IRON AND STEEL

SUB-SECTOR

IN

KENYA

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1. INTRODUCTION

Steel is the backbone of the economic activity of any country. The per capita steel consumption is an internationally recognized indicator of the level of development of that country. Direct and indirect consumption of steel in Kenya was projected to be 0.567 – 0.614 million tons in the year 1985 and 1.860 – 2./356 million tons in the year 2000. On the basis of the above projection the per capita steel consumption in Kenya was expected to increase from 20 – 25kg in 1985 to 45 – 50kg of iron and steel by 2000.This can be compared to 798kg in USA and 915kg in Japan in 1985 as per a report by UNIDO.

Industrial progress and economic well being are reflected in such physical development as housing, transport facilities, water distribution, industrial premises including warehouses and office space, agricultural mechanization, leisure facilities, healthcare facilities and many others.

The Iron and Steel industry formed 13 percent of the manufacturing sector, which in turn contributed around 13 percent of the GDP. The Iron and Steel sector is mainly controlled and owned by the private sector of Kenyan Asians unlike in many countries where the Iron and Steel sector is public owned or government controlled.

The Kenyan private sector has over the years invested over Kshs. 5 Billion in fixed assets for the production of various Iron and Steel products. The industry is heavily dependent on imported raw materials, as no local sources have been developed to date. Local deposits of iron ore have been identified in several locations but have not attracted commercial interest. Through imports of raw materials and local scrap collection, a sizeable and a growing local capacity has developed to cater for both export and domestic market.

From the basic iron and Steel industry a diversified network of downstream industries has emerged. These downstream industries include Motor Vehicle and Auto-ancillary, a range of fasteners, reinforcement bars for construction, furniture, agricultural tools, kitchen ware etc.

2.0 PRODUCTION OF STEEL IN KENYA

Steel production is generally divided into two categories- primary and secondary productions. Two alternative process routes for primary production are in use, namely: 1. BLAST FURNACE ROUTE and 2.SPONGE IRON ELECTRIC ARC FURNACE ROUTE. In the first case processed iron ore is smelted in the Blast Furnace to produce liquid steel (Pig Iron), which in turn is cast into semi finished products (Semis) like Billets, Hot Rolled Coils, Ingots, Plates etc. In the second process route iron ore is heated in combination with gaseous reductant to produce

sponge iron (Direct Reduced Iron- DRI) in solid state. The sponge iron is then smelted in an Electric Arc Furnace and then cast into Semis as in the first case.

The activities of Secondary Production on the other hand involve either smelting of scrap metal in an Electric Arc Furnace to produce semis OR rolling of the semis into sheets, rods, sections, angles, etc.

In Kenya, the existing iron ore deposits have not been commercially exploited hence the manufacturing activities in this sector is classified under Secondary production. Locally sourced scrap metal is smelted in the existing Electric Arc Furnaces to produce steel billets or ingots. The billets are further rolled into reinforcement steel bars for use in construction industry.

For the production of special products like screws, bolts and nuts, nails, rivets etc, the local steel mills have to import quality billets arising from the primary production route. Other production activities involve importation of Hot Rolled Coils, for re-rolling into Cold Rolled coils, which are in turn processed into galvanized sheets, and colour coated sheets.

The country will be able to produce such semis as Hot Rolled Coils, Special billets, plates etc (currently being imported) if the existing iron ore can be exploited so as to start producing sponge iron.

3.0 OVERVIEW OF THE SECTOR.

Kenya's iron and steel industry can be classified into five categories in accordance with the products manufactured. These are:

- steel making and hot rolling
- wire and wire products
- galvanized and cold rolling steel coils
- pipe manufacture
- castings.

The major products under the steel smelting and hot rolling process are pencil ingots billets, wire rods, rounds, section channels and reinforcing bars. The major enterprises involved in the production of these items are ROLMIL (Kenya) Ltd, City Engineering Works Ltd, Kenya United Steel Company etc. The total steel rolling capacity in the country is about 600,000 tonnes per year, while total smelting capacity is about 95,500 tonnes.

There was only one enterprise, Special Steel Mills in Ruiru, which produced wire rod and wires that were used by about nine enterprises for further processing into other wire products such as nails rivets, nuts, bolts, barbed wire, chicken wire mess, fencing wire and other wire products. The firm however has collapsed, forcing down stream industries which used to rely on wire products to import the same from the international markets.

The products manufactured from galvanized and cold rolling steel coils, are galvanized corrugated iron sheets, steel drums, window louvres, wheelbarrows, gutters and water pipes. There are two cold rolling plants with installed capacity of 204,000 tonnes per annum. The two firms are Mabati Rolling Mills Ltd and Standard Rolling Mills Ltd.

Six firms manufacture large and small diameter, circular and square pipes for use in such activities as water distribution, sewage disposal and furniture manufacture. The products of the casting enterprises are man-hole covers, sanitary fittings, pumps, castings and impellers, pulleys and sugar crushing rollers.

There are about 16 major foundries with a total installed capacity of 8,500 tonnes per year.

The sector has continued to face stiffer competition from imported steel products, mainly originating from Eastern European countries. Most of these industries receive considerable amount of government support in the form of state subsidy e.g tax-free power, water and other utilities. This is an aspect of dumping and has led to the closure of many steel industries in Kenya including, Special Steel Mills, Emco Steel Billets, Emco Steel Works, and partial operation of others like Morris and Company Ltd.

4.0 DEVELOPMENT OF IRON AND STEEL SECTOR BEFORE LIBERALIZATION

Since the early 1950s, the Kenya steel industry has gradually developed new branches and integrated backwards, making more of its raw materials. The industry started by making nails, moved into drawing wires, and later made wirerods. The manufacture of steel sections and reinforcing bars also led to steel melting and local manufacture of steel ingots, continuous casts billets, and refractory bricks for melting furnaces.

In the case of flat products the industry started by galvanizing steel sheets and later by cold rolling imported hot rolled coils for galvanizers and wheelbarrow manufacture. Various firms manufacture pipes and fabricate many metal products.

Kenya cannot yet make heavy forgings, smelt iron ore, make tin-plate, hot rolled coils, heavy sections, wide flat products and seamless pipes due to technological constraints and low local demand. However, for secondary products the country has advanced and gone much beyond simple consumer goods import substitution and has developed a basic industry with considerable backward integration.

The industry's growth occurred with occasionally intense- but behind the scenes- economic conflicts and political lobbying. Many industrialist started by controlling commercial out-lets for steel products and only later began to manufacture steel products. During the transition, temporary monopolies and oligopolies formed to charge buyers for often-undependable supplies. This led some buyers to integrate backwards to escape that dependency. This pattern of defensive investment still motivates much of the industry's investment and individual users of the semi-finished products have often continued importing just to avoid buying from their local counterparts.

The government failed to guide the industry's development and overtime the absence of coordinated development encouraged conflicts between entrepreneurs leading to a massive build-up of excess productive capacity. This inefficient investment led to high prices, hindered export, and tied up resources, which would have been invested elsewhere.

4.1 POST LIBERALIZATION

4.1.0 Positive Effects

- Raw material sourcing has become very easy whereby one can source the quality raw material any where at the most competitive price, thus eliminating the need for import licensing and the associated bureaucracy
- Foreign exchange has become more accessible and lead-time for raw materials considerably reduced. This has brought some savings in raw material stock holding (in actual investment, godown, space and handling costs) hence making things move faster right from the raw material acquisition to finished goods dispatch, to the advantage of all concerned.

4.1.1 Negative Effects

- The process has created a lot of competition from direct imports of steel products and mushrooming of small uneconomical mills across the country.
- The impact has put great pressure on the manufacturers, which has forced them to observe high quality standards of for the products so as to compete with direct imports from elsewhere and at the same time pricing such products competitively.
- Dumping of steel products into the local market is probably the most serious impact of liberalization as this led to the closure of many steel plants in the country, with the consequence of loss of jobs.
- The Kenya's traditional neighbouring markets, Uganda, Tanzania, Rwanda, Burundi, etc. Are systematically reduced due to imports from the same above mentioned non-COMESA member countries.

5.0 MARKET DEVELOPMENT

5.1 Internal Market

Most of the products emanating from our steel mills are locally consumed in the fields of construction, metal fabrication to make various industrial equipment, agricultural implements, domestic appliances motor vehicle assembly parts etc. This scenario arose by design as most plants were set up with a view of meeting only local demands. This inward looking strategy coupled with high protection in the days of import substitution encouraged plants to continue amassing massive profits despite inefficiencies in their production runs.

It is important for steel industries to realize that the honey moons of import substitution is long gone and that for a sustainable development of the sector in a free market economy, they will have to go an extra mile in developing both local and external markets for their products. Technologies will have to be upgraded and products will have to conform to international quality yardsticks such as ISO 9000 certification series.

5.2 EXPORTS

Exports of Iron and Steel products have never been consistent for most firms and have been opportunistic by nature even before liberalization. These exports also seem to fall in the wake of aid programmes in neighboring countries. Several manufacturers have cited the case of cutthroat competition from China and Eastern European countries. At the same time Kenyan manufactures are sourcing their raw materials out side COMESA region and therefore do not qualify for preferential tariffs into Uganda and Tanzania.

There is a need to re-examine the rules of origin to avoid passing an undue advantage to non-member states like China and other Eastern European countries. However there is a small group of enterprises that have substantial interest in export trade and have been able to supply high quality cast products as far a field as Germany, America. The industries in this area include Alloy Steels Casting, East Africa Foundry Works, and Allparts Castings. Mabati Rolling Mills is currently putting up ultra-modern Alu-Zn (Aluminium-Zinc Coating) continuous galvanizing line, which when completed will be the only one of it's kind in Africa. This plant will be able to meet both local demands as well as export market for galvanized and colour coated products.

ALL PARTS CASTINGS has had a captive domestic and regional market in Africa in the supply of cylinder liners, brake disks and brake drums. It had been able to get orders as far afield as Germany, South Africa, Britain and Asian countries. However it has gradually lost these markets as it's production costs have increased without any benefits from the export promotion programs.

The market for steel products still exists in the region as the neighboring countries do not have well-developed steel industries and in particular for the high precision foundry product.

5.3 EXPORT POLICIES AND INCENTIVES

- Attractive incentive needs to be put in place for this sector that mostly relies on imported raw materials so as to be able to maximize the investment in the sector. An organized effort to capture regional market should be initiated taking full note of Kenyan's endowment. Several policy matters like the rule of origin for export to COMESA member states needs review.

- One of the most practical monetary incentives is to have EPC provide promotional campaigns overseas on behalf of these manufacturers. Fairs, exhibitions, and advertising at firm level could be very expensive. Some of these manufacturers are not even aware of the regional journals where they could advertise.
- At the moment, SGS (a pre-shipment body) does the reconciliation of documents before EPPO can process refunds. This reconciliation is a slow process. Each time there is an export order being processed, SGS has to do a fresh factory inspection quite often with a new and inexperienced officer (inexperienced for the operation being reconciled.). It is felt that reconciliation should be standard for the known processes and products for export.

- Import documents should be made flexible to allow release of partial shipments. If an export negotiated on the same invoice is split, there are no means of releasing part shipments and it becomes necessary to wait for the other(s). This increases warehouse charges and delays production at the factory. The same scenario occurs if some of the consignment cannot be located, the available cargo cannot be released.

5.4 EXPORT CHANNELS

- Prospects for formation of export marketing groups should be examined. This independent export marketing groups/companies would typically be non-manufacturers with a flair for marketing and selling. This class of exporters, subject to other institutional arrangements, would enjoy flexibility like concentrating in more than one country. This gives them leverage should one product or market experience problems. This group of exporters will find the services of an Export Credit facility a necessity. In many countries manufactures do not sell/export directly and in high-performance economies like Japan, Hong Kong, Malaysia, Korea export houses form a formidable commercial force.

- The establishment of an Export Credit scheme providing export working capital guarantees, performance bonds, advance payments, commercial intelligence and

all other assistance to overcome export financing limitations should be explored. The export marketing effort cannot be left entirely in the hands of manufacturers. The Export Promotion Council in liaison with banks and insurance companies should work on the development of this scheme.

6.0 RAW MATERIAL DEVELOPMENT

The main raw material for iron and steel industry is iron ore. There are occurences of this mineral in Kenya, which have not been fully evaluated for economic exploitation. There are iron ore deposit in western Kenya at: - Bukura, Kakamega, estimated at 17 million metric tons and in Kitui District at Ikutha whose reserves are approximated at 240,000 tons with possibility of much higher quantities if further investigations are carried out.

Other minerals for use in iron and steel industry are Limestone, which is used as a fluxing agent in the production of liquid steel. Extensive reserves estimated at 8-10 million tonnes exist in Koru. Other occurences are in Mombasa, mainly originating from coral reefs and jurassic limestone. The limestone is currently being used for the production of cement in the Bamburi and Athi River cement works.

Another mineral used in the production of steel is manganese, which occur in several areas in Kenya such as Mrima and Kiwara Hills. The deposits in Mrima are estimated at 600,000 while that in Kiwara is thought to be small.

6.1 SCRAP METAL

Scarp Metal generally fall under the following categories:-

I) Home Scrap- Generated by steel making process and the associated primary processes

II) Prompt Scrap- Generated in the starting stages of steel consumption by the main manufacturing companies- industries with rolling mills

III) Obsolete Scarp- what is recovered from used and or dismantled products.

- Only the latter will be available in increasing quantities but the quality of such scrap will progressively be worsening unless cleaning treatment is provide. It is worth noting that the rate of scarp metal generation is proportional to per capita steel consumption; which for developing countries is very low.

Scrap metal can also be obtained from old ship wreckage, popularly known as ship breaking. Some industries have tried this raw material in their plants in the past but the yields from such scrap were not impressive as it required advanced technologies and well trained operators. More information needs to be acquired from relevant countries like Pakistan so as to get the most economic means of using such scrap metal.

6.2 Other Raw Materials

Other raw materials used in the sector and which are currently being imported for manufacturing steel products include Special Steel Billets, Hot Rolled Coils (HRCs), Stainless Steel, Tin Plate, Alloying Raw Materials.

Fluxes (limestone, dolomite, silica, fluorspar); Refractories and Fero-Alloys. Fluxes are mainly used in melting shops as a means of separating molten metal from impurities. This also prevent the oxidation of hot metal from atmospheric oxidizing agents, they are locally available. Refractories are high temperature resistance materials used to cover furnace walls to prevent loss of heat or contact of hot metal with underlying furnace steel structures. This material is locally available; and other steel firms like steel makers Ltd., have started diversifying into such product manufacture.

Fero-Alloys and other foundry chemicals on the other hand are not locally available. These materials are nearly used almost in all steel plants as strengthening additives or as ingredients for the control of mechanical and physical properties of the final products. They include such elements as manganese, nickel, vanadium, chromium, molybdenon etc. Some quantities of manganese exist in Kwara in Kilifi District, though this has not seen commercially exploited.

7.0 INVESTMENT OPPORTUNITIES

The following are some of the potential areas for investment:

- **Production of Grinding Mill Balls**- The technology is available by a Russian company. There is a need to assess the demand by the users of such facilities e.g Bamburi Portland Cement Works.

- **Manufacture of Ductile Iron rolls**- there is only one country (Egypt) which is currently producing such rolls in the region. Gauging by the over 20 mills in the country and the East Africa region at large, a great deal of business opportunity exists in this field.

- **Production of casting sand/Moulding-**A majority of foundry industries in the country still employ sand casting techniques. Sand casting material is available in the country but has not been fully exploited for commercial purposes. Such a project would meet casting sand requirement for the whole spectrum of foundry industries in the country.

- Along with foundry sand is the design and production of dies and patterns. The import bill on spare-parts is still increasing due to inability of local plants to produce them. A study to take stock of both industrial and agricultural spare-parts requirements would be necessary, as this would form the basis

upon which to set up a center or an institute to start mass production of components and replacement parts.

- **Production of High Strength Reinforcement Bars-**. A hot rolled square bar of mild steel, subsequently twisted when cold to produce the required strength is used almost exclusively in Kenya for concrete reinforcement purposes. This technology has completely been phased out in major steel companies in the world.

  The trend is towards the production of high strength reinforcement steel bars using micro-alloy elements, Torbar and the newly introduced technology of Tempco process. The latter technology has gained wide acceptance as it has the ability of imparting the required mechanical properties to Steel product in as rolled condition and therefore eliminates the costs associated with twisting or micro-alloy addition.

Component Manufacture

- Design and Local Manufacture of components and parts for use in the steel plants with capacities of 10-30,000 tons per annum which are very popular in the COMESA region. The rate of growth of steel mills in the region has been steadily rising pointing to an exiting business opportunity for whoever can supply such equipment with good spare-part back up and after sales services. Currently these plants are being imported complete from India. There is no reason why at least some of this equipment can not be produced locally.

- **Other Opportunities:-**
  - Forgings to manufacture wagon wheel, railway components, axles, etc
  - Powder Metallurgy components for auto-spares
  - Foundry and Shops for the manufacture of pumps and motors
  - Centrifugal casting of pipes

8.0 CONSTRAINTS FACING THE INDUSTRY

8.0.1 Low capacity Utilization

Many branches of Kenyan's steel industry have massive over investment and low rates of capacity utilization. Others have investment of right size for the market. But they too under-utilize their capacity because they have been unable to drive imports out of the local market. Results of excess capacity:-

- Plant closures
- Partial shutdowns
- Entire investment lying in crates
- Failure to use shift work

As a result, costs and prices are high, and promoting exports is difficult.

8.0.2 High Off-loading, Clearance Costs and Transport Costs

To off load and clear a 2500 tons of steel at Mombasa port costs Kshs. 2,952 at current exchange rate compared with Kshs. 720 in other more efficient ports such as Singapore. This can be very costly bearing in mind that the steel raw material is usually transported in thousands of tonnes. Cases of loss of cargo also exists and adds to already cited inefficiencies which ultimately make our local manufacturers un-competitive.

KPA decided to change over from charging on the value basis to weight basis. Finished goods importers started paying less at the expense of raw material importers. Billet importers today for example are paying Kshs. 780 per ton. While if it had been on the basis value they would have paid Kshs. 205 per ton

Because of longer lead times, industries are forced to hold large stocks, which Could account to up to 28 percent of the total costs thus denying them interests which could otherwise been earned. The transportation costs are equally expensive. The Transport costs around US$1700 to move cargo from Nairobi to Mombasa, and US$900 to move the same from Mombasa to Durban, the destination of most of our steel exports.

8.0.3 Power:

Most firms have power related problems which include:

- High and rising tariffs
- Frequent interruptions whether planned or not
- Numerous and extended voltage fluctuations

A number of plants have put up additional investments like booster power Generator sets which adds to additional costs to the product.

There is a need for consistency in power supply especially in melting shops where power interruptions lead to excessive waste of the process work; re-melting of scrap adds to additional power consumption, which does not lead to any profit.

8.0.4 Export Market:

Most of the foundry plants do jobbing works, and since the local market has become saturated with replacement parts, effort needs to be put so as to capture export market. There is however unfair competition in the international market, especially from countries like India and Other East European Countries where government give a lot of subsidy to their steel plants so as to capture markets in developing countries.

8.0.5 Research and Development:

There is no research and development at enterprise level, the reason being that most plants lack funds to carry out research work.

The technology in use in most cases is obsolete. Ingot casting technology is still invariably used in most melting shops. The productivity in such cases only ranges between 40 to 50%. Other plants have applied the more recent continuous casting techniques and the yields have been as high as 90%. The industries in this sector have asked COMESA to include Research & Development in their Iron and Steel Rehabilitation project.

8.0.6 Production of Capital Goods in the country:

Capital goods production in the country is very minimal, and no concerted efforts have made to produce these items for commercial purposes, though some industries produce them for their own use (e.g East Africa Foundry Works). There is a need to identify a captive product in the country, which can then be produced in volumes for both local and export market. This will enable enterprises like Numerical Machining Complex to have more work for their under-utilized capacity. Since liberalization began, the country has been flooded with many models of capital goods thus making local production of any single capital good un-economical, as this will require many experts specialized in different fields producing small quantities of such items. Similarly our technologies and the local demand for capital goods would not give us a competitive edge against such giants and high volume-oriented machinery producers like Russia, Ukraine Germany etc.

To venture into such product manufacture require negotiations with these major capital goods producers so as to form business partnership under which our steel plants could produce the products using their trade marks.

The government needs to identify possible partners, provide more attractive investment packages and facilitate negotiations so as to pull these investments into the country.

8.0.7 Steel Product Diversification:

Most of the melting shops have concentrated on the production of one grade of steel , i.e Mild Steel. Special steel products like Alloy steels, Stainless Steels, High temperature and other high strength steel products have continued to enter the country as imports thus increasing the import bill.

8.0.8 Currency Fluctuations:

The instability of the Kenya shilling vis- a- vis the international hard currencies affects sourcing of raw materials and results in higher payments.

8.0.9 Institutional Finance.

There is no 'soft window' for financing the steel industry and most firms borrow at commercial rates. Considering the long period from sourcing raw materials, processing to finished products and receipt of payments which may take about

one year, it becomes difficult for firms with insufficient working capital, as much of the capital is tied up in the cycle.

8.0.10 Technology Medium**.**

New technologies are expensive and also high volume oriented, but considering small domestic demand for steel products, most firms are reluctant to upgrade or acquire new technologies. The quality of labour is very low, as there are supervisors who are slow to change to new methods of production.

8.0.11 Steel Dumping:

Steel dumping has been a major case for concern around the world particular in U.S.A., Canada, Mexico and European Union where Anti-dumping measures have been put in place to protect their Industries.

The COMESA Metallurgical Industries Association (COMESAMIA) has observed that there is inadequate information at the country level on the nature and extent of dumping problem and that the problem was much wider than just steel as secondhand clothes, cars, machinery etc. were also being dumped into the region. This problem should be addressed as a matter of urgency as it has negatively affected many steel industries, thus worsening the already very bad unemployment situation prevalent in developing countries.

There are also allegations of Intra-COMESA dumping which is further complicated by differences in cost of factors of production such as power, labor interest rates, duties etc; leading to accusations of "unfair trade practices" between neighboring countries.

8.0.12 Limited Availability of Scrap Metal

- The low volume & poor quality of scrap generally available in Kenya presents the largest problem to the melting industry.
- As demand exceeds supply, there is competition and therefore prices are artificially and unrealistically high.
- The scrap should be investigated in terms of quality, quantity, location, and rate of generation and high transport cost. Depending on the situation, scrap collection and processing centres on mobile press arrangement might be installed if economically viable.
- Imported scrap is not viable because: -
  - (i) It is expensive
  - (ii) Port-off loading facilities are limited
  - (iii) Duty structure (same as that of imported billet)

9.0 THE FUTURE OF IRON AND STEEL INDUSTRY AND THE STEPS TO BE TAKEN FOR IT'S SURVIVAL AND GROWTH.

For Kenya to achieve NIC status by the year 2020, Steel and Engineering industry will have to be the twin engine of development with all the stake holders- Steel industry and the government working complementarily.

9.1 Firm Level Actions

- We are suffering from excess capacity in virtually every sector. Immediate action has to be taken to close down some of the production facilities. There are many ways of doing this- Out right buy out on willing buyer, willing seller basis or there could be exchange of share in a new joint venture company which will decide for the greater good of all concerned which ones should close down.

- Improving quality, upgrading technology to reduce costs has to be initiated with active participation of the owner/chief executive officer. Lip services and rhetoric will not do. Resources have to be provided, goals have to be set, teamwork has to created and nurtured. Steel industry has to adopt TQM by implementing ISO- 9000 recommendations for uplifment of quality and introduce process re- engineering starting from the weaker areas of operation to encompass gradually the total operation.

- Change management structure at the highest level and incorporate a strong board, which are not composed of just family members, husbands and wives, but professionals whose advice to the owners must be respected and implemented.

- Steel industries must agree to come together at the National level and form a National Steel Association through which they can link up with COMESAMIA (COMESA Metallurgical Industries Association) and be able to benefit from COMESA activities in the field of :-
    - Manpower Training and development of indigenous technological capacity.

      It is worth noting that UNIDO through COMESA has in the past provided technical assistance to some metallurgical industries in the country. This assistance was hoped to filter down to other similar industries in the sector through inter-enterprises information exchange.
    - Market surveys
    - Trading and investment opportunities
    - Buyer seller meetings
    - Data on experts, sources of technology and funding.

- ♦ Assisting members in carrying out an audit of energy demands, utilization and current status of energy conservation and management measures.

- Steel industry has to give up the attitude of thinking that one is smarter than the rest. The sector is collectively suffering from selfishness. An instance of this is best demonstrated by the KPA's action, where they changed tariff calculation from Value to Weight basis. There were complaints expressed at individual level instead of taking a joint stand on the issue. This was not possible since they do not have a nationally recognized association representing all the stakeholders in the steel sector. There is much to gain from collective bargain instead of lobbying individually in the corridors of power and decision making.

- The Kenya Association of Manufacturers (KAM) do not have the necessary clout to have the required legislation (for the formation of the association) approved and implemented effectively. The message to KAM is that if they are serious about industry then they have to lobby the government effectively. They have to know whether they are acting on behalf of a particular group or they are doing it for the greater national interest.

9.2 What the Government Should Do

1 Act immediately on the infra-structural problems. The First step is to change the management structure there. The board should comprise only of major users of the service providers and professionals of unquestionable integrity and expertise in that field. This should be implemented in KPA, KR, KPL, etc.

2. Cut corruption and red tapes, delay in decision making on various pretexts. For Example:-
If a manufacturer complains to the Commissioner of Customs citing cases of irregular imports, it should be taken seriously, action taken and the complainant informed of the results and action taken after investigation. In the past there has not been reporting back.

If an exporter brings to the attention of the relevant authority the obstacles being created by the member states of COMESA, which is affecting their exports in these countries, immediate action should be initiated with a view to finding a solution. The present practice is to say we have advised our High Commissioner to take up the matter.

3. Make COMESA Effective
The business people and the major exporters to involved whenever there are regional meetings. Kenya Delegation should comprise only one government official, i.e leader of the delegation and the rest should come from relevant private sectors.

4. Monopoly and Unfair Trade Practice Act.

This Act should be amended if merger, acquisitions are to be carried out to cut down excess capacity in the steel industry. Under the present practice it will be difficult, time consuming if not impossible.

5. Interest Rates

Sooner or later we will say goodbye to industries in Kenya if the Government continues to offer high interest rates on treasury bonds.

For industrial loans, the commercial banks must be given incentive by CBK and Treasury to offer special discounted rates of interests for loans and overdrafts to industries. This can be done by way of relaxation on the banks compulsory deposits with Central Bank where either no interest or very low interest is paid by the CBK and on taxes on profits.

10.0 RECOMMENDATIONS FOR RAW MATERIAL CONSTRAINTS

10.1 Immediate Measures

Zero-rate import duties on all raw materials for use in Iron and Steel industry while at the same time imposing a duty of 25% for finished or semi-finished products that are imported into the country and which the country have capability of producing**.**

10.2 Long Term Measurses

The development plan for the period 1994 – 1996 underscore the importance of iron & steel sector in the industrialization process. It envisaged the establishment of a direct reduction plant, producing 200,000 tonnes of steel per year. The government was to initiate concrete plans through relevant institutions to carry out an in-depth survey aimed at establishing the exact quantities of iron ore and the viability for exploiting the mineral.

- The programme in the Development Plan of 1994-1996, should be resuscitated; representative samples be obtained from the existing iron ore deposits and the same be sent for further test work in Harare, Zimbabwe where there are modern testing facilities.

COMESA is encouraging member countries to collect representative samples of their existing ores for free testing in Harare.

10.3 Recommendations for the Scrap Metal Situation:

The development of scrap metal resource base (in the context of the fore-going) in the country should be encouraged; and the following methods should be adopted:-

- Setting up of different scrap collection centers for use in nearby industries

- Borrow ideas from Japanese institutes on viable methods of scrap reclamation
- Use District Focus- For scrap collection at district levels- the good quality assorted scrap should then be transported using transportation companies
- Town Councils advised to create spaces for use as scrap collection centers
- Provision of technical assistance to scrap collectors, especially on the areas of methods of collection, management, and processing of scrap metal into different grade according to end use.

To encourage the growth of scrap metal dealers in the country and to implement the above suggested recommendations and policies need to be formulated that will discourage the importation of scrap metal.

11.0 THE FUTURE DIRECTION OF THE STEEL INDUSTRY IN KENYA

- Assuming that we have stabilized the steel industry in Kenya by trimming off the excess capacity, producing quality goods at internationally competitive prices and the infrastructure is not crumbling but keeping pace with industrial growth, then what are the options for the future investment in the steel Industry?
- Any future project has to be on a regional basis to take advantage of economies of scale. Again it should not be in the public sector. The private sector has to come forward, the existing ones or new entrants. The bottom line is that projects be it in steel or any other sector must make profit.

- **An Integrated Iron and Steel plant With Billet Casting Facility**
  The total requirement for billet would be over 300,000 tons per annum by the year 2003. To meet these demands consideration should be given to the establishment of an integrated iron and steel plant with Billet Casting Facility to feed the existing rolling mills in the three East African countries.

  This project could be located in Dar-Es-Salaam with it's own berth in export processing zone or Free Port Area. Tanzania has proven reserves of high-grade iron ore and substantial deposit of Natural gas. New Power projects coming up in Kenya should then be transmitted to Tanzania for use by the Plant since Tanzania do not have enough power supply.

- Billets will be supplied to down stream mills in Tanzania, Kenya and Uganda. To improve efficiency and cut cost, it should be transported by rail. Because of its strategic location with it's own dedicated berth it can also export billets, blooms and finished products to Mauritius, Re-union, Madagascar and neighboring countries which are COMEASA countries like Mozambique and Zambia.

12.0 THE WAY FORWARD FOR IRON AND STEEL SECTOR

Iron and Steel sector being such an important sector in the national economy, there is a need for specific policies for the development of the industry which should be formulated and implemented. The policies should broadly include:-

- Providing specific fiscal and monetary incentives for the existing plants e.g providing funds at concessionary rates and terms.

- Urgently addressing the tariff anomalies existing between raw materials and the finished products especially billets and wirerods (duty on billets, the raw material for manufacture of wirerods is 5% while that on the wire rods is 15%. The duty differential is too small to effectively protect the local production against imports.

- Focus to be given to the development of down stream industries for example machine tool industry, small-scale foundry, forging industry motor vehicle assembly and Auto-ancillary etc. This will enable the basic steel industry to further prosper and overcome the existing problems of under utilization of capacity.

- There is a need to form a national steel association, to ventilate issues and provide a medium of communication with relevant authorities, and also amongst the industry players.

- Like other developed countries, preferential tariffs of power and industrial fuels should be implemented. Electrical power and fuel costs being the major inputs (other than the feed raw materials) are exorbitantly high. When the currency devalued, power tariffs were hiked, however as the currency gradually revalues, no adjustments in the tariff have been made.

- Efforts to be made to collect scrap metal within the country economically and the government needs to liaise with the Japanese institutes so as to acquire technical assistance towards this end. In the medium term considerations should be given to investment in ship breaking in the country.

- Exact quantities of the existing iron ores in the country to be ascertained. The Ministry of Tourism, Trade and Industry in Collaboration with the Department of Mines and Geology to initiate this project. Mean while the Department of Geology and Mines to gather representative samples from the existing iron ore deposits, which should be taken to Harare in Zimbabwe for further test works under COMESA arrangement.

- Setting up a mini-integrated steel works: -
  Concerted efforts should be made to start a project to exploit local iron ore resources to produce Direct Reduced Iron (Sponge Iron).It is however, worth pointing out that setting up such an integrated steelwork require large amounts of capital; and not many entrepreneurs would want to risk the money in pioneering such green field plants. More over, many existing integrated steel plants whether in the region of the world over is state owned. For such a project to succeed then, the government will have to play very big catalytic role, both at project take-off stage, as well as lobbying for donor financial support towards this end.