

6.2.2 Characteristics of Manufacturers

(1) Analysis of the questionnaires collected

The analysis of the questionnaires collected are tabulated by question in the following. Related data are shown in Appendix - IX.

1) Number of employees

Number of employees of manufacturers surveyed are shown by size in the following.

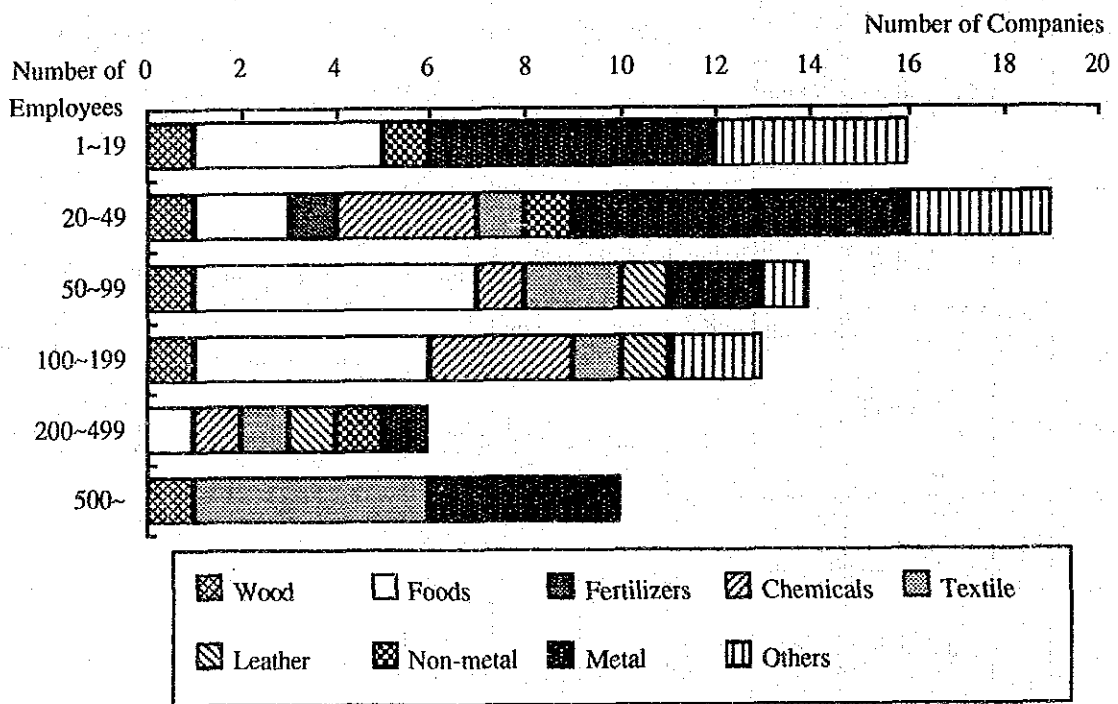


Fig. 6.2.2 Number of Employees

General Characteristics

- Small-scale manufacturers (*) with less than 50 employees accounted for approximately 50% of a total of manufacturers surveyed.
- Large-scale manufacturers with above 500 employees accounted for approximately 10% of the total manufacturers surveyed.

- Medium-scale manufacturers with 200~499 employees are relatively few, accounting for less than 10% of the total manufacturers surveyed.
- (*) Small-scale manufacturers including Jua-Kali are defined as manufacturers with a number of employees of less than 50 and annual turnover of less than K.sh 5 million in Kenya.

Characteristics by subsector

- Food processing: Most of manufacturers are small- and medium-scale with less than 200 employees
- Textile & garments: A half of the manufacturers are large-scale manufacturers with more than 500 employees
- Metal processing: Manufacturers are divided into two main groups. One group of less than 100 employees and the other of more than 500 employees.

2) Year of Establishment

The year of establishment of 74 manufacturers surveyed are as follows.

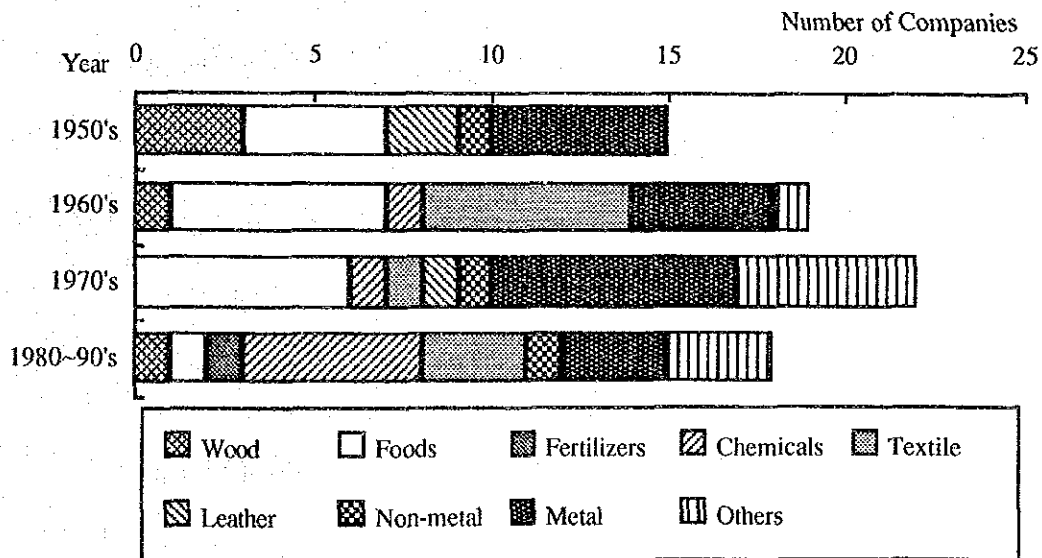


Fig. 6.2.3 Years of Establishment

General Characteristics

- All the manufacturers surveyed were established from the 1950s onward.

Characteristics by subsector

- Food processing: Most of manufacturers were established between 1950s and 1970s.
- Chemicals: Manufacturers were mainly established in 1980s.
- Textile & garments: Manufacturers were mainly established since 1960s

3) Sales amount per year

Sales amount per year of the manufacturers surveyed is shown below.

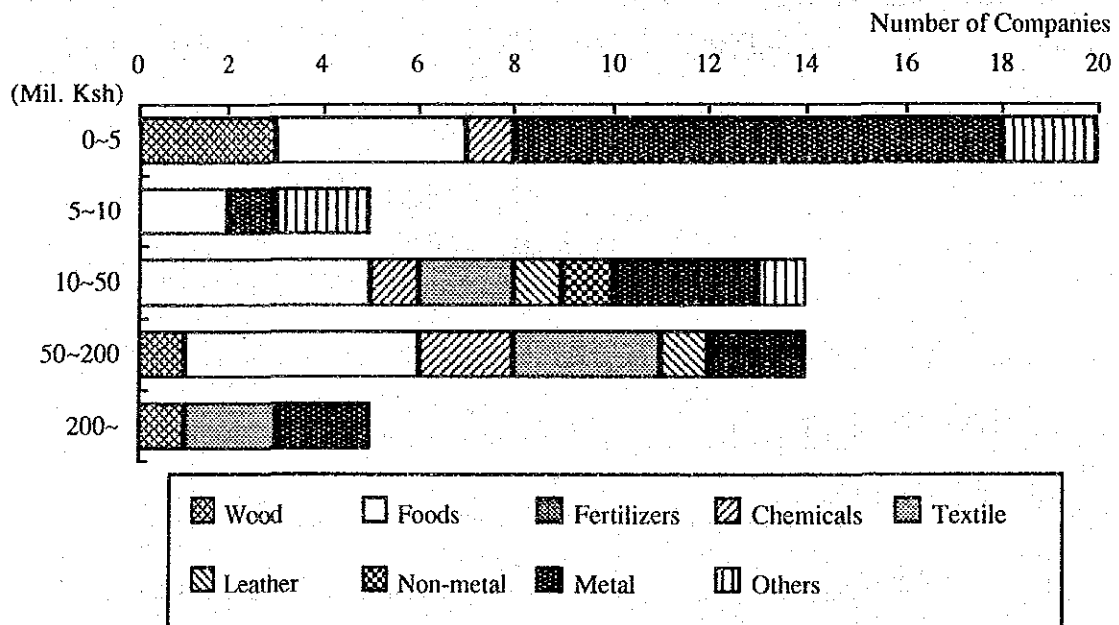


Fig. 6.2.4 Manufacturers by Sales Amount

General Characteristics

- 20 manufacturers are small-scale manufacturers with less than K.Sh 5 million.

Characteristics by subsector

- Food processing: Manufacturers surveyed are ones with less than K.Sh 200 million.
- Textile & garments: Manufacturers surveyed are ones with more than K.Sh 10 million.
- Metal processing: Most of manufacturers surveyed are small-scale manufacturers with less than K.Sh 5 million.

4) Operation ratio

Operation ratio of sixty five manufacturers surveyed are shown below.

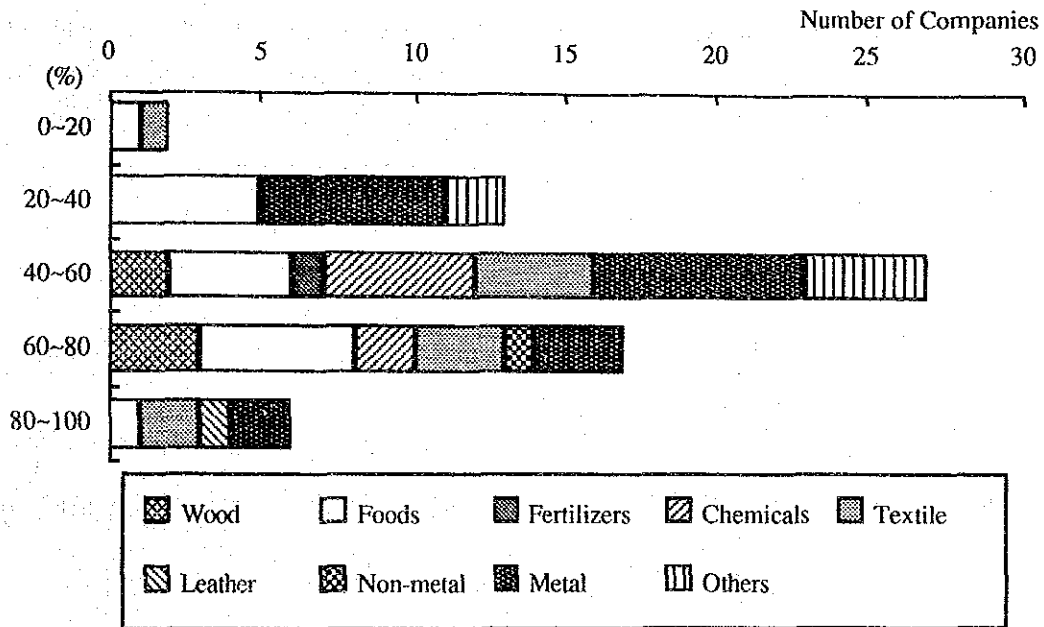


Fig. 6.2.5 Operation Ratio

General Characteristics

- Operation ratio of 27 manufacturers surveyed is in the range of 40~60%.
- The operation ratio of six manufacturers surveyed is more than 80%.

- Major reasons for low operation ratio pointed out by manufacturers are, insufficient maintenance, lack of operation manuals and difficulty in obtaining spare parts.

Characteristics by subsector

- Food processing: Operation ratio varies from low to high.
- Textile & garments: Operation ratio is more than 40%.
- Metal processing: Operation ratio of most manufacturers is between 20 and 60%.

5) Managerial problems

Manufacturers surveyed pointed out managerial problems such as a) low quality, b) unreasonable price, c) insufficient availability of raw materials, d) shortage of foreign exchange, e) insufficient distribution system, f) inadequate transportation, 8) shortage of manpower, etc.

Some manufacturers gave more than one answer to this question.

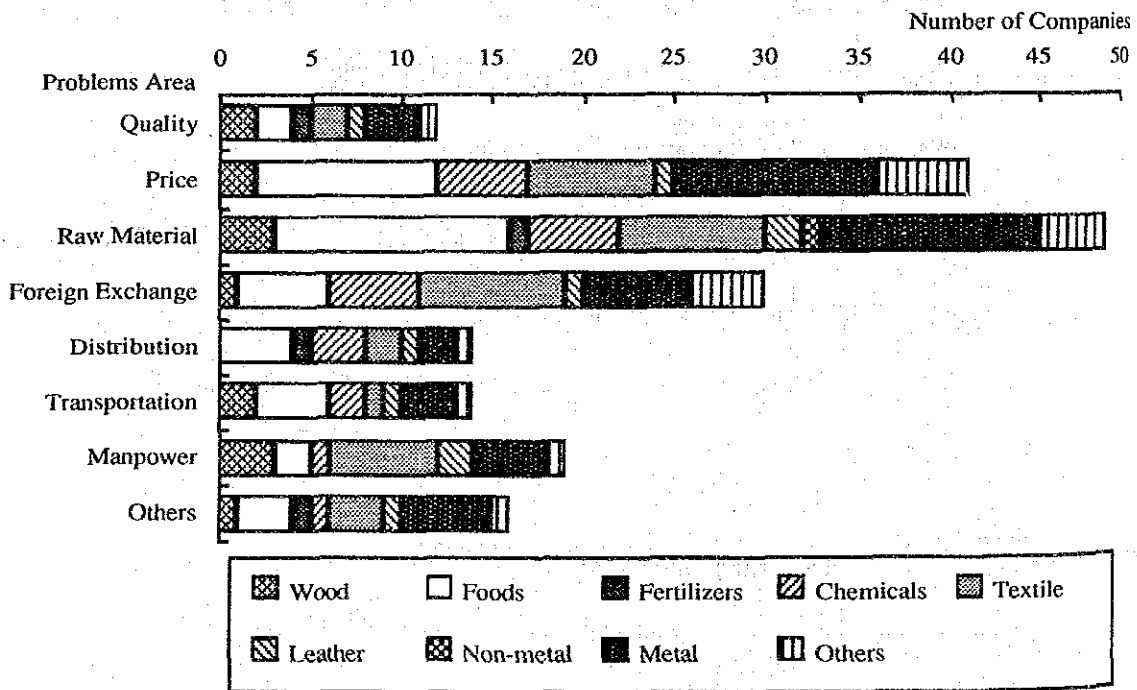


Fig. 6.2.6 Managerial Problems

General Characteristics

- Major problems on management are non competitive market price, insufficient availability of raw materials and a shortage of foreign exchange.

Characteristics by subsector

- Food processing: 13 manufacturers mainly pointed out an insufficient availability of raw materials, and ten pointed out unreasonable price.
- Chemicals: Manufacturers mainly pointed out problems on price, raw materials and foreign exchange.
- Textile & garments: In addition to the same problems stated in "Chemicals" manufacturers pointed out manpower problem.
- Metal processing: Manufacturers mainly pointed out difficulty of obtaining import licenses in addition to problems with both price and raw materials.

6) Product items

Number of product items of manufacturers surveyed are as follows.

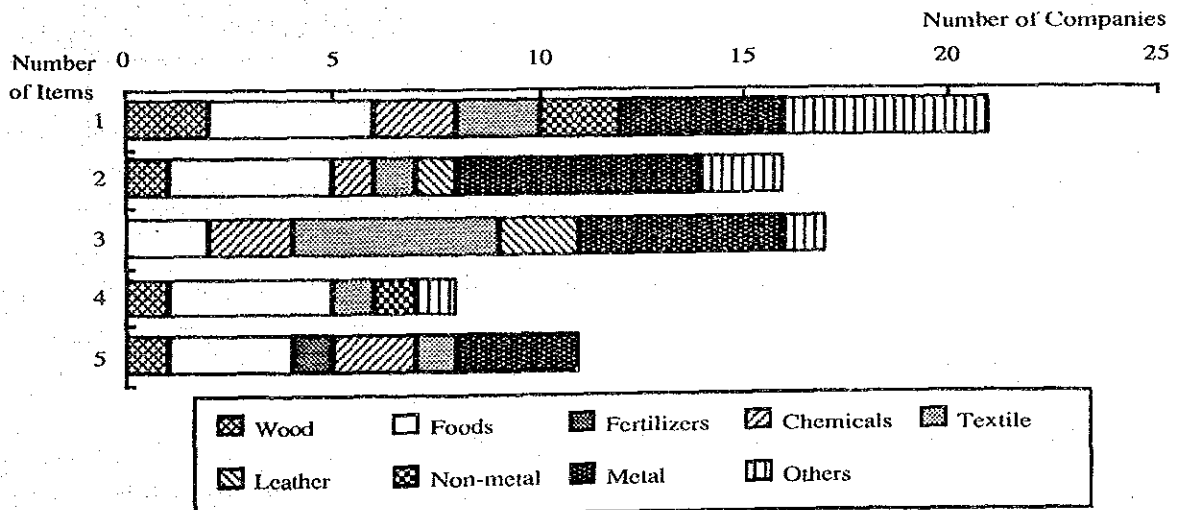


Fig. 6.2.7 Product Items

General Characteristics

- Most of manufacturers are producing one to three kinds of products.

Characteristics by subsector

- Food processing: Manufacturers are producing one to five products. There are no specific characteristics.
- Textile & garments: Most of manufacturers are producing less than three products.
- Metal processing: Most of the manufacturers are also producing less than three products.

7) Products inspection

Inspection condition of manufacturers surveyed is as follows.

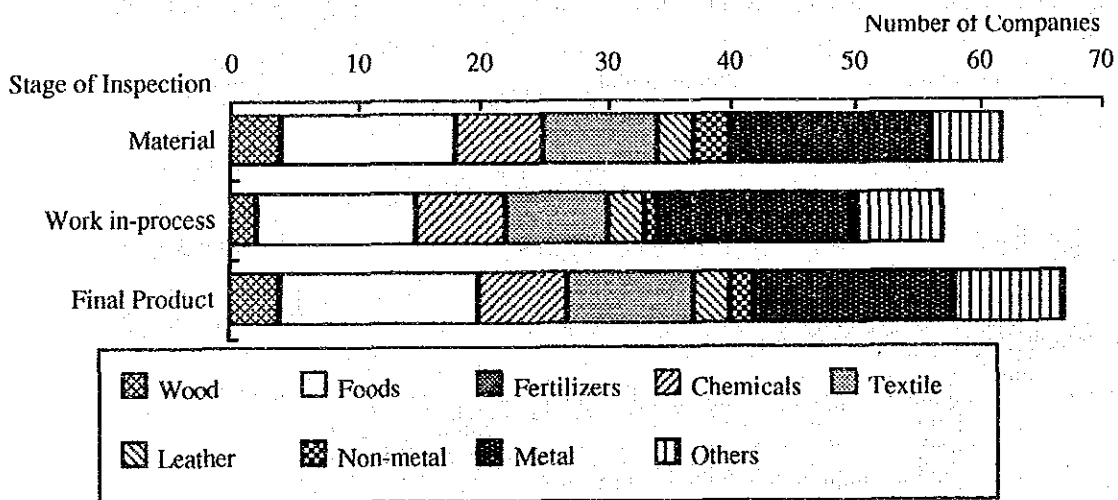


Fig. 6.2.8 Inspection Method

General Characteristics

- Manufacturers' inspections are made at all stages from raw materials, work in-process to final products.

- Most manufacturers replied that they do visual inspection (without using measurement instruments) at each stage.

8) Production problems

Production problems indicated by the manufacturers surveyed are as follows.

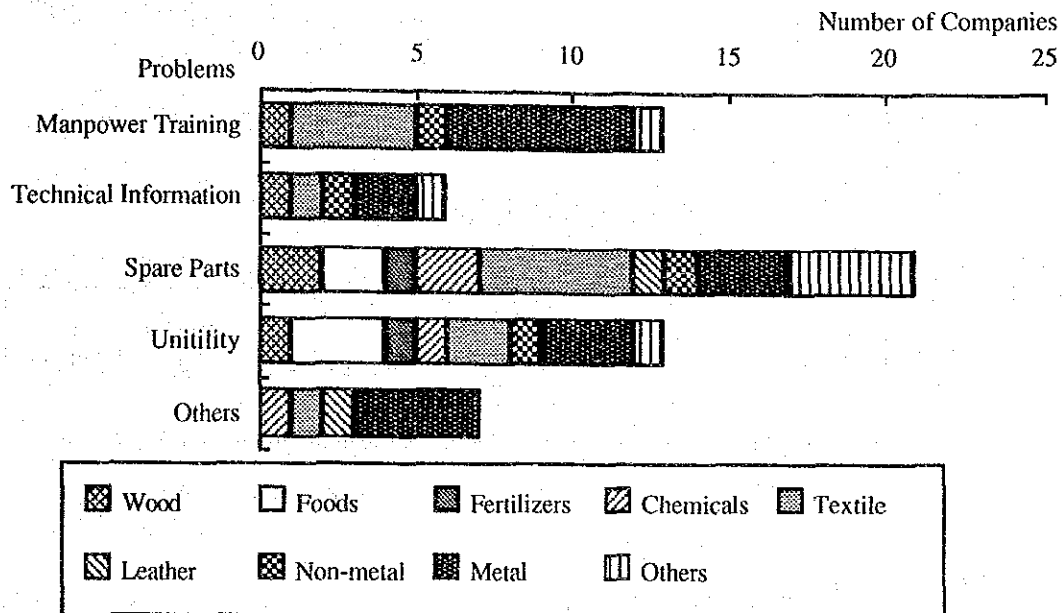


Fig. 6.2.9 Production Problems

General Characteristics

- Manufacturers surveyed pointed out production problems such as a) insufficient manpower training, b) lack of technical information, c) poor maintenance of equipment, d) shortages of utilities, etc. in normal production activity.

Characteristics by subsector

- Metal processing: Six manufacturers pointed out problems with manpower training.
- Textile & Garment: Manufacturers indicated necessity of manpower training and shortage of spare parts as major problems.

9) Subcontracting system

The situation of the subcontracting system between manufacturers is as follows:

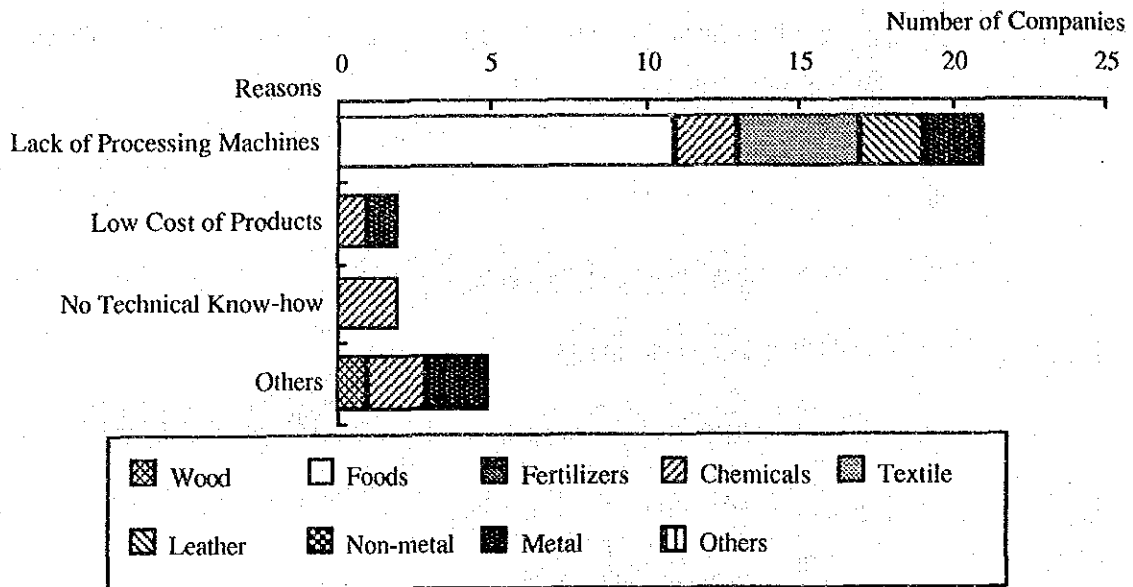


Fig. 6.2.10 Subcontracting System

General Characteristics

- Manufacturers surveyed indicated lack of processing machines in their factories as a main reason for the subcontracting system.

Characteristics by subsector

- Food Processing: 11 manufacturers pointed out lack of processing equipment as the reason why they utilize the subcontracting system.
- Chemicals: The reasons why manufacturers utilize the subcontracting system range from lack of processing machines, reduction of production costs to lack of technical know-how.
- Textile & Garment: The only reason for subcontracting is that manufacturers can not afford to purchase more processing machines.

10) Technical guidance

For upgrading technology, manufacturers surveyed replied that they receive technical guidance from outside sources, such as government organisations, foreign firms and consultants.

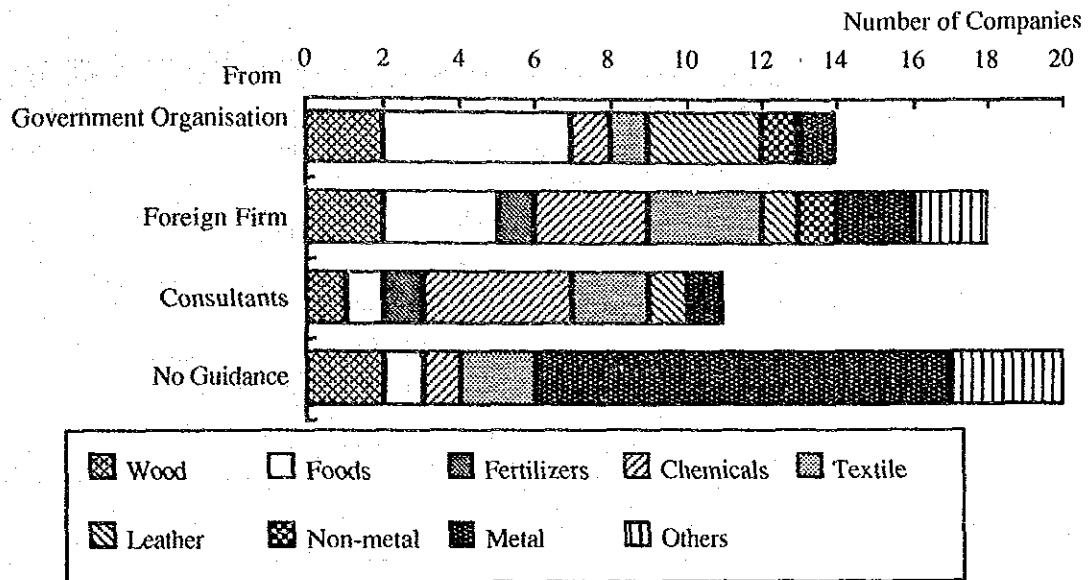


Fig. 6.2.11 Undergoing Technical Guidance

General Characteristics

- Most of manufacturers receive technical guidance from outside.

Characteristics by subsector

- Food processing: Most manufacturers receive technical guidance from government organisations and foreign firms.
- Chemicals: Manufacturers mostly receive technical guidance from foreign firms and consultants.
- Metal: Most manufacturers do not receive any technical guidance from outside.

11) Competitors for export products

Manufacturers interviewed consider products from foreign countries competing against their products for export as follows.

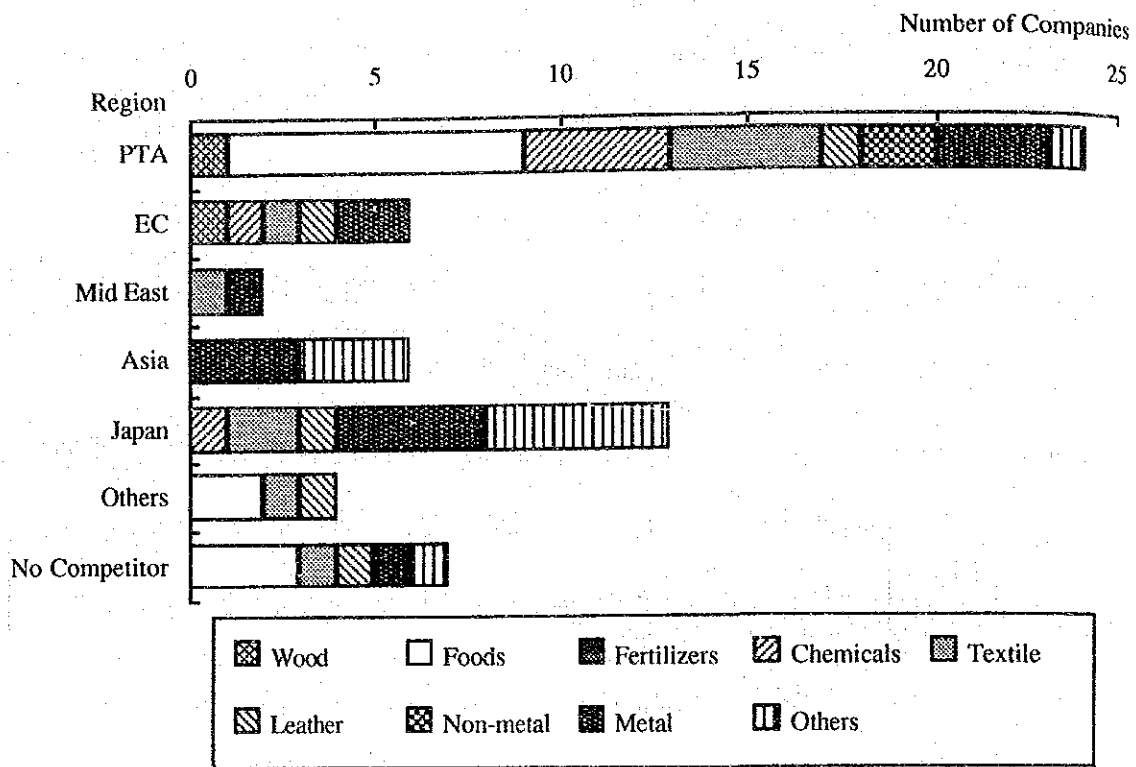


Fig. 6.2.12 Competitors for Export Products

General Characteristics

- Kenyan products competing with foreign products were conceived by manufacturers to include foods, chemicals, textile & garment, and metal products, from PTA, EC and Asian countries, especially, products from PTA and Asian countries.

12) Effective measures for export promotion

Ideas for export promotion are as follows.

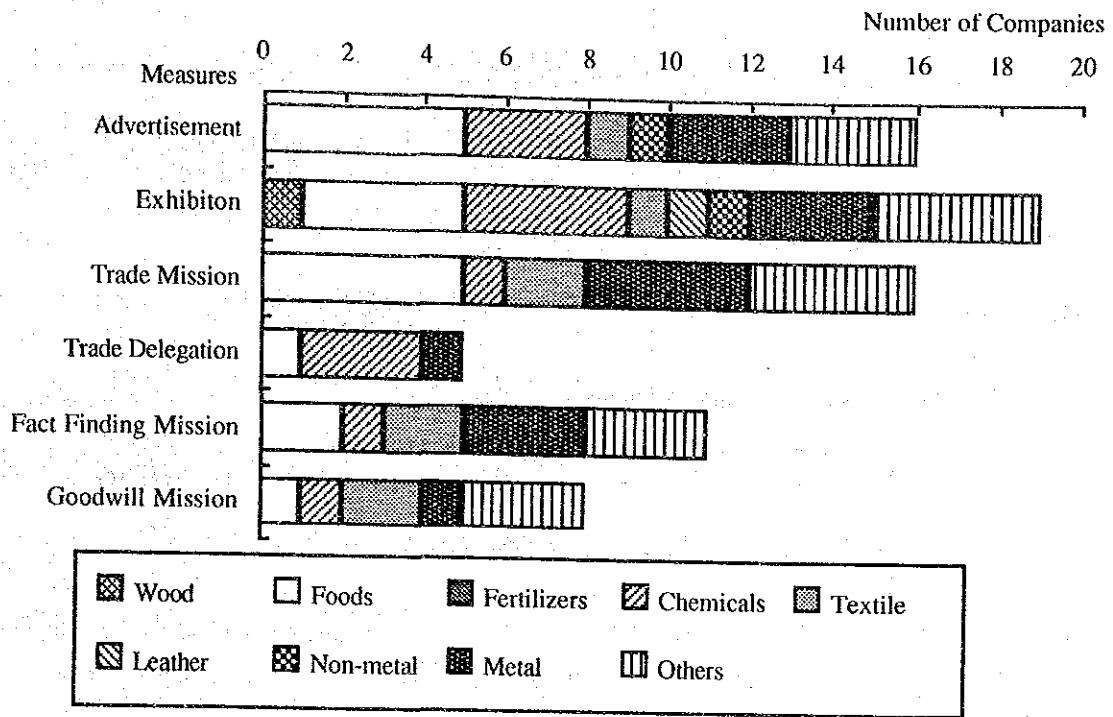


Fig. 6.2.13 Effective Measures for Export Promotion

General Characteristics

- For effective measures for export promotion, manufacturers surveyed recognize that taking actions such as a) advertising, b) exhibitions, c) dispatching trade missions, d) incoming trade delegations, e) dispatching fact finding missions, and f) incoming goodwill missions are important.

Characteristics by subsector

- In particular, food processing, textile and garment, chemicals and metal processing are as the same as above.

13) Requests for trade promotion centre

Answers to questions concerning what functions would be expected, if a trade promotion centre is to be established in Nairobi, for instance, a)

exhibitions, b) information services, c) manpower training, d) technical advice and e) trade consulting services are shown below.

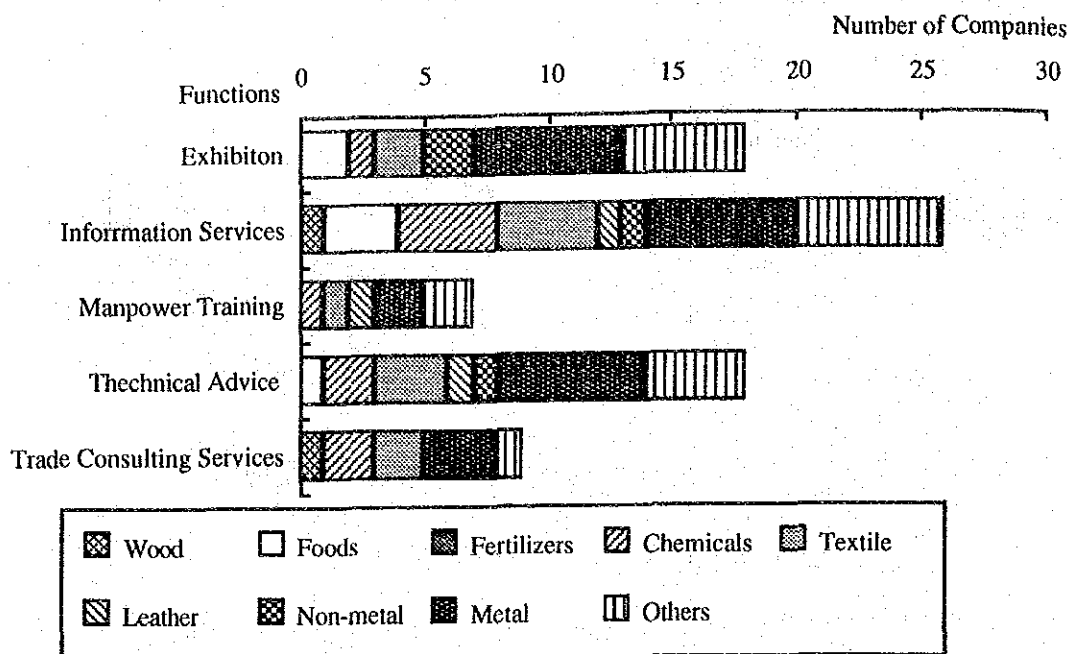


Fig. 6.2.14 Requests for Trade Promotion Centre

General Characteristics

- The most asked for service by manufacturers is information services, then holding exhibitions and providing technical advice.

(2) Common problems

According to the above, common problems faced by manufacturers in Kenya are summarized below.

1) Difficulty in acquiring raw material

Most firms importing raw materials point out the difficulty in acquiring raw materials. The following problems have arisen as a result of this difficulty.

(a) Firms acquiring raw materials locally

Most of the manufacturers locally acquire raw materials without using distribution firms. Considerable time is required in purchasing raw materials because of the scarcity of market information. Individual firms purchase the necessary raw materials in small amount resulting in higher unit prices.

(b) Firms relying on imports for their raw materials

Kenya has to rely almost completely on imports for its raw materials except for primary products. It is difficult for firms to receive foreign currency allocations for importing raw materials. This reduces operations and results in increased production costs.

2) Difficulty in obtaining spare parts

Most production facilities used within Kenya are foreign made. Therefore, spare parts for maintenance must be imported, but it is difficult to receive foreign currency allocations for imports.

Circumstances force most firms to produce or recycle spare parts in order to keep the operation. However, it is difficult to produce spare parts which have the same performance as the original makers because of insufficient technical information. This shortens the operation hours of the facilities, and affects the quality of the products.

3) Insufficient market information

Although market information is provided to each firm through the KNCC&I and KAM, it is still insufficient. Essentially, firms should develop new products, make changes in the production plan of the products and improve the performance (specifications) of the products in order to provide the market with the products demanded by it. It is, however, difficult for Kenya's firms to cope with this situation, because of insufficient market information.

4) Insufficient linkage (especially in the metalworking sector)

The rate of utilization of technology and production facilities is not uniform.

Since most firms in the industrialized countries enhance the cost effectiveness of production, they establish cost-effective production systems by taking the following measures.

- (a) The technologies used by firms are limited to major production technologies. Firms rely on other specialised firms for associated technologies allowing firms to control the scale of operations.
- (b) Firms rely on specialised firms (subcontracting firms) for production that cannot be done efficiently in their own plants, so that they can keep the quality of the products and rationalise their scale of operations.

On the other hand, most firms in Kenya have not established such production systems, because of insufficient linkage among firms.

The linkage among firms plays a vital role in production activities, but such linkage is infrequently seen in Kenya at present due to insufficient enforcement of industrial standards.

5) Insufficient manpower training

In order that firms continue stable production activities, manpower training in the factories is very important. On-the-job training (OJT) and off-the-job training (OFFJT) programmes are not well established in many factories in Kenya.

- (a) Few visitors to public institutions

Few people visit public training institutions such as KIRDI, KBS, and vocational training centres.

(b) OJT

Many firms do not conduct training for the purpose of acquiring knowledge about the operation standards within the firms (describing operation procedures/method/conditions, safety, facilities maintenance, etc. for producing a given quality of the products), and basic technical knowledge related to products. It is ideal that OJT is conducted for unexperienced, semi-experienced and skilled persons. There are few enterprises systematically conducting OJT.

6) Insufficient utilities

Many firms have complained of insufficient utilities such as water, electricity, etc. Generally, the selection of factory-site is important for starting the operation of the factory. The factory-site should be selected according to the characteristics of materials and products, and production method.

(For example)

Industries	Site location to be chosen
Industries with large water consumption	area accessible to water
Industries with large energy consumption	area adjacent to energy base
Heavy industries	coastal area
Light industries (e.g., electronics parts)	area adjacent to an airport

In Kenya, the recycling of wastewater should be considered in the water service industry. The use of off-peak electricity should be considered in the energy consumption industry.

6.2.3 Management Features by Subsector

Many types of manufacturers were interviewed during the field survey. The opinions and management features by subsector are given below.

(1) Wood

- 1) Most wood is being imported from Tanzania, because there is insufficient wood in Kenya.
- 2) Because drying of the wood is insufficient, it is difficult to enhance the quality of the wood when using in building material and furniture. In the future, it is necessary to provide drying processing.
- 3) Many firms combine similar business such as lumber, building materials and furniture.
- 4) Many firms do business within a limited market and have no wide-range distribution network.
- 5) Furniture design is reliant on European technical magazines.

(2) Food Processing

- 1) Firms export fresh-water fish or Nile perch as sliced fish, etc. to EC and Japan.
- 2) Firms need to develop packaging technology.
- 3) There is difficulty in obtaining spare parts for processing facilities.
- 4) Waste water treatment is not satisfactory.

(3) Chemicals

- 1) There are 28 soap factories competing within the country.
- 2) Materials for soap are being imported mainly from Malaysia.

- 3) Although firms depend mostly on import for medical supplies and chemicals, it takes time to obtain an import licence.

(4) Textile and Garments

- 1) Raw cotton supply is insufficient at all times.
- 2) Synthetic fiber and yarn supply is also short due to insufficient supply of materials.
- 3) The above reasons result in a low operation ratio.
- 4) It is difficult to obtain spare parts for maintenance.
- 5) In the garment industry, there are many MUB factories.

(5) Leather

- 1) These are some of the promising export products for Italy, Spain, and England.
- 2) Because of their uneven quality, Italy desires semi-finished products.
- 3) Ethiopia is a competing country.
- 4) All chemicals for tanning are imported, thus causing higher cost of production. The cost of chemicals accounts for about 40% of the total cost of production.
- 5) There is difficulty in obtaining an import licence for spare parts.
- 6) Manufacturers recognise the need to provide waste water treatment facilities. However, it is not realised because of insufficient investment.

(6) Metal processing

- 1) Many firms do not utilize product and processing drawings.
- 2) Many firms do not have detailed inspection standards for parts and products.
- 3) Heat treatment technology is not developed.
- 4) Utilization of technical standard and measurement technology is lagging.

(Note) Fertilizer and non-metallic minerals are omitted because their characteristics were not understood due to insufficient data.

6.2.4 Characteristics of Business Management

Management conditions of Kenya's manufacturers are summarized in Table 6.2.2 based on questionnaires and investigations comparing them with industrialized countries.

Table 6.2.2 Characteristics of Industries Sampled in Kenya

No.	Item	Firms in Industrialized Countries	Firms Sampled in Kenya
1	Variation of technology (type of production)	Have developed their own strong technologies (mass production.)	Because they do not have a technological background, they have not yet developed strong technology.
2	Technical information	Tying-up and amalgamation with different types of business, university, and research institutions.	Because many firms depend on magazines and other written documents for information, they can not obtain exact information. (No contacts with different types of business and other institutions.)
3	Development of new products	Market research Joint development (Linkage between firms by different types of horizontal or vertical relations)	Self-reliant for development
4	Management technology	Various methods are thoroughly implemented for VA and VE to reduce costs	Minimal use (disadvantages for quality and cost)
5	Manpower Training	Systematic implementation of OFF-JT, OJT, etc.	Many firms do not implement such programs
6	Industrial technical standards	Utilized from the design stage to the completion of the product	Not utilized very much
7	Market information	(domestic) Distribution organizations and related firms (overseas) Trading firms, customer, governmental organizations	(domestic) Customer (overseas) Customer

The characteristics of business management in Kenya are that the distribution of the information in the metalworking process differs from that in the industrialised countries. The characteristics of the metalwork industry, are summarized below:

- 1) Variations are found in production method and finished dimensions, because the metalworking firms do not use the processing drawings.
- 2) Discovery of defective products is delayed because the inspection standards are not unified within the metalworking firms.
- 3) The quality of the finished products is not uniform in the heat treatment process, because of the lack of the work standards.

The above cases are found in the production of spare parts. Spare parts are produced without drawings but by looking at the already produced parts. Spare parts produced in Kenya have lower performances compared with those imported from foreign countries. This leads to low operation and low quality of manufactured products.

The most crucial characteristic in the production process in the above table is the lack of technical capability.

The following procedures are often followed in industrialized countries:

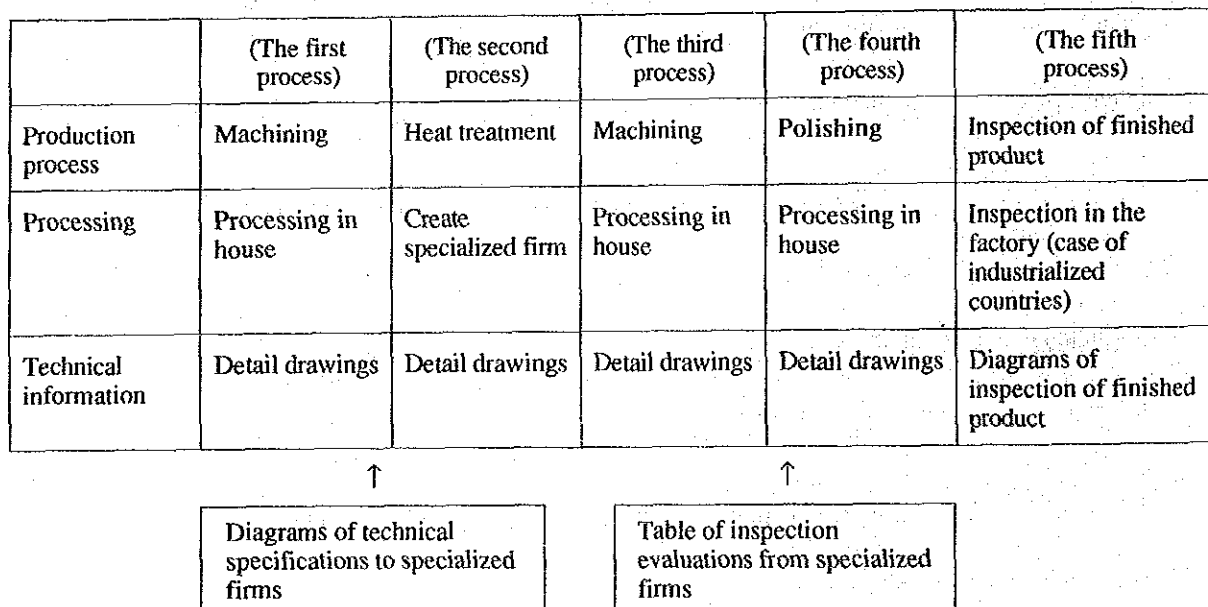


Fig. 6.2.15 Relations between Production Process and Technical Information

For industrialized countries where production in a particular industry is on a low or medium scale, outside specialized firms provide technical information (metal quality of supplied parts, hardness of finished products and metallic structure, parts drawing, etc.) and semi-manufactured products during the second process. After processing, the

outside specialized firms return the semi-manufactured products along with the technical information (in this case, the inspection evaluation table) to the customer. Processing will be completed in accordance with the desired objectives (diagram instructions).

In Kenya, however, because little technical assistance is received from outside, many firms are self-reliant in processing products. Because of a lack of enforcement of industrial standards, it is difficult for the exchange of technical information with other firms.

Underutilisation of industrial standards causes not only technical difficulty of production within a firm, but also hurts interactions at the firm-to-firm level. For example, there are many firms in the textile and chemical industry that make repairing and mending parts in their workshops without access to accurate technical information (finishing dimensions, kind of materials, and hardness).

6.3 Study of Potential Export Products and Types of Industries

6.3.1 Basic Idea for the Study

Both studies on possibility of production and potential market are essential to the study of potential export products.

(1) Production Patterns

The studies on possibility of production in terms of availability of raw materials and technology can be categorized into the following four patterns:

- (a) production with a combination of local resources and existing technology
- (b) production with local resources and technology introduced from abroad
- (c) production with a combination of imported materials and existing technology
- (d) production with imported materials and technologies introduced from foreign countries

The four production patterns are tabulated below:

Raw materials	Technology	
	Kenya	Foreign countries (import)
Kenya	(a)	(b)
Foreign countries (import)	(c)	(d)

The pattern (a) in the above table should be focused on because of easiness to start local production. Unprocessed (raw materials) and semi-processed goods which have been exported from Kenya should be studied to see whether they can be processed more with locally existing technology. Major export items from Kenya should be reviewed from this viewpoint.

On the other hand, it is essential to study the potential market from the viewpoint of securing existing market share and its expansion as well as of penetrating new market.

(2) Process for Study of Potential Export Products and Types of Manufacturers

Selection of potential export products begins with a review of major existing export products and major destinations based on the basic ideas mentioned above.

- 1) The first step is that major products are selected from statistical data on trade, because major existing export products are regarded as being continuously exported in the short and medium term.
- 2) In the second step, potential export products which were selected as a result of interviewing manufacturers are cross-checked with those in terms of production and export possibility.
- 3) In the third step, similar products are grouped according to the above results, and the types of manufactures to be developed as export industries are designated. The study process is illustrated below:

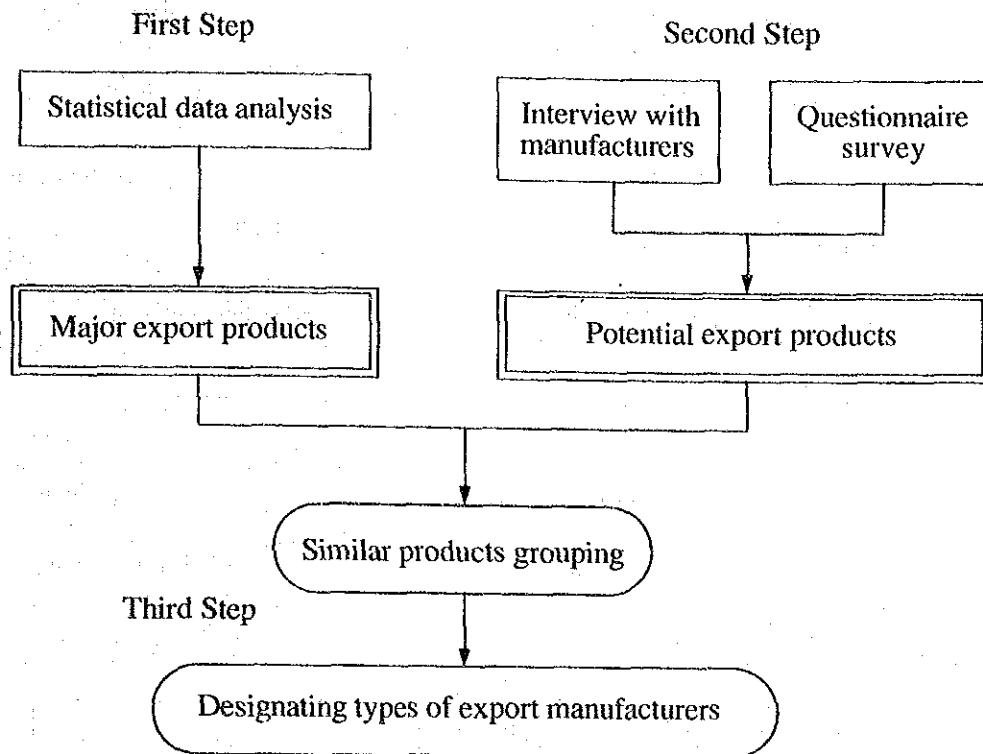


Fig. 6.3.1 Process for Study of Potential Export Products and Type of Manufacturers

6.3.2 First Step: Study of Existing Export Products and Destinations

(1) Major Export Products

Major existing export products are selected according to export performance from 1985 to 1988, and ten export items in order of amount are selected using the United Nations Standard International Trade Classification (SITC) as follows:

Rank	Export Product	% of Total Exports
1	Coffee	26.6%
2	Tea	20.2
3	Petroleum Products	10.8
4	Pineapple (processed)	3.7
5	Hides & Skins	2.6
6	Maize (unmilled)	2.4
7	Sodium Carbonate	2.0
8	Cut Flowers	1.8
9	Sisal Fibre	1.3
10	Pyrethrum (extracted)	1.3
Total		72.7%

The top three products only, that is coffee, tea and petroleum products, account for 57.6% and top ten products account for 72.7% of total export from Kenya.

Each export product following the top ten make up less than 1% of total exports. Thirty nine export products, shown in Table 6.3.1, which account for about 85% were selected as major products exported from Kenya. Most of potential export products based on analysis of interviews with Kenyans and foreigners engaged in export from Kenya are included in the above 39 products.

(2) Major Destinations

According to statistical data of export from 1985 to 1989, major destinations for Kenya are EC and PTA countries which account for about 50% and 25%, respectively.

The ranking of major destinations in total export is as follows:

Rank	Destination	% of Total Exports
1	U.K.	17.1%
2	West Germany	11.7
3	Uganda	7.5
4	Netherlands	7.0
5	U.S.A.	6.2
6	Pakistan	4.2
7	Italy	2.8
8	Iran	2.6
9	Rwanda	2.5
10	Sudan	2.4
Total		64.0%

The top ten destinations account for 64% of the total export from Kenya; the top twenty 79%; the top thirty 86%. It was confirmed that the destinations of the major export products are included in the top 30 destinations.

(3) Relation between Major Export Products and Major Destinations

Table 6.3.1 is prepared based on a combination of steps (1) and (2), as part of data analysis in the first step.

The 39 products selected as major export products are vertically arranged in order of SITC number, and 30 countries are horizontally arranged in order of market accessibility or geographical distance.

Numbers "1", "2" and "3" in the table are the ranking of each of the major export products by export performance. This table indicates that primary products (SITC classification No. 0 - 2) are exported to mainly EC countries and Asia; petroleum products (SITC No. 3), medicaments, insecticides, etc. (SITC No. 5), cement, irons & steel products, etc. (SITC No. 6) and books, packing materials, etc. (SITC No. 8) mainly to PTA countries.

(4) Export Characteristics

Characteristics of Kenya's export are summarized below:

- 1) Characteristics of export items
 - (a) More than 85% of export items are the primary products mainly consisting of agricultural products.
 - (b) Industrial products account for 15% of the total export, a high percentage in Africa.
 - (c) Primary export products are mostly unprocessed and semi-processed.

- 2) Characteristics of overseas market
 - (a) By area, Europe is by far the biggest customer in terms of total exports with about 50%. Africa (mainly PTA countries) accounts for 25% with the Middle East, Asia, Japan, the U.S.A. and Canada making up the remaining 25%.
 - (b) Primary products (agricultural and mineral products) which are unprocessed and semi-processed are exported to the major advanced countries (mainly EC).
 - (c) Items exported to Africa (mainly PTA countries) are large quantities of intermediate products and small quantities of processed products.

6.3.3 Second Step: Review of Potential Export Items in Future

The Study Team interviewed Kenyan businessmen, officials of the Government of Kenya, Japanese and other foreign businessmen, foreign commercial attaches, personnel of international institutions about potential export items. At the same time, the Study Team confirmed the present condition of promising items for import substitution. Export of products produced for domestic use is possible, and therefore these products are also considered. The Study Team reviewed potential export items that can be produced by procuring raw materials and improving existing technologies. According to the interviews, more than 40 items are listed except for items obtained from statistical data. The above results are shown in Table 6.3.2.

Table 6.3.2 Potential Export Products by Interview (1/3)

Items	Overseas market demand		Possibility of production				Remarks
			Raw materials		Technical		
	Advanced countries	PTA	Domestic	Overseas	Existing	To be improved	
Refined Sugar		○	○			○	
Salt		○	○		○		
Fruit Juice	○	○	○		○		Pineapple, Passion, Papayas, etc.
Dried Vegetables	○		○		○		
Cooking Oil		○	○		○		
Canned Meat	○	○	○		○		Cornbeef, etc.
Canned Sea Food	○	○	○		○		
Biscuits		○	○		○		
Beer	○	○	○		○		
Frozen Fish	○		○		○		Nile Perch, Tilapia
Infusion Solution		○	○			○	
Medicinal Herbs	○		○			○	
VIXA	○		○		○		
Detergent		○	○	○	○		
Soap		○	○	○	○		
Dry Flowers	○		○		○		
Excise Books, Book Files Envelopes and File Covers		○	○		○		
Paper Sackes		○	○		○		Corrugated Boxes
Handycraft	○		○		○		
Newsprint		○	○		○		
Artificial Fishing Flies	○		○	○	○		
Wooden Toys	○	○	○		○		

Note: ○ : Applicable

Table 6.3.2 Potential Export Products by Interview (2/3)

Items	Overseas market demand		Possibility of production				Remarks
			Raw materials		Technical		
	Advanced countries	PTA	Domestic	Overseas	Existing	To be improved	
Safety Matches		○	○		○		
Blankets		○		○	○		
Apparel	○			○	○	○	Sweaters, etc.
Towels		○		○	○		
Glass		○	○		○		Building Materials
Glassware		○	○		○		
Tableware		○	○		○	○	Ceramics
Marble and Granite	○		○		○		
PVC		○		○		○	Pipes, Kerosene Cans, etc.
Disposal Plastic Syringes		○		○	○		
Retread Tyres		○		○	○		
Aluminium Products		○		○	○		
Aluminium Dairy Hardwares		○		○	○		
Cutlery		○		○		○	Knives, forks and spoons
Agricultural Machinery and Tools		○		○		○	
Kerosene Lamps and Kerosene Stoves		○		○	○		
Keys & Padlocks		○		○	○		
Assembling of Motor Vehicles		○		○	○		CKD

Note: ○ : Applicable

Table 6.3.2 Potential Export Products by Interview (3/3)

Items	Overseas market demand		Possibility of production				Remarks
			Raw materials		Technical		
	Advanced countries	PTA	Domestic	Overseas	Existing	To be improved	
Radio-cassettes and Radios		○		○	○		CKD
Batteries and Cells		○		○	○		
Auto Parts		○		○	○	○	
Fencing Products		○		○	○		
Kitchenware		○		○	○		Metal

Note: ○ : Applicable

6.3.4 Third Step: Designating the Types of Manufacturing and Subsectors

The existing export products and potential export products in the future are grouped according to the International Standard Industrial Classification (ISIC), the following types of industries can be designated as export industries with potential.

Types of Potential Export Industries

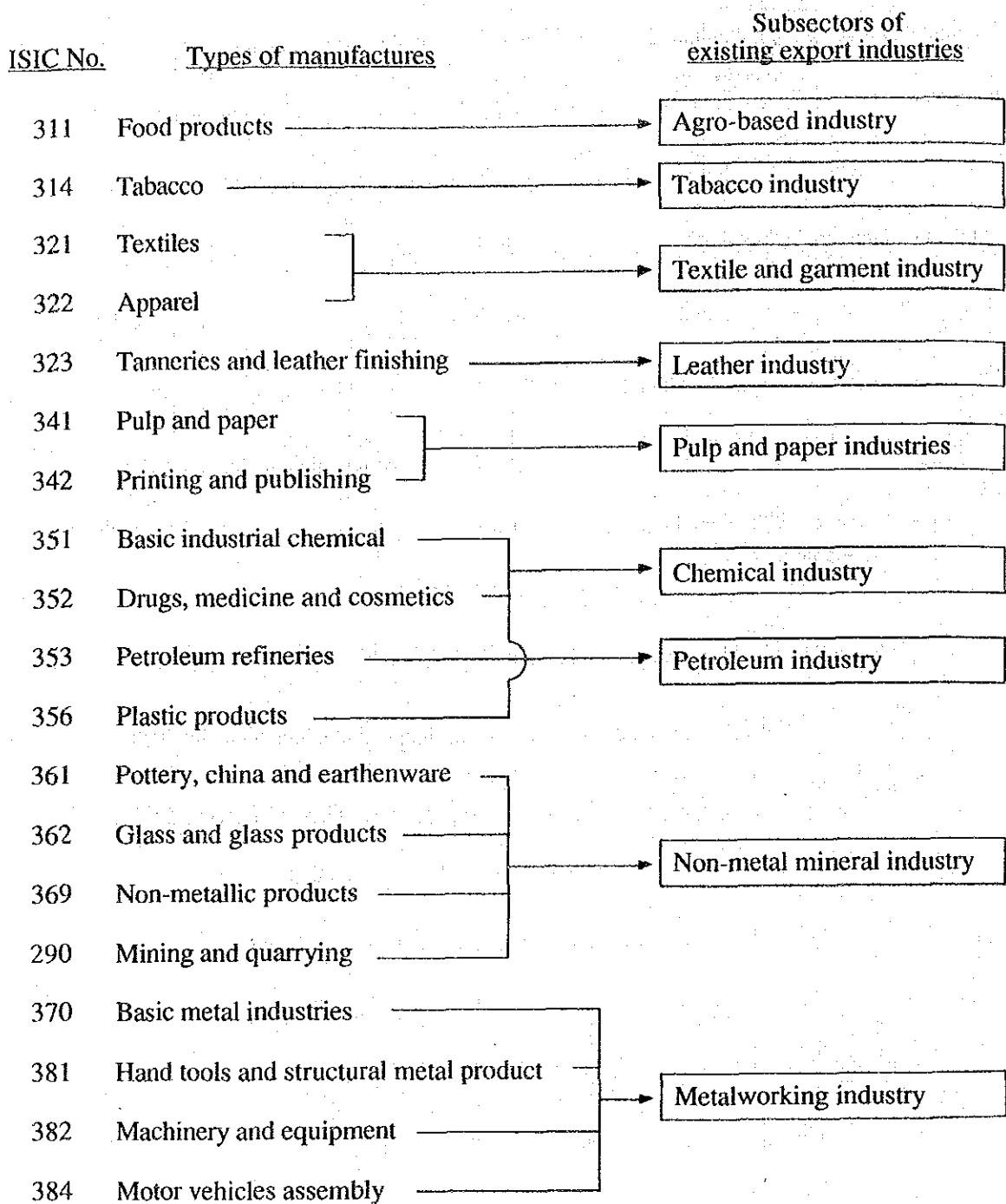


Fig. 6.3.2 Types of Potential Export Industries and Subsectors

6.4 Areas for Development and Improvement of Export Products

6.4.1 Existing Export Industries

(1) Expansion of Markets

Maintaining and expanding of the present export markets should be reviewed from the following viewpoints.

- 1) To improve the quality of primary products which are exported to mainly EC and other market places.
- 2) To study the possibility of increasing the export of Kenyan manufactured products such as SITC No. 3 (petroleum products), SITC No. 5 (Pharmaceutical and insecticide), and SITC No. 8 (books, packaging materials) to all PTA countries.
- 3) To develop manufactured products with which Kenya can take over EC products in PTA markets.

(2) Improvement in Distribution System for Export Products

Foreign-affiliated and large enterprises establish individual export channels, while channels for export products of small-scale enterprises need to be improved. In addition, the infrastructure which supports physical distribution needs to be improved.

Although progress has been made in the construction of roads in Kenya, as compared with those in the neighbouring countries, large trucks and trailer trucks cannot run on the roads because of the narrow width and insufficient pavement except trunk lines. Therefore, widening and paving should be carried out.

(3) Manpower Development

Improvement of productivity and quality of products contributing to export promotion needs to be strengthened through manpower development.

For this purpose, the manufacturers should participate in various seminars (OFF-JT) held by governmental organisations and industrial associations, and to develop OJT by manufacturers.

(4) Technological Improvement and Development

In order that the manufactured products are highly competitive in the international markets, improvement of quality and reduction of production cost should be made. For this purpose, the production system should be improved and expanded by manufacturers under the guidance of governmental organisations and industrial associations.

(5) Basic Technical Conditions for Production Improvement

Improvement of quality and reduction of production cost should be realized through the establishment of a subcontracting system. To achieve this, the following four items should be implemented.

- (a) Improvement of information service
- (b) Enforcement of standardisation
- (c) Promotion of quality control
- (d) Development of technologies

6.4.2 Core Industries

(1) Development of Core Industries

A look at the balance between exports and imports shows that there are twice as many imports as exports. In particular, the percentage of capital goods is high. The share of major goods import against total imports in 1988 is as follows:

Machinery-transportation equipment	:	about 40%
Chemical products	:	about 20%
Manufactured goods	:	about 16%

Steel imports are included in the manufactured goods.

The above industries designated as core industries in the Development Plan are not well developed. Therefore, core industries are indispensable to the improvement of the balance of trade.

(2) Industrial Upgrading

Most of Kenya's industries have not fully participated in international competition due to past import substitution policies. They have been oriented primarily towards the domestic market. Integration and upgrading of manufacturing sectors are required to switch over to the export-oriented industries based on cooperation with public and private sectors.

(3) Introduction of Foreign Capital and Technologies

It is obvious from the experience in the NIEs that the introduction of foreign capital and technologies from foreign countries is an effective method for developing the core industries. Therefore, the investment environment in Kenya should be improved.

(4) Effective Use of Industrial Conditions

Industrial conditions such as geographical location, existing industrial estate, and labour force need to be fully utilized. It is desirable to reconsider manufactured goods that are not competitive with other countries, because it is difficult for Kenya to export products for which other advanced countries have formulated the international market. Development is inevitable for Kenya's industries which are superior to those of PTA countries.

(5) Industrial Development and Types of Industries to be Developed

Comparing Kenya's industrial stage with the Asian countries, it appears to be in the 1960-to-1970 stage, at the end of the early import-substituting industrialisation shifting to the export industrialisation stage (Refer to Fig. 6.4.1 (3-a)). In Asia, the textile industry, sundries, and assembly of radios and television sets as a result of foreign investment, have evolved from the early import-substitution have grown up into export-oriented industries. The leading industries have been shifted according to changes in the national economy and in the demands of international markets year by year. The important task is to

identify types of export oriented industries which make the best use of Kenya's natural resources and which should be encouraged in the near future.

Note: "Existing Export Industries" mean industries exporting products to foreign countries from the past to present. And "Core Industries" mean specific industries to be developed including the Existing Export Industries in the future according to the Kenya's policies from the viewpoint of national development.

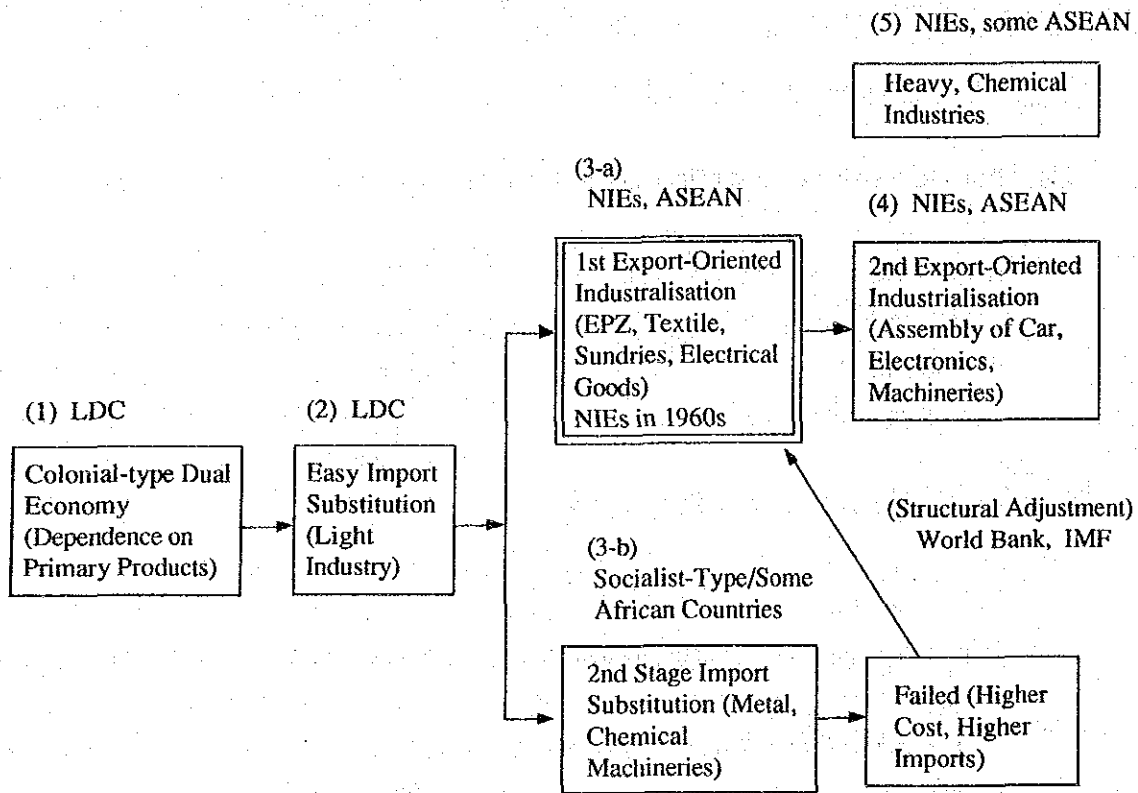


Fig. 6.4.1 Industrialisation Process in Developing Countries

PART II

MASTER PLAN FOR EXPORT PROMOTION

CHAPTER 1 MAIN PREMISES FOR EXPORT PROMOTION

The following five main premises are proposed as prerequisites for export promotion in Kenya.

(1) Economic "Democratization"

To achieve economic independence and vitalization, Kenya must promote "economic democratization" based on free-market principles.

(2) Economic Growth and Improved Industrial Base

To sustain stable GDP growth and improve the national balance of trade, Kenya must strengthen import-substitute industries and develop export-oriented industries through structural strengthening in its private industrial sector. For this purpose the Kenya Government should devise specific measures to promote EPZs and MUBs and to support the private sector through preferential policies.

By carrying out a programme of this nature, Kenya will benefit from increased vitality of its local industries, increased investments from foreign sources, scale expansion and broader technological capabilities in its domestic industries, and promotion of both its export-oriented and import-substitute industries.

(3) Implementation of Export Promotion Policies

To enhance its base for promoting exports, Kenya must vigorously enforce export promotion policies.

At the same time, to expand exports will require governmental clarification and proper implementation of preferential policies relating to exports, as well as clear designation of specific responsibilities at each level.

(4) Joint Promotion Efforts by Public and Private Sectors

Promotion of exports should be undertaken through the cooperation of public and private sectors.

(5) **Necessity of Changing Awareness**

Changing awareness is needed both in the production and marketing phases. Specifically, the traditional orientation toward local markets must change to an emphasis on developing internationally competitive exports.

CHAPTER 2 SYSTEMS FOR EXPORT PROMOTION

The government of Kenya has introduced a number of export promotion policies to create a sound economy by improving the country's trade balance through export promotion.

The main interest of export companies is the pursuit of profits. Export promotion is best achieved when the export promotion targets set by the government coincide with business interests. The government should take actions to fully encourage continued activities of exporting firms. These actions must be applied strictly but fairly and justly. They must be comprehensive to fully support the promotion of the export industries.

2.1 Classification of the System

Generally, export promotion systems can be classified as follows:

(1) **Direct Compensation for Exports: Monetary compensation, duty exemption and export financing**

- 1) Compensation is offered to offset the high import duty rate, but it is not favorable for world trade and should be eliminated as Kenya's trade become more liberalized.

Foreign exchange retention schemes for exporters also belongs to this category and should be treated as an intermediate system until exports increase.

- 2) Tax for domestic consumption (such as VAT) should be exempted for export firms. In Kenya, import duty is exempted for the importation of raw or intermediate materials for export processing.
- 3) Export financing is the most important scheme for promoting exports. Kenya does not have a scheme for this and needs to introduce one immediately along with supporting schemes.

(2) Export Insurance as an Aid in Export Promotion

The export insurance scheme is not used to provide direct compensation for exporters during the initial export development stage. This scheme is often implemented in the later stages in most countries, and the rate of coverage against the total amount of exports is normally low during the first periods of implementation.

Today, export insurance schemes are becoming increasingly important because of problems such as countries with high risks, extension of payment periods or diversification of payment conditions. A well-structured export insurance scheme will facilitate the development of export financing in Kenya and should be emphasized.

(3) Measures to Broaden the System

- 1) The export promotion system should be universally and fairly applied, stimulating all domestic industries and boosting exports. To attain this purpose, companies involved with the exporting of products should be granted the same incentives that already are being given to a limited number of companies. For example, the export compensation given to exporters should be given at customs.
- 2) Many firms are not able to effectively take advantage of the export promotion system. The forming of export manufacturing groups could allow them to do so.

(4) Application of the System

Along with the export promotion measures, it is necessary to enforce clear regulations to be fair and to eliminating injustice. The following are required for a well-controlled regulation system.

- 1) Simplification and speeding-up of various licenses

Complex procedures for permission and approval not only result in loss of time and money, but cause injustice and unfairness. The procedures should

be made as simple as possible and a clear time limit set for the processing of documents.

2) Simplification and the speeding-up of customs

Simplification and timely handling of documents are necessary. However, strict and fair customs procedures must be followed to prevent problems. This will help meet international customs requirements with a greater degree of reliability and will further promote stable and continued trade.

2.2 Measures for Development and Improvement

2.2.1 Solutions to Structural Problems in the Export Promotion System

Kenya is attempting to shift its economic direction, from a closed import-substitution approach, to an export-oriented open economy to better compete in world markets. However, restrictive economic measures still remain because such a transition cannot be made immediately.

Also, there is a lack of trust between government authorities that manage the export promotion system and businessmen who must apply under the system for export benefits. This problem is deep-rooted, and is difficult to solve. The first area that needs to be improved is the contact level between the government and the public, i.e. face-to-face encounters at the lowest administrative levels (such as at government offices).

2.2.2 Integration of Export Promotion Measures

Export promotion is effective when the export schemes are coordinated and complement each other. Export promotion strategy must be consistent with export policy. In addition, the strategy itself must be feasible and it should reflect the ideas of the business community. Opportunities should be created for government and private representatives to discuss issues.

2.2.3 Improvement of the Existing System

Since single schemes (e.g. export compensation, financing, insurance) are not effective as export promotion systems, all schemes must be applied together to obtain

maximum effect. In addition, it is necessary that the export schemes can be expanded to meet the development of and increases in trade. In this initial stage of Kenya's export promotion, the areas not covered by the existing system need to be improved and developed as soon as possible.

(1) Export Financing

Stable financing should be provided to exporters by establishing an export financing scheme. The Central Bank's bill rediscount scheme is currently used in Kenya for this purpose. This provides a steady pool of capital for commercial bank financing to exporters, and encourages pre- and post-shipment financing. Orderly, wide application of this scheme will contribute greatly to export promotion.

However, unlimited direct financing is not possible. Therefore, this scheme should be replaced in the future with an export insurance scheme.

(2) Export Insurance Scheme

An export insurance scheme should be introduced as soon as possible to facilitate bank financing to exporters and to cover the financial risks of exporting.

The risks of export transactions at the beginning of export promotion would be minimal if transactions were done with letters of credit. However, it will be easier to expand the financing, particularly to smaller enterprises, by establishing an export insurance scheme.

(3) Expansion of Coverage of Export Promotion System

The export promotion system should be applied to a wider area to enhance exporting nationwide.

MUB should be given the same advantages as firms in EPZs and development of trade houses should be promoted by including trade houses in the export promotion system.

(4) Finance for Small- and Medium-Scale Exporters

Financing for small- and medium-scale exporters should be introduced to help further the activities of these firms and extend industrial linkage.

Establishment of manufacturer linkage is important not only for export promotion but also for further development of Kenya's industries. Financing of manufacturer linkage and groups will promote exports by small -and medium-scale firms, the development of each firm and further expansion of the linkage.

(5) Foreign Exchange Retention Scheme

A foreign exchange retention scheme for exporters should be established to help and encourage companies to pursue marketing in foreign countries and the updating of facilities.

This scheme should only be used to supplement other schemes. It should be allowed not only for manufacturers but also for trading houses. All exporters, including manufacturers and trading houses, should be allowed an amount of foreign exchange retention to be used for marketing and replacement of facilities.

(6) Customs

As various aid agencies have argued, customs operations and methods should be upgraded to cope with complicated arrangements for MUBs, EPZs, duty exemptions and duty drawback. Discipline should also be enforced.

Various factors, some of which conflict, such as promptness, precision, strictness and fairness need to be resolved for customs operations. Improvement of methods and discipline is particularly necessary because they are vital for importing and exporting. This should be done not only for products and goods but for tourism which provides a majority of the foreign exchange income in Kenya.

CHAPTER 3 DEVELOPMENT OF ORGANISATION AND FUNCTION OF TRADE PROMOTION

3.1 Background and Necessity

- (1) Amid the rapid changes in the international environment, the expansion of exports from Kenya will require systematic effort. For this, export promotion and export incentives are essential. Moreover, because the export-development capabilities of the private sector are generally limited and trading houses have not been fully developed yet, it is necessary to establish the following types of organisations in order to build a durable export base and supplement the basic functions of the trading house such as collecting trade information and providing access to overseas markets for Kenyan exporters.

- Supreme Trade Council (provisional name)

This council would consider export-related strategies and measures and present them to the Government.

- Trade Promotion Organisation (hereinafter called "TPO")

This organisation would involve participation by the public and private sectors and it would systematically promote exports.

At present in Kenya, some organisations with KETA as the nucleus, are individually undertaking export promotion activities, but their activities are not necessarily effective. In short, it can be said that they are not achieving the expected results.

- (2) It is necessary to thoroughly review Kenya's export promotion activities and consider ways to enhance them in the long term.

The following fundamental improvements should be emphasized:

- 1) The system for collecting, classifying and filing data and information needs to be strengthened.
- 2) The methods of research and analysis and information provision need to be improved.

- 3) The channels for advising businesses and ways in which trade enquiries are handled need to be enhanced.
 - 4) Business training needs to be improved, in order to establish an export base.
 - 5) More active participation in overseas trade fairs is needed, as this is an important means of export promotion.
 - 6) Kenya's products need to be publicized in a systematic way, focusing mainly on promising export markets.
- (3) The network for quick implementation of the export promotion activities stated above needs to be expanded.
 - (4) The Kenyan government regards export promotion as the most important task and expects quick results. Cooperation with overseas experts and various export promotion activities are needed in order to expand exports.
 - (5) The expansion and improvement of facilities will also become important to cope with the increase in personnel and workload resulting from the expansion and strengthening of export promotion activities. Multi-purpose facilities for export promotion activities will be necessary for efficient operations.

3.2 Organisation and Function

- (1) A single export promotion organisation handling the export promotion functions presently undertaken by KETA, KIBT, KNCC&I, KAM, etc. is needed to systematically implement the comprehensive export promotion activities stated above.
- (2) The proposed TPO would have the following functions.
 - 1) Collection, analysis and provision of information
 - 2) Providing advice to businesses and handling trade enquiries
 - 3) Providing training on the business of trade
 - 4) Conducting public relations activities

The organisation would be engaged in systematic activities under an integrated export strategy.

In establishing this TPO, attention should be paid to the following points:

- 1) It should be an autonomous organisation able to carry out its mission in a business-like way. It is to be free of bureaucratic constraints as much as possible.
- 2) It should have a sound financial base. The success or failure of export promotion activities depends largely on financial backing because they involve long term investments.
- 3) The TPO should be a jointly organised body involving the public and private sectors as such, it would benefit from both sectors.
 - Advantage of being a non-government agency
Export promotion activities involve measures which Government agencies bound by red tape cannot cope with.
 - Advantage of being a non-private enterprise
Generally speaking, private enterprises are involved in export activities only as far as they are directly benefited, whereas non-private organisations can operate from the broader perspective of promoting Kenya's exports.
- 4) The TPO should act in cooperation with Boards, KNCC&I, KAM, etc.
- 5) Both public and private sectors should cooperate with the activities of the TPO.
- 6) The TPO requires people of high caliber with a high level of motivation. Therefore, it is desirable that salaries be competitive with the private sector in order to attract and retain the right personnel.
- 7) All staff within the TPO should be requested to keep abreast of the overall activities of the organisation.

- 8) Staff should be encouraged to speak up their opinions on trade promotion regardless of their rank.
- 9) The TPO should be flexible enough to adapt to changing circumstances.

3.3 Benefits of Establishing TPO

- (1) At present a variety of organisations are undertaking export promotion activities separately. If these activities were conducted by the TPO, this would make better use of financial resources and qualified personnel.
- (2) The programmes to be carry out by the TPO would:
 - 1) Increase exports
 - 2) Increase foreign exchange
 - 3) Reduce the balance of trade deficit
 - 4) Increase employment
 - 5) Vitalize export businesses in the private sector
 - 6) Contribute to the overall economic growth of Kenya

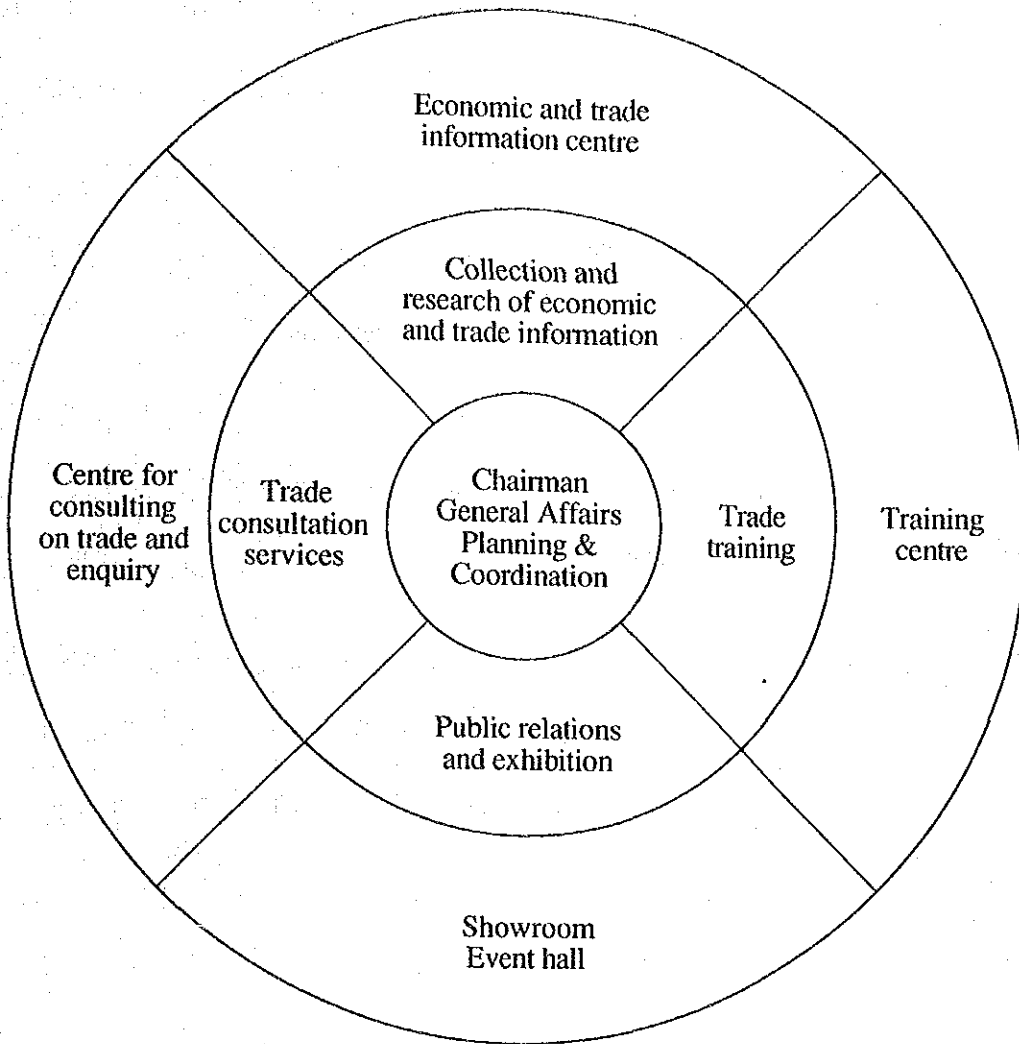


Fig. 3.2.1 Trade Promotion Organisation

CHAPTER 4 EXPANSION AND STRENGTHENING OF INFORMATION SYSTEM

4.1 Background and Necessity

- (1) As the international political and economic environment undergo historic changes, the most significant for export promotion in particular is a quick and precise identification of data and information relevant to the success or failure of export transactions.

Exporters and related companies must have effective information concerning market trends and regulation for their products and trade enquiries. The firms interested in exporting need, first of all, effective information concerning exportable products, classified according to country and region, when they develop new markets.

Information from original sources are the best among the effective information regarding systems, industrial trends and consumer demands to respond to the needs of user (government, industries, companies and individuals). However, this information can also be obtained through analysing existing data (secondary sources).

First, data and information related to promising export transactions should be collected. Secondly, the collection, analysis, processing, and provision of information related to Kenya's non-traditional products should be systematized. As a result, prospects for new stage will appear.

- (2) Since the volume and diversity of data and information have increased on a global scale, there is a limit to application of "the principle of payment by beneficiaries" to the systematization of information.

In both industrialised and developing nations, the first step in export development taken by successful exporting countries and areas have been to collect data and information by establishing a national information organisation involving both the government and private sector.

Data and information needed for continued export promotion must be accurate, up-to-date, and integrated. In those countries and areas (such as Japan, the ROK and Taiwan) which have achieved sustained export growth, governments have provided assistance to establish comprehensive economic and trade information centres as part of existing trade promotion organisations, and the ability to systematically gather, analyse, and provide relevant data and information has been expanded.

- (3) As stated in the preceding paragraph, under the current circumstances, producers and exporters in Kenya are largely left to their own devices to exploit markets. It has become difficult to obtain effective data and information directly connected with exports from KETA. KETA is currently facing problems in the fields of collection, classification, filing, analysis, processing and provision of data and information.
- (4) To drastically reform this situation, it is first necessary to establish a systematic information system at KETA. In the second stage, it is recommended that a comprehensive economic and trade information centre be established as part of the TPO. This centre, to be composed of experts from both the government and private sectors, will work to create an environment which is conducive to the drastic enhancement of information functions in terms of both quantity and quality.

4.2 Enhancement of Collection, Classification and Filing of Data and Information

4.2.1 Formation of Data Collection Base

- (1) Data sections composed of data and information experts (including librarians) should be set up to collect and classify economic and trade data and information in an effort to drastically improve the information system.
- (2) Establishment of a special library containing economic and trade data and information (economic and trade information centre) should be considered. It is desirable that this centre be assured of adequate space to allow the introduction of computer systems and the establishment of data and information systems in the future.

4.2.2 Improvement of Collection system for Data and Information about Individual Markets, Industries and Commodities

(1) Measures for Immediate Implementation

- 1) Improvement of basic economic and trade information regarding the main countries importing Kenya's products.
- 2) Establishment of a system to collect information about companies planning to develop markets and their products and to provide it to overseas buyers as part of efforts to organise export promotion information.
- 3) Strengthening of collection of data and information concerning trade promotion systems and activities in the countries and areas which have succeeded in expanding export.
- 4) The monitoring of international market trends affected by changes in global politics and economy.

(2) Measures for Implementation within Two Years

- 1) Strengthening of collection systems for data and information concerning export promotion in the countries and areas whose products compete with Kenya's. Competition has arisen in connection with a shift from domestic market-oriented industries to export-oriented industries.
- 2) Efforts to collect data and information necessary for analysing the effects of the EC market integration in 1992, the situation in the Soviet Union and Eastern Europe and regional trends in PTA, etc., on Kenya's trade.
- 3) Strengthening of relations with the PTA trade and information network.

(3) Medium and Long term Measures

- 1) Establishment of collection, classification and filing system for data and information classified by subject and by region and country.

- 2) The arrangement of a system to monitor the actual situation of industries and products trends in the leading developing countries, demand and supply trends and market situation in the major import countries of Kenya's products.
- 3) In this stage, ties with the International Trade Centre's (ITC) Trade Information Service Network (TISNET) and the information network of the World Trade Centre (WTC) will be strengthened, and data and information will have to be processed by computer.

4.2.3 Establishment of a Data and Information System

- (1) A system to classify, file and store the data and information collected should be established so that they can be provided more quickly and used more effectively.
- (2) In the medium and long term, the possibility of creating a data base containing trade and company-related information (including Kenyan companies and exporters as well as foreign importers) for the World's leading countries should be considered.

4.3 Strengthening of Research and Analysis

4.3.1 Establishment and Enhancement of Research Division

- (1) A research unit should be established and strengthened to analyse and process the data and information collected. The unit should be divided into two sections: one for market research (classified by region and country) and the other for industry and commodity research.
- (2) The market research section should analyse mainly: 1) regional trends and their effects on Kenya; and 2) trends in economy, trade and industry classified by country.
- (3) The industry and commodity research section should be responsible for analysing demand trends and distribution conditions around the world for 1) current Kenya's export products and 2) products with future export potential. This section should also work to forecast future directions in market needs.

4.3.2 Analysis of Countries which Successfully Promoted Exports

The market research section should analyse the following items in the leading developing countries which have successfully continued to expand exports: 1) policies and systems concerning the development of export industries and exports; 2) the process of development of export-oriented industries and problems encountered in this area; and 3) solutions to various problems.

4.4 Expansion and Strengthening of Information Service

- (1) The information service which precisely and quickly provides export-related firms with overseas market information and commodity information analysed by the research section, as well as expertises of trade offered by experienced businessmen, should be expanded and its function strengthened.
- (2) Provision of information should be improved qualitatively to cope with the needs of consumers. A system should be developed to disseminate selective information to support firms to enter new markets.
- (3) The publication section should be drastically expanded and strengthened so as to enable the provision of effective and selective information for export promotion.
- (4) In the medium and long term, the possibility of establishing a data base as part of an efficient information service system should also be considered.

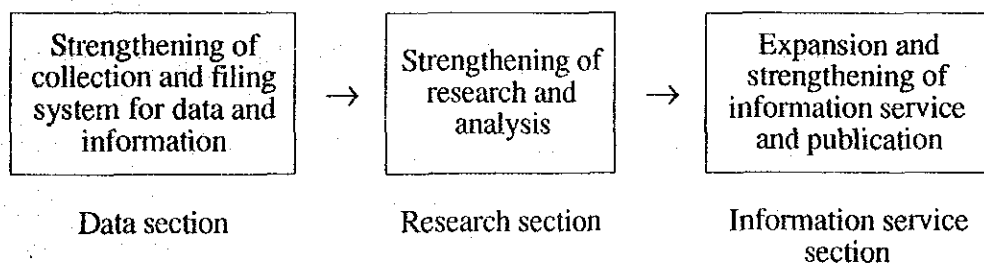


Fig. 4.4.1 Development Flow of Master Plan for Information System

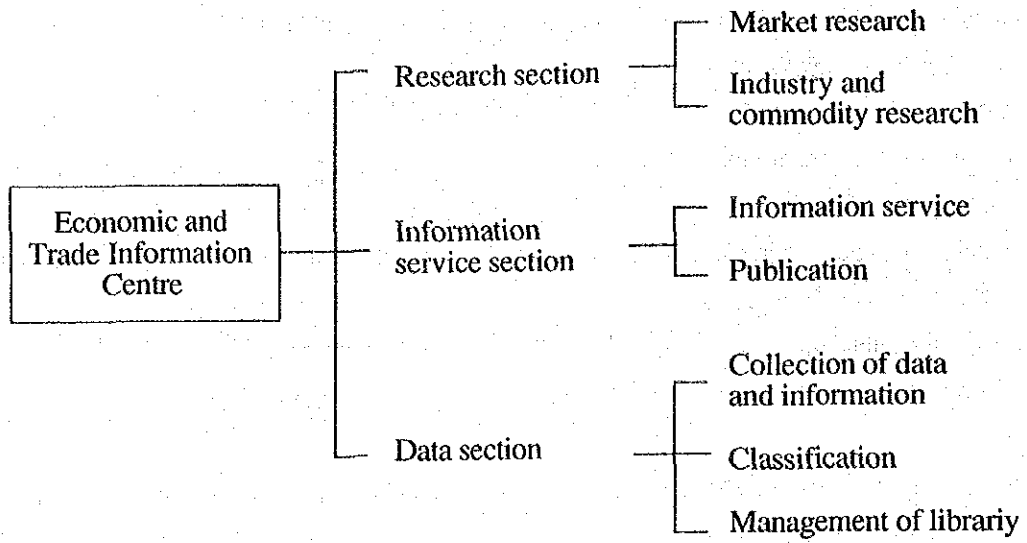


Fig. 4.4.2 Organisation of Economic and Trade Information Centre

CHAPTER 5 EXPANSION AND STRENGTHENING OF TRADE CONSULTATION SERVICES, TRADE TRAINING, AND PUBLIC RELATIONS AND EXHIBITIONS ACTIVITIES

5.1 Background and Necessity

- (1) Under the current conditions, export promotion activities of Kenya are neither organic nor efficient.

In other words, people concerned both in the public and private industry are acting independently without communication and harmony. It is also notable that the export foundations of private firms are fragile.

Inadequate provision of information about the export industries, products and export opportunities of Kenya, lack of trade experience on the side of the private industry, etc. are hindering the improvement of the image of and conditions surrounding Kenya's exports.

- (2) Such being the situation, prerequisites for sustained expansion of Kenyan exports are, 1) to establish foundations for organic and efficient export promotion, 2) to improve the image and conditions surrounding Kenya's exports, 3) to encourage export efforts by private enterprises, 4) to expand the current export promotion activities both in quality and quantity and to establish a system of cooperation between public and private sector, and 5) in particular, to strengthen the functions and activities of the official export promotion organisations.
- (3) Private sector is least expected to promote export by themselves at present. As a result, the cultivation of export competitiveness and the realisation of continuous expansion of Kenya's exports requires training on trade and development of public relations and exhibition activities. These activities should be undertaken by a trade promotion organisation established jointly by the public and private sector.
- (4) Faced with the important task of improving its international balance of payments, Kenya must undertake qualitative and quantitative improvement of trade promotion activities including the strengthening of the role of commercial attaches posted abroad. This should be done simultaneously with the development of various export promotion activities.

- (5) A plan to establish multi-purpose facilities equipped to provide trade promotion services, including a trade training institute, and an exhibition hall should also be considered as part of the programme to build a base for promoting exports.

5.2 Expansion and Improvement of Trade Consultation Services and Speed-up of Trade Procedures

- (1) Most of Kenya's private firms have no offices overseas, therefore they are forced to take a passive attitude in export business. Therefore, many exporters call for the expansion of assistance such as trade enquiry services as well as various other trade-related consultation services.

Currently, KETA and KNCC&I are responsible for assisting export business. However, they are not well organised to respond quickly and appropriately to business opportunities.

- (2) To provide wide support and to activate trade business, the following activities would be needed. Trade services by trade promotion organisations would remain limited to consultation services to private corporations. Given the current undeveloped state of export and trading firm functions in Kenya, the ability to provide practical advice and guidance on commercial transactions should be cultivated.

1) First Stage:

Data related to exporters and information regarding export products should be expanded and efficiently organised. A service system able to respond quickly to the needs of export businesses should be set up. For example, it would be advisable to set up a trade enquiry and consultation corner. This corner will also advise export businesses to speed up export procedures.

At the same time, export business opportunities should be increased through activities such as the dispatch of export promotion missions, holding business meetings and participation in trade fairs abroad.

2) Second Stage:

Commercial attaches abroad should expand their activities and establish their own communication systems to expand and strengthen information collection and services. It should consider joining PTA trade information network.

3) Third Stage:

Kenya should consider joining ITC's TISNET, the World Trade Centre Association (WTCA) and forming an trade enquiry exchange network linking the main cities of the world.

5.3 Expansion and Strengthening of Trade Training

- (1) In line with the systematic development of export promotion activities, it is crucial to train people as experts who have extensive knowledge of trade business.

According to the results of the field survey, persons in both the public and private sectors strongly believe that such training is necessary and they call for the establishment of a comprehensive training system and the enlargement and improvement of training facilities.

- (2) Currently, KIBT under the jurisdiction of MOC is engaged in trade training as an official organisation. However, their curriculum is basic and not necessarily systematised. Therefore, it is recommended that:

1) First Stage:

The TPO responsible for providing guidance to firms should give top priority to train its officials as experts who have extensive practical experience in trade so that they are able to meet the diversified needs of industry.

A comprehensive programme aimed at improving the business ability of people in charge of actual export business should be made and this programme should include, training courses for mid-level managers on export marketing.

In carrying out training on trade in the immediate future, the functions of KIBT should be expanded, instructors increased and the equipment for training improved.

2) Second Stage:

Training for improving the quality of export products would be needed. The functions of training organisations should be expanded so that they can meet the increasing needs of industry in the future.

The new export promotion organisation take over functions of KIBT and a comprehensive training programme should be drawn up.

3) Third Stage:

An international business school for training personnel as managing executives who are well versed in all aspects of international business should be established. This will contribute to developing a pool of personnel capable of responding to the rapidly changing international economic environment.

A course for training personnel as inspectors should also be included in the future as a preparation for introduction of an export product inspection system. At the same time, new facilities and equipment for training should be needed to meet the expansion and improvement of the training system.

5.4 Expansion and Strengthening of Public Relations and Exhibitions

- (1) Participation in international trade fairs or exhibitions in foreign countries is an important means of gaining reputation in international markets.

Currently, most Kenya's exporters still depend on traditional means such as mail and telex to develop overseas markets. The promotion of exhibition activities should provide great motivation for entry into new markets. Lively publicity will create a basis for the expansion of sales of Kenya's products.

1) First Stage:

The selection of trade fairs and exhibitions to participate in should be considered on the basis of comprehensive marketing strategies. Attention should also be given to development of new markets, expansion of existing markets and expansion of economic exchanges within PTA not only for traditional export products but also for industrial products.

Participation in international trade fairs and exhibitions abroad offers not only good opportunities for export business and promotion of Kenya's products but also an ideal opportunity to survey the products developed by competing countries and know the needs of the markets. Therefore, participation in international trade fairs and exhibitions should be encouraged.

Within Kenya, meanwhile, basic measures such as the expansion of existing trade fairs and planning and holding of export business meetings should be taken.

2) Second and Third Stage:

For the medium and long term, expansion of export business opportunities within Kenya should be promoted through the opening of permanent exhibition hall and developing trade fairs specially designed for promising export industries.

Development of trade fairs will attract more foreign buyers, and the ripple effect of exhibitions on the economy will be great and also contribute to Nairobi's reputation as an international business city.

A wide range of measures such as carrying out public relations activities when participating in overseas trade fairs, receiving foreign missions, inviting influential buyers from abroad, should be designed to attract foreign buyers.

Taking advantage of every chance available within the Kenya and abroad, Kenya should publish Kenya's export products continuously using various means of mass media. It is recommended that Kenyan publicize Kenyan industries through publications focusing on some promising products.

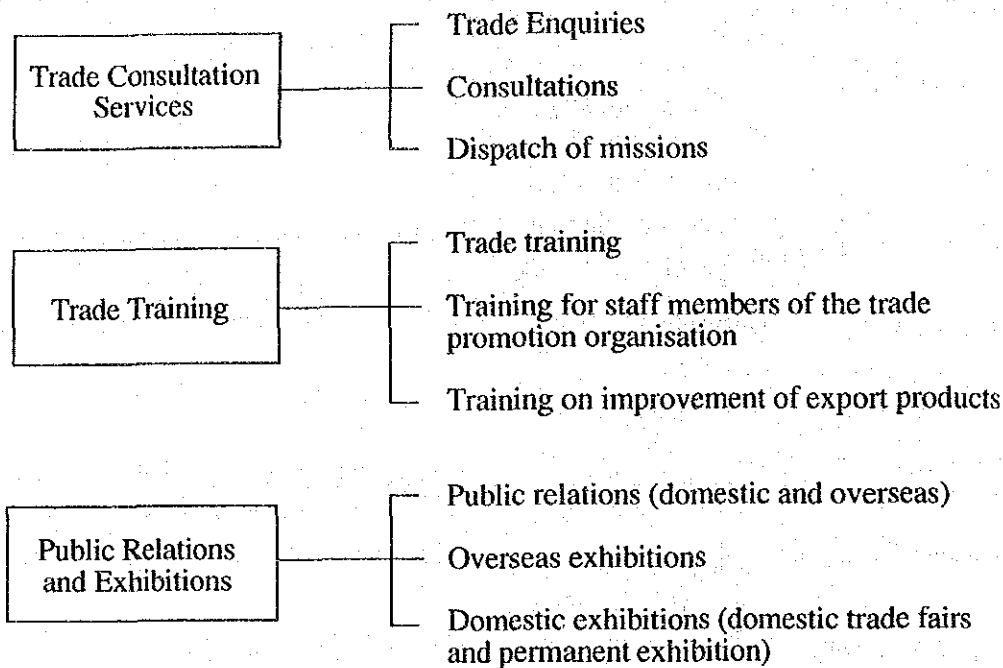


Fig. 5.4.1 Outline of Trade Consultation Services, Trade Training, Public Relations and Exhibition Activities

CHAPTER 6 DEVELOPMENT OF EXPORT-ORIENTED INDUSTRIES

6.1 Industrial Development Strategies

6.1.1 Strategies for Expansion and Strengthening of Existing Export Industries

(1) Short Term Strategy

The export strategy in short term should maintain the present foreign market share of major export items and expand the use of existing incentives for export promotion, improvement of product quality, delivery time and production management. In addition, export industries should seek new foreign markets.

(2) Medium and Long Term Strategies

1) As a medium term strategy, the following activities are recommended:

- (a) Improvement of the quality of existing export products.
- (b) Upgrading processing: from raw materials to intermediate products, or from intermediate to final products in order to increase the value added.
- (c) Development of new markets by manufacturing products that attract foreign consumers.

The strategic concept for improvement of existing export items is shown in Fig. 6.1.1.

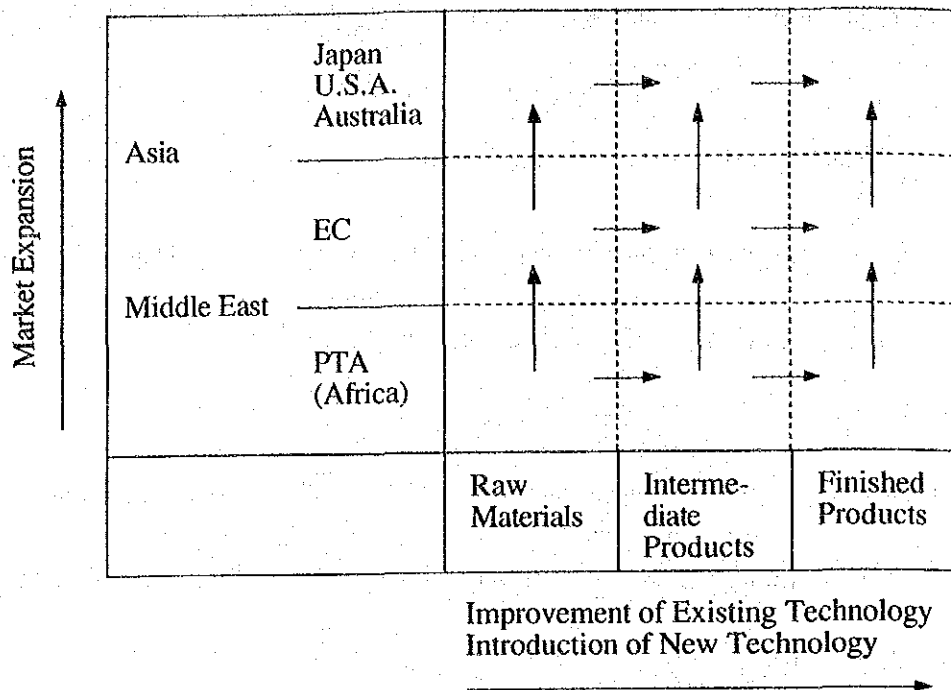


Fig. 6.1.1 Conceptual Chart for Improvement of Existing Export Items

Vertical arrows indicate directions of market expansion, and horizontal arrows indicate directions of higher levels of processing.

- 2) As a long term strategy, the quality of export products should be accomplished through the improvement of materials and processing technology. Export products could be expanded through the use of new materials making full use of Kenya's natural resources.

6.1.2 Development Strategies of Core Industries

Kenya accumulates trade deficits every year. To overcome this situation, expand industries which are suitable for import-substitution and develop export-oriented industries that produce a reduction in the trade balance. For this purpose, the development of the core industries that are emphasized in the Sixth Development Plan by the Government is vital. Development of the core industries should be accelerated through the following policies.

- 1) Development of leading industries --- development of specific subsectors
- 2) Introduction of foreign capital and technology

(1) Development of Leading Industries

Since the technology applied in the core industries varies and is diversified, it is difficult to develop these simultaneously and with the same commitment. The Study Team evaluated those subsectors with a promising technological base in Kenya. Strategic development of those subsectors is an effective measure for furthering industrial growth.

In general, industrialised countries advance by the development of strategic industrial subsectors. The technology accumulated in the leading subsectors are effectively applied to the subsequent development of other subsectors. Industrial development under this strategy has already succeeded in many Asian countries. In those cases, the leading industries played a remarkable role.

For the reasons mentioned above, it is recommended to introduce the idea of leading industries which are selected from core industries.

(2) Introduction of Foreign Capital and Technology

The Asian countries' experience with the introduction of foreign capital and technology is indispensable to the strengthening of export capabilities for Kenya's industries. The methods to obtain cooperation from foreign firms for export promotion are as follows:

1) Introduction of foreign capital

Firms consisting of 100% foreign capital should be invited, and joint venture firms with Kenya's firms should be established. Products manufactured by these firms in Kenya will be exported to foreign markets.

2) Export Promotion through the Original Equipment Manufacturing (OEM)

The method of OEM is popular in Asia because firms from advanced countries provide technical guidance in order to strengthen production and the quality of manufactured products. If firms in Kenya manufacture products according to the specifications prepared by foreign firms, and the manufactured products are exported to external markets under the brand

name of the foreign firms, Kenya's manufacturing and export industry will experience modernization and economic growth.

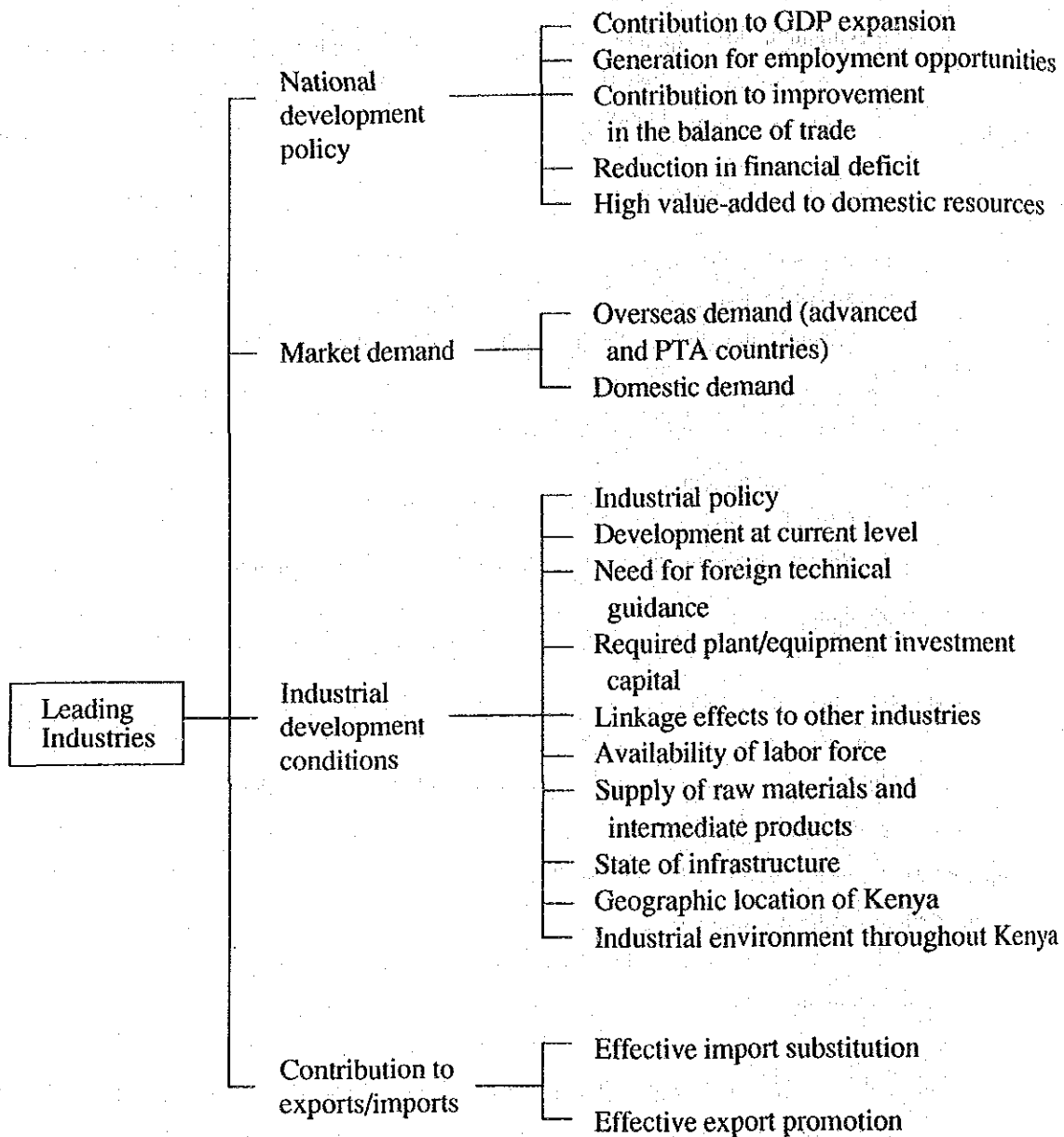


Fig. 6.1.2 Selection Criteria of Leading Industries

6.1.3. Reinforcement of Small- and Medium-Scale Firms

The experience of advanced exporting countries demonstrates that exports by small- and medium-scale manufacturers are supported by the small- and medium-scale trading

firms, various cooperative associations, and the export industry cooperative association. A combination of these organisations will be effective for Kenya.

The operational targets of the export industry cooperative association should be:

- 1) Research of markets suitable for the members' firms
- 2) Development of product designs and advisory service related to manufacturing technology
- 3) Inspection of exported products
- 4) Organisational approach to the solution of various problems related to exporting

If small- and medium-scale trading firms are established in Kenya, the effects mentioned will be further accelerated.

Note: In the case of Japan, there are many export inspection associations and foundations for different kinds of products. For example, in the textile and garment industry, there are foundations for spinners inspection, silk and synthetic textile inspection, wool products inspection, sewing goods inspection, synthetic textile inspection, etc. These associations or foundations inspect and certify export products. The export industry cooperative association operates in collaboration with various inspection associations for ensuring the reputation of Japanese export goods and the development of sound industries.

6.2 Improvement and Expansion of Existing Export Industries

6.2.1 Existing Export Industries

In order to promote exports from Kenya, the existing export industries need strengthening based on current major export items, as shown in Item 6.3.4, Part I.

The measures for the nine subsectors are shown in this section.

- 1) Agro-based Industry
- 2) Textile & Garment Industry
- 3) Leather Industry
- 4) Non-metal Mineral Industry
- 5) Chemical Industry

- 6) Metalworking Industry
- 7) Petroleum Industry
- 8) Tobacco Industry
- 9) Pulp and Paper Industry

6.2.2 Improvement and Expansion Measures by Industries

This section describes the measures to be taken by the government, industries, or individual firms related to the nine industries listed above.

(1) Agro-based Industry

The following conditions are needed for the effective export promotion of agro-based products.

- 1) Processing level of export products should be upgraded so as to increase the value added.
- 2) Quality of processed food products should be improved to increase competitiveness in foreign markets.
- 3) Expansion of existing market share through strengthened marketing and research of new markets.
- 4) Establishing consumer recognition of Kenyan brands such as coffee, tea, canned fruit and juice.
- 5) Improvement of packing and packaging materials and designs.

Improvement or development measures are shown in Table 6.2.1.

Table 6.2.1 Measures to Improve or Develop the Agro-based Industry

Existing Export Items		Short-Term (1-2 years)	Mid-Term (3-5 years)	Long-Term (more than 5 years)	Remarks
<ul style="list-style-type: none"> · Coffee · Tea · Fruits · Juice · Cashew nuts · Cereal · Dairy & Meat · Fish, etc. 	System	<ul style="list-style-type: none"> · Enhancing export promotion incentives · Enforcement of Export financing 	<ul style="list-style-type: none"> · Financing for replacement of equipment & machinery 		
	Marketing	<ul style="list-style-type: none"> · Maintaining of existing foreign market share 	<ul style="list-style-type: none"> · Promotion of Marketing 		
	Production	<ul style="list-style-type: none"> · Stable supply of raw materials 	<ul style="list-style-type: none"> · Improvement of packing, design and technology · Quality control 	<ul style="list-style-type: none"> · Improvement of packing, design and technology · Standardization 	
New Export Items			<ul style="list-style-type: none"> · Marketing Campaigns to promote Kenyan products 		

(2) Textile and Garment Industry

This industry has the basic technology and facilities, and could be a leading export industry if the following are carefully implemented.

- 1) Domestic raw materials should be constantly supplied.
- 2) Procedures necessary for import licensing should be expedited and proper steps for allocations of foreign-currency should be taken for synthetic fiber products imported for production.
- 3) Obsolete production equipment operated in most of the factories should be replaced. The Government should take measures to promote capital investment in new equipment.
- 4) By introducing its traditional costume to the international fashion industry, Kenya can create world recognition of its garment industry and products.

- 5) The textile and garment industry should expand into international markets through joint activities with firms which have internationally recognized brands. Based on Original Equipment Manufacturing (OEM), the government and this industry should jointly conduct an active publicity campaign in foreign countries.
- 6) Establishment of the MUBs and EPZs is another very effective measure for export promotion of this industry.

Improvement or development measures are given in Table 6.2.2.

Table 6.2.2 Measures to Improve or Develop the Textile and Garment Industry

Existing Export Items		Short-Term (1-2 years)	Mid-Term (3-5 years)	Long-Term (more than 5 years)	Remarks
<ul style="list-style-type: none"> · Cotton Yarn · Wool · Cloth · Garment 	System	<ul style="list-style-type: none"> · Export incentives · Liberalisation of I/L (Import License) · Export financing · Privatization 	<ul style="list-style-type: none"> · Financial assistance for replacement of equipment & machinery · Export financing 	Export financing	Grouping of garment industry
	Marketing	<ul style="list-style-type: none"> · Maintaining of existing foreign markets 	<ul style="list-style-type: none"> · Strengthening of marketing 	<ul style="list-style-type: none"> · Tie-up with internationally recognized brands 	
	Production	<ul style="list-style-type: none"> · Stable supply of raw materials, spare parts, other supplemental materials 	<ul style="list-style-type: none"> · Improvement of quality · Replacement of equipment and machinery 	<ul style="list-style-type: none"> · Quality improvement with advanced technology 	Introduction of anti-pollution measures
New Export Items			<ul style="list-style-type: none"> · Introduction of traditional fashion in international market 	<ul style="list-style-type: none"> · Production under licence of internationally recognized brands · Entering the fashion industry 	

(3) Leather Industry

Although this industry produces one of Kenya's main export products, a sharp increase of the export volume is not expected due to limited resources. It is recommended that this industry should be directed to qualitatively improve its production to increase foreign currency earnings.

1) Securing hides and skins of good quality

To improve the quality of leather products, quality hides and skins should be secured.

2) Processing level of export items should be developed to increase the value added to the products.

3) Anti-pollution facilities

Many chemicals are used for tanning. The installation of anti-pollution equipment is needed to remove chemical contaminants. Financial assistance by the government is essential for environmental conservation.

4) Manufacturers should expand into new markets. Joint efforts with foreign firms is an important export strategy.

Improvement or development measures are shown in Table 6.2.3.

Table 6.2.3 Measures to Improve or Develop the Leather Industry

Existing Export Items		Short-Term (1-2 years)	Mid-Term (3-5 years)	Long-Term (more than 5 years)	Remarks
<ul style="list-style-type: none"> · Hides & Skins (Bovine, Equine, Sheep, Goats) · Leather · Leather Goods 	System	<ul style="list-style-type: none"> · Thorough implementation of export promotion incentives · Export financing 	<ul style="list-style-type: none"> · Financial assistance for replacement of equipment & machinery 		
	Marketing	<ul style="list-style-type: none"> · Maintaining of existing foreign market share 	<ul style="list-style-type: none"> · Strengthening of marketing 		
	Production	<ul style="list-style-type: none"> · Stable supply of raw hides & skins · Stable supply of tanning materials · Quality improvement 	<ul style="list-style-type: none"> · Replacement and reinforcement of equipment & machinery · Increase of the value added to products 	Introduction of anti-pollution measures	
New Export Items		<ul style="list-style-type: none"> · Increase of finished goods 	<ul style="list-style-type: none"> · Development of diversified products 		

(4) Non-Metal Mineral Industry

Surveys of the mineral resources were conducted throughout Kenya before its independence. After independence, only limited surveys were conducted.

- 1) If commercially minable mineral resources are to be exploited as the result of the surveys, diversification of mineral products can follow.
- 2) Glass products in the form of bottles are promising export products to the PTA countries. Glass products as tableware could be a promising export product if the quality is improved.
- 3) The exporting of pottery and ceramics to PTA countries could be possible if the quality of products is improved.

Note: The Metal Mining Agency of Japan (MMAJ) carried out a mineral resource survey in the Mombasa region as part of JICA's development programme.

The objective of this survey was to discover minerals such as gold (Au), zinc (Zn), lead (Pb), niobium (Nb) and tantalum (Ta).

Improvement or development measures are given in Table 6.2.4.

Table 6.2.4 Measures to Improve or Develop the Non-Metal Mineral Industry

Existing Export Items		Short-Term (1-2 years)	Mid-Term (3-5 years)	Long-Term (more than 5 years)	Remarks
<ul style="list-style-type: none"> · Sodium · Cement · Fluorspar · Glass · Ceramics, etc. 	System	<ul style="list-style-type: none"> · Full use of export incentives · Export financing 			
	Marketing	<ul style="list-style-type: none"> · Foreign market information 	<ul style="list-style-type: none"> · Expansion into new markets 		
	Production	<ul style="list-style-type: none"> · Quality improvement & increase of production 	<ul style="list-style-type: none"> · Quality improvement with advanced technology · Improvement and increase of ceramic products 		Exploitation of potential minerals
New Export Items			<ul style="list-style-type: none"> · High-quality glass products · Ceramics products 	<ul style="list-style-type: none"> · High-quality glass products · Diversification of ceramics products 	

(5) Chemical Industry

1) Chemical industry based on domestic materials

(a) Stable supply of raw materials

Offering incentives is important to the agricultural subsector that supplies raw materials to the chemical industry.

(b) Improvement of value-added products

By using pyrethrums, insecticides should be developed as value-added products for export. Wattle bark should also be processed and exported.

(c) Development of new materials

Potential use of plants (including natural and cultivated) for odoriferous substance and coloring agents is strong in Kenya. Accordingly, a survey for the development of natural odoriferous substances and coloring agents should be carried out throughout the country.

2) Chemical industry based on imported materials

The improving quality and reducing costs is vital to compete with Asian and European products in the PTA markets .

- (a) Pharmaceutical products including injection, infusion, solutions and vaccines should be diversified.
- (b) Efforts should be made to expand and diversify value-added products made of petrochemical intermediate products.
- (c) Packing and packaging materials and design should be improved.

Improvement or development measures are shown in Table 6.2.5.

Table 6.2.5 Measures to Improve or Develop the Chemical Industry

Existing Export Items		Short-Term (1-2 years)	Mid-Term (3-5 years)	Long-Term (more than 5 years)	Remarks
<ul style="list-style-type: none"> · Pyrethrum extract · Medicaments · Insecticides · Wattle extract · Soap · Batteries & cells · Odoriferous substances · Packing materials etc. 	System	<ul style="list-style-type: none"> · Export incentives · Export financing · Liberalization of I/L 			
	Marketing	<ul style="list-style-type: none"> · Foreign market information 	<ul style="list-style-type: none"> · Expansion into new markets 		
	Production	<ul style="list-style-type: none"> · Stable supply of raw materials 	<ul style="list-style-type: none"> · Introduction of advanced technology 		
New Export Items		<ul style="list-style-type: none"> · Dyestuff, pigment, medicament, disposable plastic syringes, infusion solutions, etc. 			

(6) Metalworking Industry

- 1) Production in the metalworking industry primarily consists of steel production, and the aluminium industry is becoming active at present.
- 2) Value-added processing has an advantage in PTA countries and should be improved and further expanded.

Improvement or development measures are shown in Table 6.2.6.

Table 6.2.6 Measures to Improve or Develop the Metalworking Industry

Existing Export Items		Short-Term (1-2 years)	Mid-Term (3-5 years)	Long-Term (more than 5 years)	Remarks
<ul style="list-style-type: none"> • Corrugated sheets • Window frames • Reinforcing bars • Crown corks • Metal containers etc. 	System	<ul style="list-style-type: none"> • Export financing • Prompt issuing I/L for materials 			Industrial association should be established
	Marketing	<ul style="list-style-type: none"> • Foreign market information (especially PTA) 	<ul style="list-style-type: none"> • Development of new market for new products 		
	Production	<ul style="list-style-type: none"> • Quality improvement • Introduction of Press, drawing & heat treatment technology • Standardization 	<ul style="list-style-type: none"> • Enforcement of standardisation • Energy savings 	<ul style="list-style-type: none"> • Enforcement of standardisation • Establishment of integrated steel industry 	Construction of EPZ
New Export Items			<ul style="list-style-type: none"> • Auto parts; • Agricultural tools; • Metal construction materials; • Cutlery & kitchenwares; • Keys & padlocks etc. 	<ul style="list-style-type: none"> • Auto parts; • Agricultural machinery parts; • Metal construction materials 	

(7) Petroleum Industry

This industry plays an important role by meeting domestic demand and in foreign exchange earnings. Joint ventures in this industry with foreign investors would depend on demand and supply in the international petroleum marketplace.

(8) Tobacco Industry

Kenya's tobacco industry is primarily financed by foreign investors. Even though an international tendency for tobacco use is declining, foreign exchange earnings can be expected by improved marketing and quality.

(9) Pulp and Paper Industry

Taking into account limited forest resources, emphasis should be on qualitative rather than quantitative improvement.

In addition, printing and related technology should be improved to support the packing of export products. Furthermore, recycling of paper products should be promoted to conserve natural resources. The use of sisal waste, bagasse and bamboos should be promoted.

6.2.3 Export Promotion through the Development of Small- and Medium-Scale Firms

Many export products manufactured by the industries mentioned in Item 6.2.2 can be produced and exported by small- and medium-scale firms. For example, there are products in the agro-based, leather, ceramic, garment and textile, and metalworking industries suitable for exportation.

As observed in the export experiences of Asian countries, in the initial stage of export-led industrialisation, labour-intensive industries such as food-processing, leather processing, textile and garments industries played an important role.

Kenya's ceramic and metal tablewares industry demonstrates a potential for small- and medium-scale production for import-substitution and export.

Kenya's existing ceramics technology can support development of small- and medium-scale firms. Further development would effectively foster expansion by local

entrepreneurs, have considerable impact on rural industrialisation and promote regional development.

The effective development of small- and medium-scale firms should be properly organised, supported technically and provided financial assistance by systematic means.

6.3 Development of New Core Industries

6.3.1 Measures for Development of New Core Industries

The Study Team finally selected the six industries as new core industries*) compiled from the sixth National Development Plan and from KNCC&I and KAM's choice of core industries. (Refer to Fig. 6.3.1)

New core industries

- (1) Agro-based and marine processing industry
- (2) Textile and garment industry
- (3) Chemical industry
- (4) Metallurgical industry
- (5) Metalworking industry
- (6) Electric and electronics industry

Main measures for the development of new core industries are described below:

(1) Agro-based and Marine Processing Industry

1) Agro-based products

The potential of agro-based products to lead exports should be improved by the measures listed in Table 6.2.1. The maximum use of natural resources and the discovery of other uses for plants.

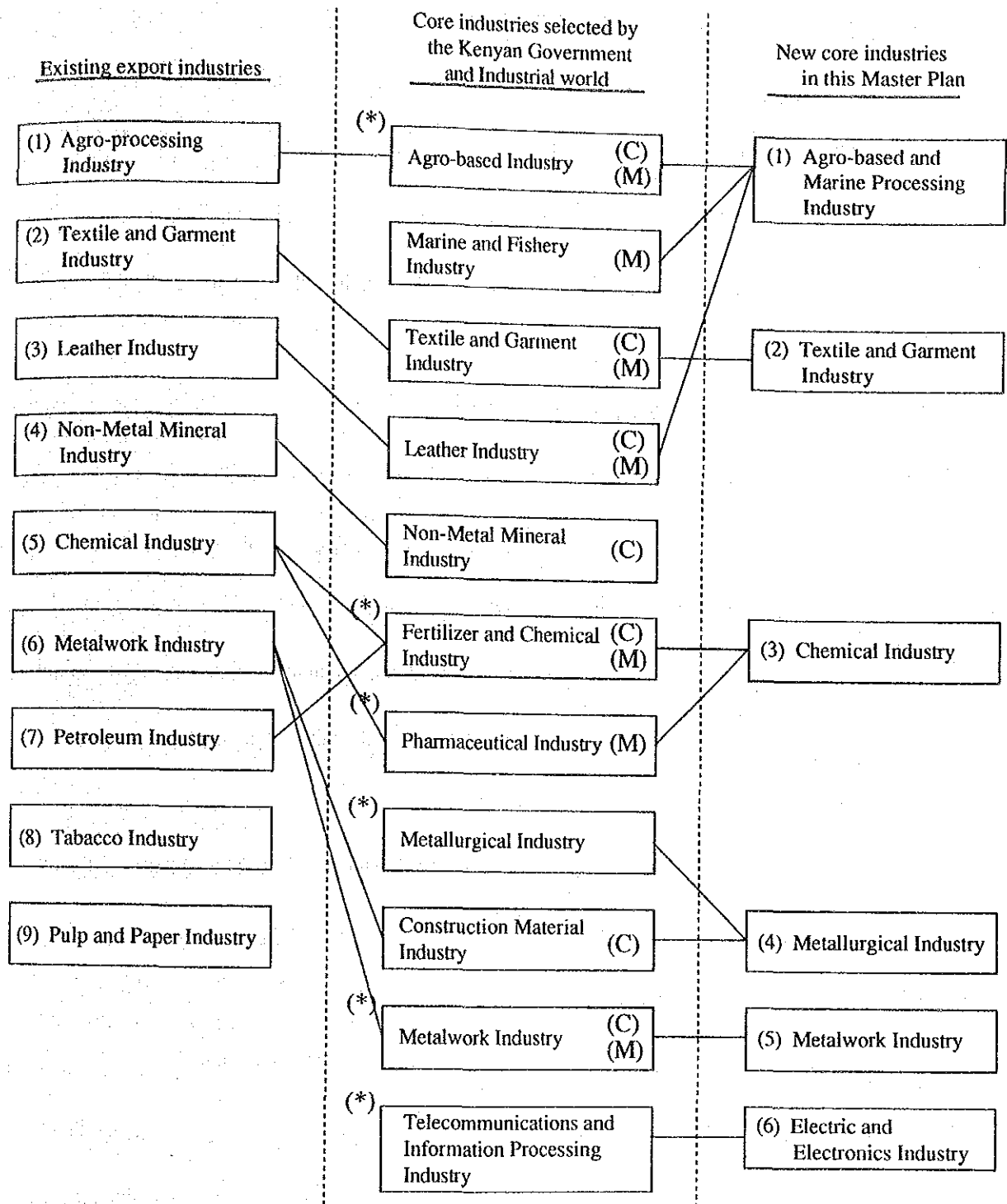
*) The Study Team calls them new core industries in order to distinguish them from the core industries designated in the National Development Plan

2) Leather

- Improved quality and secure, stable supplies of hides and skins.
- Diversification of leather products.
- Replacement of leather processing facilities.

3) Fishery products

- Rich fishery resources are located in the Indian Ocean and the lakes of Kenya (such as Victoria Lake). The annual fish catch in the ocean (7,600 t/y) was smaller than that of fish caught in lakes and rivers (130,000 t/y) in 1988.
- Marine fisheries should be promoted. Developing a pelagic fishery would require substantial investments in large fishing boats, docking facilities and large-sized cold storage facilities. The study team recommends as a less expensive alternative, the development of an off-shore fishery for catching shrimp, octopus and shark.
- The problem of over fishing is directly related to the resources available in Victoria Lake; about 60 % of Kenya's fishery products are from catches of Nile perch and tilapia. Because Kenya's territorial water in Victoria Lake is only 5.8%, it is recommended that the feasibility of aqua-culture and fish-farming in other lakes be examined.
- The Government should provide financial assistance at favourable terms for installation of cold storage and transportation facilities.



(*) The Industries which are regarded as core industries by national policy

C: Core industries selected by KNCC&I

M: Core industries selected by KAM

Fig. 6.3.1 Relations between Existing Export Industries and New Core Industries

(2) Textile and Garment Industry

1) Textile industry

- State-owned textile factories with modern facilities should be privatised to vitalize the textile industry.
- Financial support for investment in the installation of new production facilities should be provided to improve productivity in small- and medium-scale firms.
- Linkage among manufacturers should be developed from the standpoint of economic efficiency and technical development can be established through industrial estates. Proper anti-pollution measures such as the use of joint wastewater disposal facilities should be introduced in the industrial estates.
- Feasibility studies should be conducted in order to develop the synthetic fibres industry.

2) Garment

- Cooperative associations should be organised so as to receive financial support from the government.
- Model factories should be designated in order to widely circulate management and production technology to other small- and medium-scale firms.
- Firms should be encouraged to set up factories as MUBs or in EPZs.

3) Other considerations for the textile and garment industry

- KIE should be vitalized to effectively develop the textile and garment industry.

(3) Chemical Industry

- Chemical industry processing petrochemical intermediate products should be developed as a core industry.
- Factories manufacturing products such as dyestuffs and pigments used in textile papers, plastics, paints, etc. should be established.
- Medical products should be developed from agro-based products and plants.
- Because this industry is mostly capital-intensive, foreign firms should be invited to the EPZs.
- Development and improvement of the packing and packaging should be for export promotion of processed foods.
- Model factories should be designated to establish a base for the improvement of technology.

(4) Metallurgical Industry

- Imports of steel materials increase year by year. The metallurgical industry should be developed to increase foreign currency savings.
- The metallurgical industry is a key industry supporting the metalworking industry and should be developed as a concern of national interest.
- The electric furnace capacity of Kenya is about 100,000 tonnes per year, while steel production is 35,000 to 40,000 tonnes per year. A scrap-collecting system should be established for effective utilization of the present facilities and equipment.
- For a stable supply of steel scrap, the establishment of a ship breaking business in Mombasa should be considered.

(5) Metalworking Industry

- The metalworking industry is one of the key industries in the production of manufacturing facilities, equipment and spare parts.
- This industry consists of two categories according to the use of products: steel processing and metalworking. Steel processing produces finished goods such as hand tools, nails, screws, cans and crown corks. And metalworking produces bearings, gears, springs and other parts for machines. Both categories can be improved and expanded to meet domestic demand and markets in neighboring countries. A feasibility study of such expansion should be conducted immediately.
- In addition to improving and expanding the present industrial activities, the central workshops of the Kenya Railways Corporation should be open to private industries as the country's technical centers. Essential functions such as quality control, manufacturing technology and manpower development should be taught in the centre.
- The shipyards in Mombasa should provide technical centres for the transfer of technology (i.e., engine reproduction, welding, plating, etc.) to small- and medium-scale firms.
- A metalworking association should be established to strengthen private firms in this industry.

(6) Electric and Electronics Industry

- In general, it is difficult to develop this industry on a short-term basis compared with other existing industries. But repairing and reproduction techniques should be improved based on the experience gained from import-substitute production.