6,162	6,182	6,202	6,224	6,246

EAST AFRICAN STEEL CORPORATION

PROJECTED OPERATING RESULTS (CURRENT COSTS BASIS US $'000)

YEAR	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
CAPACITY UTILISATION:												
Rolled Section	45%	65%	75%	85%	85%	85%	85%	85%	85%	85%	85%	85%
Strip	40%	60%	70%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Wire	40%	60%	70%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Bolts & Nuts	40%	60%	75%	80%	80%	80%	80%	80%	80%	80%	80%	80%
Oxygen	50%	60%	70%	80%	80%	80%	80%	80%	80%	80%	80%	80%
PROD/SALES VOL (TONS)												
Rolled Sections	9,000	13,000	15,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000
Strip	100	150	175	188	188	188	188	188	188	188	188	188
Wire	100	150	175	188	188	188	188	188	188	188	188	188
Bolts & Nuts	100	150	188	200	200	200	200	200	200	200	200	200
Oxygen (Cylinders)	24,000	28,800	33,600	38,400	38,400	38,400	38,400	38,400	38,400	38,400	38,400	38,400
SELLING PRICE												
Rolled Section (Per Ton)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Strip (Per Ton)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Wire (Per Ton)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Bolts & Nuts (Per Ton)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Oxygen (Per Cylinder)	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
SALES REVENUE	6,112	8,721	10,087	11,412	11,412	11,412	11,412	11,412	11,412	11,412	11,412	11,412
OTHER REVENUE	12	12	12	12	12	12	12	12	12	12	12	12
GROSS REVENUE	6,122	8,733	10,099	11,424	11,424	11,424	11,424	11,424	11,424	11,424	11,424	11,424
VARIABLE COSTS	2,192	3,058	3,536	3,846	3,862	3,879	3,897	3,915	3,935	3,955	3,977	3,999
FIXED COSTS	2,247	2,247	2,247	2,247	2,247	2,247	2,247	2,247	2,247	2,247	2,247	2,247
SURPLUS before Interest, Depreciation & Tax	1,683	3,428	4,316	5,331	5,315	5,298	5,280	5,262	5,242	5,222	5,200	5,178
Depreciation	1,491	1,491	1,491	1,491	1,566	1,566	1,566	1,566	1,566	1,566	1,566	1,566
Interest	1,840	1,840	1,840	1,539	1,238	938	804	670	536	402	268	134
Profit after Depreciation & Interest	(1,648)	97	985	2,301	2,511	2,794	2,910	3,026	3,140	3,254	3,366	3,478
Tax (35%)	-	-	-	-	-	978	1,019	1,059	1,099	1,139	1,178	1,217
Profit After Tax	(1,648)	97	985	2,301	2,511	1,816	1,891	1,967	2,041	2,115	2,188	2,261
Cumulative Earnings	(1,648)	(1,551)	(566)	1,735	4,246	6,062	7,953	9,920	11,961	14,076	16,264	18,525

EAST AFRICAN STEEL CORPORATION

PROJECTED CASHFLOW STATEMENT (US $ '000)

YEAR	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
OPERATIONAL CASHFLOW:													
INFLOW													
Gross Revenue	0	6,122	8,733	10,099	11,424	11,424	11,424	11,424	11,424	11,424	11,424	11,424	11,424
OUTFLOW													
Operating Costs	0	4,439	5,305	5,733	6,093	6,109	6,126	6,144	6,162	6,182	6,202	6,224	6,246
NET OPERATING CASHFLOW	0	1,683	3,428	4,316	5,331	5,315	5,298	5,280	5,262	5,242	5,222	5,200	5,178
CAPITAL FLOWS													
INFLOW:													
Proposed Loans:													
Erection & Commissioning	2000	-	-	-	-	-	-	-	-	-	-	-	-
Working Capital	500	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL CAPITAL INFLOWS	2500	-	-	-	-	-	-	-	-	-	-	-	-
OUTFLOWS													
Loan Repayment	-	-	-	2551	2550	2549	2050	2050	2050	2050	2050	2050	2050
Interest	-	1840	1840	1840	1539	1238	938	804	670	536	402	268	134
Assets	2500	-	-	-	-	400	-	-	-	400	-	-	-
Tax	-	-	-	-	-	-	978	1,019	1,059	1,099	1,139	1,178	1,217
TOTAL CAPITAL OUTFLOWS	2500	1840	1840	4391	4089	4187	3,966	3,873	3,779	4,085	3,591	3,496	3401
NET CAPITAL OUTFLOWS	0	(1,840)	(1,840)	(4,391)	(4,089)	(4,187)	(3,966)	(3,873)	(3,779)	(4,085)	(3,591)	(3,496)	(3,401)
NET CASH/ CAPITAL FLOW	0	(157)	1,588	(75)	1,242	1,128	1,332	1,407	1,483	1,157	1,631	1,704	1,777
CUMMULATIVE CASH/CAPITAL FLOW	0	(157)	1,431	1,356	2,598	3,726	5,058	6,465	7,948	9,105	10,736	12,440	14,217

SUMMARY OF RECOMMENDATIONS

1. LOANS:

i) Government should convert its loans to EASCO (approximately US$ 5.0m) into equity at the earliest opportunity, to ease the burden of debt:equity ratio.

ii) On all the loans, a grace period of 3 years for repayment of principal and capital including the year of erection should be extended to EASCO. Interest should be waived for the year of erection & commissioning (1993).

2. TAXES:

A tax holiday of about 5 years for project operations need to be granted to EASCO as an investment incentive, which is allowed under the present UIA Code 1991.

3. MANAGEMENT:

An experienced expatriate Chief Technical Manager should be engaged by EASCO to run project for 3 years after which a capable local expert (he will under study for the three years) will take over.

4. ERECTION AND COMMISSIONING:

i) A Uganda based firm with a good reputation has expressed interest to carry out the erection and commissioning, at a cost of about US$ 2M, which would include consumables. This is a welcome sign and if competitive bidding is sought, this may work out even cheaper.

ii) Danieli of Italy should be brought in at supervision level, as there is an outstanding sum of US$ 450,000 due from them to Uganda.

iii) Erection and commissioning should be started as soon as possible preferably in early 1993 , so that the present morale of EASCO staff which is high, is not lost.

5. PRODUCTION:

i) Management must institute a proper quality control system, product mix and ensure standardisation of products.

ii) Branding of products with an EASCO trade mark is advisable for sales promotion purposes and for establishing consumer confidence.

6. SCRAP:

Since the availability of scrap is estimated to last for only 3-4 years, the exploitation of iron ore deposits plans should be accelerated.

7. LABOUR/MANPOWER:

A total of 184 personnel is required for two 8-hour shifts, as recommended by M/S VOEST-ALPINE of Austria.

8. MARKETING:

i) An aggressive sales promotion campaign should be mounted by EASCO once the financial backing is secured and production planning is well co-ordinated.

ii) The short-term target should be the Ugandan market and simultaneously regional markets like the PTA and KBO should be cultivated so that an "export thrust" can be effected in the 3rd year.

9. ENERGY:

i) There is already a stand-by generator which can be used for simple activities like lighting, operating cranes, etc in case of power failure. However, it cannot run the arc furnace. A high power generator to run the Rolling Mill is not feasible as the cost would be prohibitive.

ii) Negotiations with Uganda Electricity Board should be held at the earliest to ensure sufficient supplies at reasonable rates with minimal interruption, as is the case now prevalent in Uganda.

10. EFFLUENT DISPOSAL AND TREATMENT:

This is a very important issue in industrial operations of such a magnitude and for environmental protection. The possibility of establishing such a system should be looked into with the help of the United Nations Environment Programme (UNEP) based in Nairobi, Kenya.

11. PRODUCT MIX:

The product mix should aim at the projected capacity utilisation for each unit of steel complex and especially the bolts and nuts production should be fully exploited, since this is the only one of its kind in Uganda. However, a detailed internal and external Market Survey is recommended, after the initial production is stabilised.

12. FIRE FIGHTING SYSTEM:

There is an urgent need to establish an effective and efficient fire fighting system as the present facilities may not be able to cope with a major fire incident, as the arc furnace and other related activities utilise high voltage electricity.

16.0 TERMS OF REFERENCE OF THE UNIDO STUDY

1. Collect information on the steel consumption of Uganda, with a break down by major types and sizes for 1970-91.

2. Forecast the trend of steel consmption up to the year 2000 based on the past, present and predicted consumption, industrial growth, structural changes of economy, international comparison.

3. Prepare an overview of export possibilities for steel products.

4. Compile the available steel production capacities in Uganda, its rate of utilisation. Problems of modernisation and possibilities for their resolution.

5. Elaborate the steel price mechanism prevailing in Uganda and the same for export.

6. Collect information on competitors of EASCO and predict the strength and weaknesses of the new plant. Make recommendations for the marketing strategy and the market niche to be aimed.

7. Compile information on the availability of raw material, its prices with special emphasis on the present and long-term availability of steel scrap, system and methods of scrap collection and preparation, scrap dealers and terms of trade.

8. Collect data on the short and long-term energy supply of EASCO, energy prices.

9. Compile the availability of skilled labour required for EASCO.

10. Prepare the profit and loss statement, cash-flow calculation for the first 15 years of operation of EASCO.

11. Prepare a study on the findings and recommendations.

17.0 MARKET SURVEY QUESTIONNAIRE

UNIDO/MINISTRY OF INDUSTRY, GOVERNMENT OF UGANDA SURVEY ON STEEL MARKET IN UGANDA

Date:

I GENERAL INFORMATION

1. Name of business
2. Location
3. Partnership/Ltd/Branch Co./etc
4. Operational period to-date_____years.

II STEEL PRODUCTS HANDLED

1. What range of products do you deal in?

2. For the above ranges, what different sizes/gauges have you been marketing?

3. From where do you get your supplies?

4. (i) Which are the popular sizes? (Take note in order of popularity and quantity)

   (ii) What quantities of each product you sell?

   (iii) Any specific reason why steel products with imports?

   Quantity
   Regularity of supply
   Price

III MARKET (dealt in)

1. Who are your customers?

2. (a) What level of stocks do you hold?

   (b) Do you experience any problems with that?

3. Do you have any variation in sales?

   If yes, please explore.

4. Are there a lot of steel stockholders in Kampala?

   Do you have competition amongst you?

5. Are there any areas in which you need help?

IV PRICE IDEAS

1. At what price levels do you sell each item?

2. About how much have your annual sales been for the few years?

3. Do you pay cash or do you get credit?

   Who pays for transport?

   Any other help you get?

4. Would you be able to give us the price levels at which manufacturers sell them to you?

5. Do you have a lot of expenses in your business?

   Try to get an idea of these costs?

6. How do you see the Steel Business in Uganda?

UNIDO/MINISTRY OF INDUSTRY, GOVERNMENT OF UGANDA
SURVEY ON STEEL MARKET IN UGANDA.

SECTION II QN.1	II: 2	II:4(i)	II:4(ii	IV:4	IV:1	II:4(ii
ITEMS SOLD (STEEL	SIZES ON SALE	POPULAR SIZE	STOCK HELD	COST PRICE	PRICE LEVEL	QTY. SOLD PER WEEK