No.

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF INDUSTRY AND TRADE
THE HASHEMITE KINGDOM OF JORDAN

# STUDY
# ON
# THE STRENGTHENING OF ENTERPRISES MANAGEMENT CAPABILITY
# IN
# THE HASHEMITE KINGDOM OF JORDAN

## (SUMMARY)

MARCH 2001

UNICO INTERNATIONAL CORPORATION

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## Abbreviations

| | |
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| ACI | Amman Chamber of Industry |
| CKD | Complete Knockdown |
| EU | European Union |
| FZC | Free Zones Corporation |
| GCC | Gulf Cooperation Council |
| GDP | Gross Domestic Products |
| HCST | The Higher Council for Science and Technology |
| IDB | Industrial Development Bank |
| IDD | Industrial Development Directorate (MIT) |
| IDU | Industrial Development Unit |
| IEC | Industrial Estates Corporation |
| IMF | International Monetary Fund |
| ISO | International Standard Organization |
| IT | Information Technology |
| JCLG | Jordan Company for Loans Guarantee |
| JD | Jordanian Dinar |
| JEDCO | Jordan Export Development Center Corporation |
| JIB | Jordan Investment Board |
| JIM | Jordan Institute of Management |
| JISM | Jordan Institute of Standards and Metrology |
| JTA | Jordan Trade Association |
| MIT | Ministry of Industry and Trade |
| NGO | Non Government Organization |
| PCB | Printed Circuit Board |
| RSS | The Royal Scientific Society |
| SKD | Semi Knockdown |
| TOR | Terms of Reference |
| US | United States |
| USAID | United States Agency for International Development |
| VTC | Vocational Training Center Corporation |
| WTO | World Trade Organization |
| YEA | Young Entrepreneurs Association |

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**Part III: Conclusion and Recommendations**

# Executive Summary

## 1 Master Plan for Strengthening of Management Capability

### 1.1 Industrial Development Goal

The strategic goal is to develop industries that can understand the market needs, develop original products and services that reflect them, and differentiate themselves from low-cost, volume manufacturers, and to promote a good image of Jordanian products, thereby to help them find niches beyond the Middle East, in the EU and the U.S. that are newly accessible to Jordanian companies.

The rationale for the above development goal is as follows:

The Jordanian economy is now entering a new stage of development as a consequence of joining the WTO. This means, many export markets are open to Jordanian products, while Jordan is opened up to imports from a variety of countries. Thus, the manufacturing sector must establish competitiveness against foreign products in an open market environment, which forms the basis of reinforcing management capabilities of domestic enterprises.

#### Major issues facing individual enterprises

The following issues face Jordanian manufacturers in becoming competitive in the open market.

1) Product policy is not established on the basis of in-depth analysis of the market needs and their own management resources. As a result, most companies can only supply products that have no distinguished features compared to imported goods or provide services that cannot be distinguished from those of competitors, and hence they have no choice but to compete on price.
2) Most products made by Jordanian companies are offered in the market for a fairly long period of time, without design change or upgrading. As a result, products become obsolete and are not promoted by retailers, who tend to keep them away from consumers.
3) To survive in price competition, many companies cut production costs, including costs of raw materials, parts and labor. However, cost reduction efforts are often made for short-term objectives only and weaken the corporate foundation, contrary to the intended idea.

4) Overall, most companies appear to maintain a corporate culture similar to that of a trading company (distributor), rather than one suitable to a manufacturer. They are not interested in improving product quality by accumulating production know-how. Thus, manufacturers do not have infrastructure or resources for product development, model changes and product upgrading.
5) Most companies do not know their own advantages partly because they lack technical know-how related to product development and production, so that they opt to make products that are popular in the market from time to time, often preventing them from leveraging their previous experience.

**Potential source of comparative advantage for the manufacturing sector in Jordan**

Jordan has a small market and does not produce raw materials that can be used as inputs for industrial production. The work force is relatively small and living costs are relatively high as most goods are imported. These factors make it very difficult for Jordanian manufacturers to exploit comparative advantage in manufacture of volume products.

Under these conditions, a feasible approach to goal setting for industrial development is to select particularly promising industries and concentrate resources on their promotion. By concentrating development efforts on these selected industries, it becomes possible to develop industrial strength quickly and acquire leading industries possessing international competitiveness within a relatively short period of time. In reality, however, Jordan does not have industries that have a comparative advantage over those in other countries. While the Jordanian medical service industry leads the region, related industries such as production of medical equipment are not now internationally competitive. A similar situation is observed in the pharmaceutical field. In the field of chemical fertilizer, the country cannot be a major producing area as evaluated from availability of raw materials. In conclusion, the strategic option of concentrating investment in these industries entails a great risk that is prohibitively high compared to the expected return. There may be other prospective industries, but a similar risk cannot be denied. The strategic option fails to overcome the country's disadvantages related to the small domestic market and the need for finding profitable export markets.

It is therefore recommended for Jordanian industries to start by using a grass roots, bottom-up approach; to find niches from industries at large and help manufacturers who can excel in niches with some competitive edges, such as quality, efficiency, precision, design or service. As niche manufacturers and other business establishments emerge and

prosper, they form a spawning ground for new industries.

Once the new industries reach critical mass, resources may be diverted to them for further development, including the buildup of an internationally competitive industry or the establishment of a center of excellence in terms of design, technology or other aspects.

## 1.2 Goal and Strategic Thrusts for Strengthening of Management Capabilities

#### Goals for strengthening of management capability

To help manufacturers make their companies grow and develop, in line with the strategic direction of industrial development in the country, the following goals are set for strengthening of management capability.

1) Management capability to identify the market requirements accurately and develop a product or service that satisfies those requirements.
2) Management capability related to the manufacture of the product(s) that meet the market requirements as well as maintenance of product performance and quality on a continuous basis, including service capability, that is, fulfillment.

#### Strategic themes for management capability development

To accomplish the above goals within a short period of time, the following strategic themes are set:

(1) Establishment and promotion of originality and identify for Jordanian products ("**Creative Jordan**")
(2) Promotion of quality control as part of efforts to develop excellent manufacturing industries ("**Quality Jordan**")

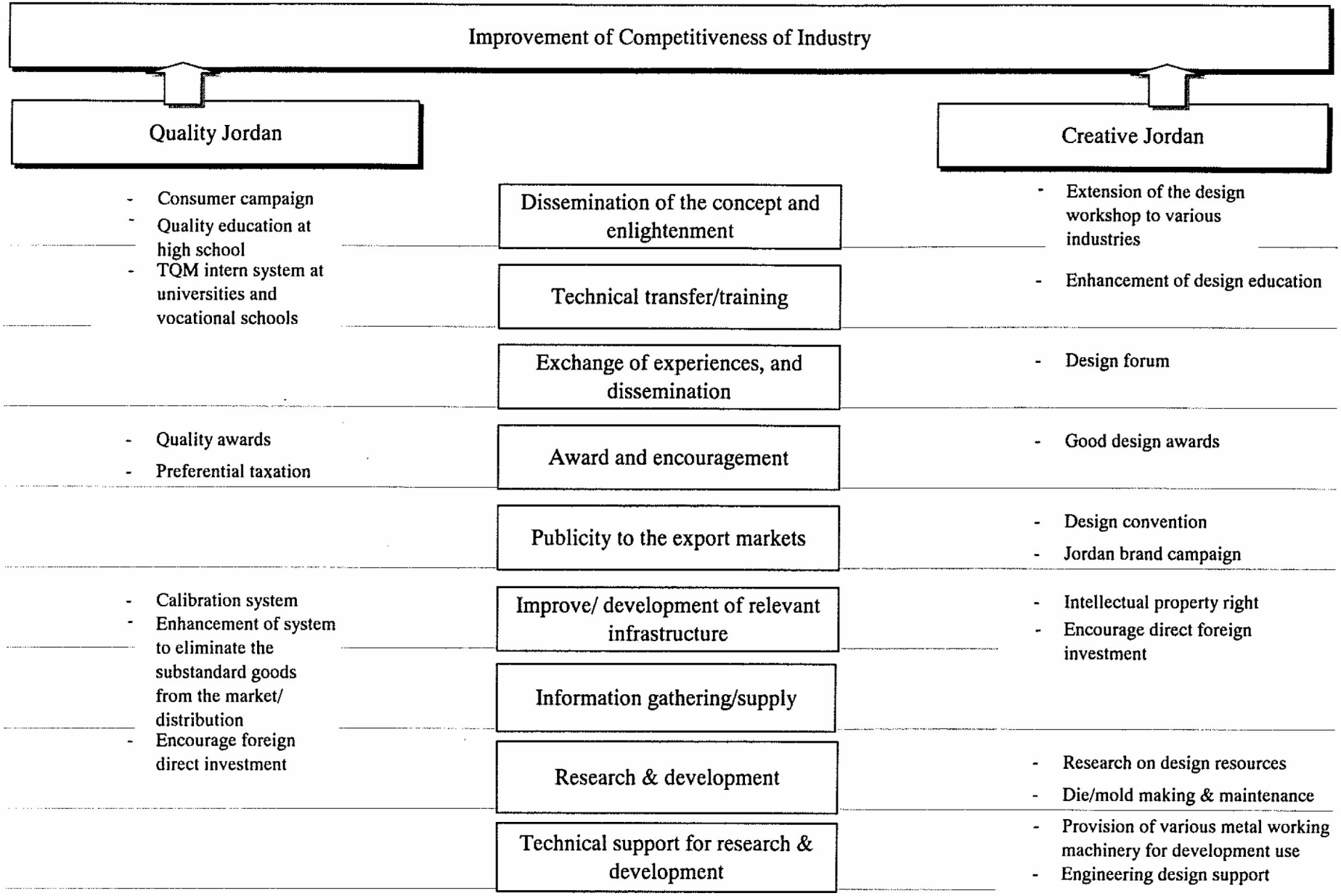
Under these strategic themes, various initiatives will be made to raise awareness levels in related sectors, encourage their participation in the work at hand, develop infrastructure, and launch field activities. The master plan should be designed to ensure that the ongoing and future programs are strategically implemented in line with the strategic themes.

The following activities should be developed under each strategic theme (See Figure 1 for detail):

***Creative Jordan***

To promote the techniques that develop originality by identifying the customer requirements on the basis of market studies and translating them to actual product development. The primary focus should be placed on design promotion. At the same

**Figure 1 Strategic Thrusts and Activities for Building up the Enterprise Management Capability**



time, R&D projects will be carried out as required, plus develop a system for support and assistance for individual enterprises related to R&D. At the same time, joint efforts will be made by the public and private sectors to create and promote a common identity for Jordanian products.

1) Dissemination of basic concepts and education

To promote understanding of the design process and marketing techniques (benefits) through the workshop and introduction of successful cases.

2) Technology transfer and human resource development

To provide a venue and opportunity for enterprise management and middle administration staff to aware of the effectiveness of "Creative Jordan", and learn about the significance and method of design process. To upgrade design education at colleges and universities for development of future design resources.

3) Exchange of ideas and experience

To provide opportunities for information exchange on design improvement and market study work, including a forum for research on Jordan identity for the country and its industries. With such opportunity, promote learning of the method of business development each other, and encourage joint undertakings among the participated enterprises.

4) Awards and commendations as added incentives

To praise good designs and original products publicly and introduce them to overseas markets, encouraging the participation to the program of "Creative Jordan".

5) Advertisement in export markets

To support the efforts of enterprises in export marketing, promote identity for Jordanian companies and products to export markets, including the sponsoring of international conferences.

6) Infrastructure development

To establish intellectual property rights and a legal system, which is the prerequisite for design promotion.

7) Collection and provision of information

To collect and disseminate market information as well as business information.

8) Research and development

To develop the system for R&D activities to translate the market needs to products, including research associations among the Government, industry, and academe. It should also include the development of a system to encourage introduction of advanced or key technologies. The system should attach the function of transfer of R&D output to industries

9) R&D support

To provide knowledge and equipment for individual enterprises that require research and development, including transfer of R&D techniques and skills.

***Quality Jordan***

To help manufacturing industries that are capable of supporting the "Creative Jordan" by focusing on promotion of quality control, with the ultimate goal of ensuring high product quality and efficient management.

1) Dissemination of basic concepts and education

To promote understanding of the difference between quality control and inspection, and major benefits of quality control in different fields, together with public education to teach consumers that high quality products eventually benefit them.

2) Technology transfer

To support implementation of quality control at the level of the shop floor, including education of college students and VTC trainees concerning the fundamentals of quality control and actual quality control techniques.

3) Exchange of ideas and experience

To exchange experience in quality control and learn from each other for better methods and practice.

4) Awards and commendations as additional incentives

To recognize manufacturers who perform excellent quality control practice in order to let them known to the market and encourage other companies to initiate quality control.

5) Advertisement in export markets

To certify manufacturers who participate in Quality Jordan to their customers, and advertise their eagerness to quality to overseas markets, promoting the participating enterprises to take advantage of their participation.

6) Infrastructure development

To provide testing equipment and service required for quality control, including the development and upgrading of the industrial calibration system.

## 1.3 Examination of the Organizational Setup for Implementation of the Plan for Strengthening of Management Capabilities

### 1.3.1 Functional Requirements for the Promotion System

Based on the analysis of the major issues identified in relation to planning and implementation of programs to upgrade management capabilities of domestic manufacturers, the promotion system contemplated in this study must meet the following requirements:

1) It must have the ability to establish a strategic direction of promotional activities and concentrate resources on achievement of the strategic goal.
2) Its implementation body (leading organization) must be capable of managing promotional programs in an efficient and effective manner, without losing creative and innovative initiatives
3) Programs supporting the target industries should meet the requirements of industry, particularly regarding the improvement of international competitiveness.

To meet the above requirements, the following functions need to be incorporated into the promotion system.

(1) A function to establish the strategic direction of programs, monitor the progress of programs again the strategic direction, and see to it that they are implemented toward their common goal in a balanced manner (decision making and steering function)

(2) A function to implement individual programs efficiently, without losing creative and innovative initiatives (program implementation function)

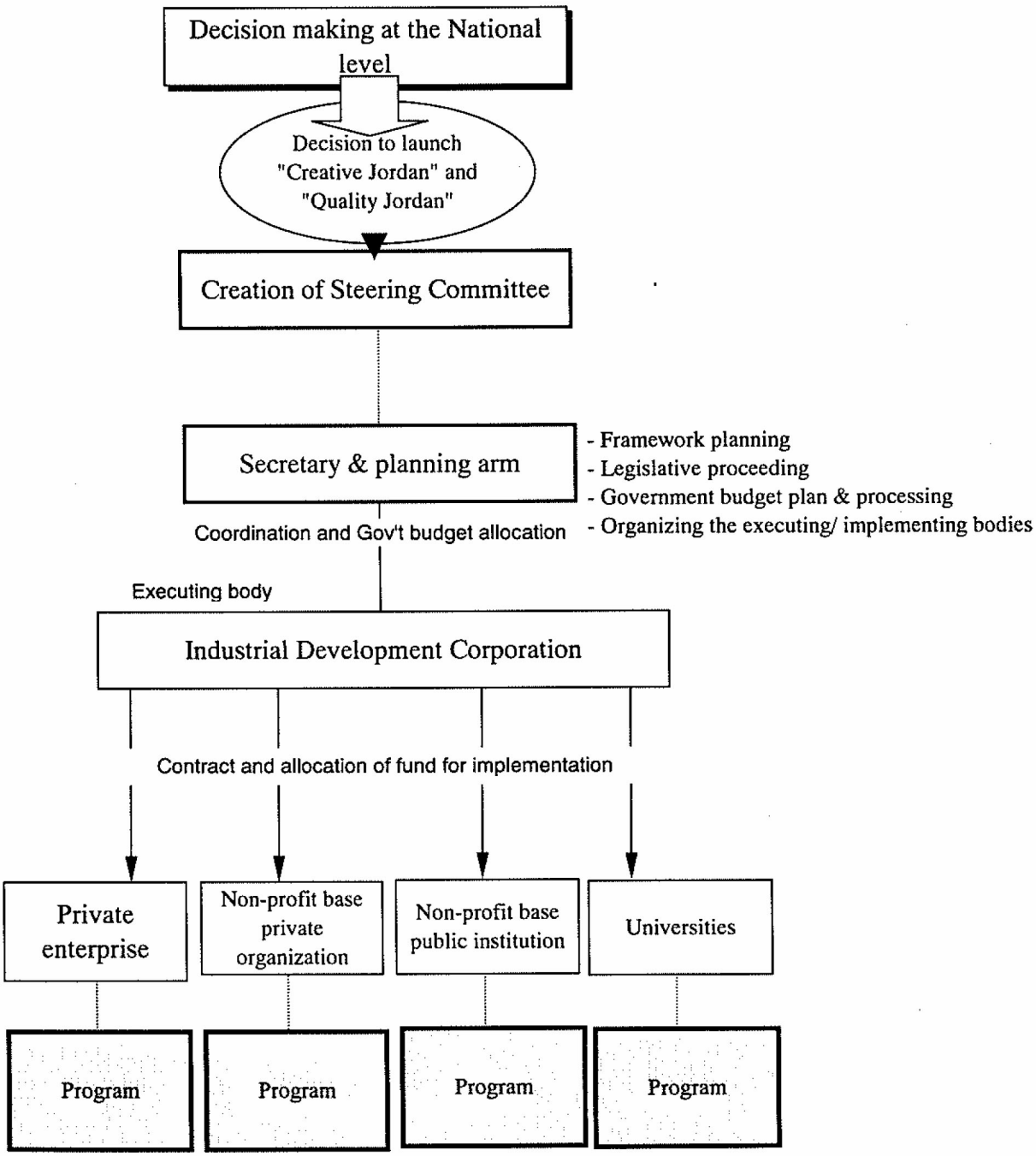
(3) A function to reconcile the above two functions to deploy the strategic direction to actual programs, while securing resources and tools (including the legal and other systems) required for program implementation (intermediate coordination function)

### 1.3.2 Recommended Organizational Setup for Implementation

The following organizational setup is recommended for the plan implementation (see Figure 2):

1) The Secretariat for Implementation of Programs to Upgrade Enterprise Management Capabilities (referred to as the “Secretariat”);

**Figure 2 Conceptual Chart of Organizational Setup for Program Implementation**



2) The steering committee to set the direction of the secretariat's activities and support them from the highest level of the hierarchy; and
3) Industrial Development Corporation responsible for implementation of actual programs to independent organizations or private firms that have planning and implementation capabilities.

Individual programs will be operated and managed by various organizations under contract from the Corporation, including technical institutes (e.g., RSS, JISM), industrial development/export promotion organizations (JIB, JEDC), trade associations, consulting firms, universities and VTCs.

At the program implementation phase, the national decision on launch of the program should be announced by the state Minister for economic affairs. Within the framework, basic policy will be established and the steering committee including competent ministers will be formed to ensure that the government will be able to take appropriate action in response to the changing conditions.

The secretariat of the steering committee will be established to set basic policy for upgrading of management capabilities and will support, on the behalf of the government, the startup and management of the Industrial Development Corporation. Also, it will initiate legislative procedures for related projects as required. It should be noted, however, that the secretariat would not be directly responsible for planning and implementation of actual programs.

The Industrial Development Corporation will be primarily funded by related organizations that are involved in industrial promotion and development of science and technology. It will be managed by a board of directors chaired by a representative of the leading agency and represented by the funding organizations and trade organizations to allow industry's opinions to be reflected in its activities.

As for the support programs to be conducted by foreign donors, request should be made to implement them through the Corporation, if they are associated with industrial development.

## 1.4 Implementation Steps

The implementation steps are proposed to be as follows.

- **Phase 1 (immediate)**: To promote understanding of individual enterprises about the need for reinforcement of management capability, and to encourage their participation in the program; to provide opportunities for information change between manufacturers who feel the need for business expansion or support from others having different experience; thereby to promote mutual support between manufacturers.
- **Phase 2 (short- and medium-term):** To continue to provide a forum for information exchange, and to reinforce and upgrade the organization, the institution and facilities to support the improvement of corporate management.
- **Phase 3 (long-term):** To encourage voluntary activities of private enterprises, not depending on the government's support programs, such as implementation of projects to solve problems jointly. (The government serves as a catalyst for joint efforts)

# 2 Action Plan

## 2.1 Phase 1 (Immediate Actions)

**Target of actions**

- To demonstrate the importance of management capability and its improvement by showing examples, and encourage individual enterprises to participate in various programs.
- To establish the institutional setup for project implementation within policy making departments, and establish the Corporation that serves as the implementation body for individual actions.
- To provide the place of information exchange for private enterprises which are interested in activities related to the strengthening of management capability.

**State Minister of Economic Affairs**

- To decide on a national commitment, to designate a Government agency or organization as the Secretariat agency, and appoint the steering committee.

**Actions by the Secretariat agency**

(1) Institutional setup within the agency
(2) Formulation of policy for Phase 1 activities and approval by the steering committee (with concurrence by the ministries and organizations concerned)
(3) Establishment of the executing organization (Industrial Development Corporation)

**Actions by the executing agency (Industrial Development Corporation)**

(1) Establishment of activity base (organization, staffing, and rules and procedures) (for detail, see Article 1, Attachment)
(2) Establishment of the implementation plan for Phase 1 and approval by the Board of Directors, and the Secretariat agency
(3) Implementation of approved projects
    - Creative Jordan design workshop project
    - Quality Jordan technical/management advisor dispatching project
    - Technical and market information exchange forum

**Programs and Projects**

(1) **"Creative Jordan" Design Workshop Project**

Design workshops (practical training for product development) will be held for selected industries and geographical areas. The coverage will be expanded gradually to disseminate basic techniques for implementation of the design process to a variety of industries and promote a broader understanding of design techniques and their effectiveness in industrial promotion.

Each workshop will be managed by a special committee that will be established for each industry or geographical area selected for the purpose and organized by representatives of trade organizations and individual firms. The committee will recruit participants and support the workshop operation and management.

- Possible candidate industries include plastics household goods, other household merchandize, packaging, and furniture, etc. The Corporation will solicit proposals from the respective industry or area and will decide on the topics.

In the future, the design workshop will be incorporated into the management training system (discussed later in the Phase actions) to provide continuous learning opportunities.

(2) **"Quality Jordan" technical/management adviser dispatching project**

Technical (management) advisers will be sent to individual firms upon request to provide technical guidance in selected fields (including production management and business administration), which will be determined on the basis of the questionnaire survey to be conducted by the chamber of industry or other organizations.

- Possible candidate areas include production techniques such as welding, repairing of dies and molds, and plastics molding, production management including quality control and drawing management, and business management including use of IT and cost analysis, with an aim to improve quality of products and management.

Initially, the number of programs (i.e., the number of firms) covered by foreign advisers is to be limited. Then, domestic advisers will be trained from among the engineers and other experts so as to establish a permanent system for supplying technical advisers on a continuous basis.

(3) **Technical and market information exchange project**

The project will provide a forum for exchange among firms in different fields, through which each participant is exposed to management resources, including technology and market, and will develop creativity.

The project is outlined as follows:

- Recruitment and selection of participants: Participants will be recruited through the chamber of industry or other organizations. Owners or managers who understand the intent of the project and are willing to participate in it will be selected. They will be put into groups of 10–30, representing different industries as far as possible.
- Appointment of advisers: Advisers who have sufficient knowledge and experience in technology- and market-related problems facing SMEs will be appointed to provide advice to the forum.

## 2.2 Phase 2 (Short- and Medium-Term Actions)

**Target of Actions**

- Continuation of the forum for information exchange
- Implementation of related projects
- Upgrading of the support system and facilities

**Actions by the Secretariat agency**

(1) Formulation of policy for Phase 2 activities and approval by the steering committee (under the agreement with ministries and organizations concerned)
(2) Issuance of the notice to proceed to the implementation body (Industrial Development Corporation) under the approved policy
(3) Promotion of the following projects

**Actions by the executing agency (Industrial Development Corporation)**

(1) Formulation of the activity plan in Phase 2
(2) Implementation of the approved projects entrusting to the qualified implementation bodies
    - Design Forum
    - Project to support establishment of the Design Council
    - Support program for the Design Development Organizations
    - Jordan-brand development project
    - “Excellent Design” Award Program
    - Management Training System
    - Project to encourage establishment of Pioneer Technology Enterprises to introduce advanced technologies, or to acquire the key technologies

**Programs and Projects**

(1) **Design Forum**

In Jordan, design professionals are not fully utilized partly because there is no communication channel among designers, design educators and users. This project is designed to hold a forum where the participants are suppliers and users of design products and services. The immediate purpose is to provide an opportunity for them to exchange their views and ideas related to use of design in the product development process. The forum is expected to serve as a core organization that leads activities intended to meet various issues related to design promotion in the future.

The project is outlined as follows:

- Recruitment and selection of participants: Invitation to the Design Forum will be announced at universities, design firms, the chamber of industry, and other organizations.
- Appointment of technical advisers: Designers and other persons who are recognized to have sufficient knowledge and experience in design promotion will be hired as advisers and provide professional advice at the forum. If possible, reputed foreign designers will be invited.

Major topics to be discussed at the Design Forum will include the following:

1) Introduction of the design process;
2) Design education;
3) Design protection;
4) International exchange in the design and related fields;
5) Actual cases of design development carried out (or planned) by participating firms; and
6) Lectures and workshops led by outside instructors

(2) **Project to support establishment of the Design Council**

In Jordan where there are no governmental or other organizations spearheading design promotion, a core organization is first required to collect opinions of related parties and lead design promotion activities that reflect such opinions. The core organization is also required to represent and communicate opinions of the design community to a government organization that would be established in the future to develop design promotion policies and programs.

- The Design Council will be established as follows. Based on the results of discussion by participants of the Design Forum, Design Council will be organized

by representatives of the design industry, universities, corporate design users, related government bodies (MIT and MOE), and HCST.

- The Design Council will be responsible for discussing and developing design promotion policies and programs in Jordan, which will be implemented by various organizations representing the design community (including users) or in the form of programs planned and implemented by the Industrial Development Corporation. Also, it will confer on possible support activities for Design Development Organization and Jordan Brand Committee.

### (3) Support Program for the Design Development Organization

The program is designed to provide support for the Design Development Organization that will promote development and exports of product groups that represent specific industries and geographical areas, with the aim of creating originality in design and improving the general image of Jordanian products. The program will fully support the organization's activities.

Program description

The program will provide support for the Design Development Organization (DDO, a private organization) in the following areas:

- Exemption of corporate tax for seven years for the DDO
- Provision of soft loans to cover expenditures of the DDO in the initial startup stage, which can be recouped from business revenues in the future
- Technical support during the startup period (sending of advisers)

(Details of support to be provided under the program are discussed in "Concept of Design Development Organization.")

Concept of Design Development Organization

The Design Development Organization will provide focused support for a group of export industries who operate in a specific area (or those having export potential) or a group of manufacturers that supply distinctive products suitable for exports by assisting them in implementing the design process, so that they can develop products that leverage market potential and domestic characteristics, obtain non-price competitiveness through exploration of niche markets, and increase value added in their production. The organization will be established under participation of private enterprises.

It will be operated as a private enterprise funded by a large number of companies and will invite designers to propose product designs and market development plans for selected products by using their expertise and experience in target markets. The organization will

select prospective proposals and will work with their designers for the development of detailed concept, operationalization of ideas, market study, design work and prototype production.

The organization will evaluate the outcome of the above process and invite private enterprises to participate in a project that commercialize the selected product design. It will provide support for commercialization and conduct sales promotion activities as entrusted by the company that commercializes and sells the product. It will also be responsible for design management, quality control and delivery management. In this connection, the organization will ask the designer to make proposals for sales promotion activities and provide technical support.

The Design Development Organization will promote participation of the foreign enterprises to the Organization.

(4) **Jordan Brand Development Project**

The committee will be established to introduce Jordanian products to export markets and conduct activities to improve the reputation of Jordanian products in the international market.

The committee will be organized by representatives of related ministries and organizations, including the MIT, the Ministry of Tourism, the chamber of commerce and industry, and the Industrial Development Bank. Actual operation of the committee will be entrusted to an outside organization selected through open competition. Its activities will be conducted under participation of designers who will be appointed in the selection process, where domestic and foreign designers will be invited to make their proposals.

While details of activities are similar to those of the Design Development Organization, the committee will be a public organization. Nevertheless, if any commercialization project arises, participating companies will be selected through open competition and the project will be carried out as a commercial venture.

(5) **"Excellent Design" Award Program**

To promote design so that industries can develop original products and use sophisticated design, efforts should be made to create an opportunity to see good design and conceive creative ideas. Once the opportunity is provided, the design community can step up to a higher level.

To achieve the objective, the program will proceed as follows:

1) Excellent designs of Jordanian products on the market will be selected and so recognized with awards. Then, the designs will be published, displayed or promoted in the export market.

2) Design competitions will be held, including those for design students prior to graduation, to raise public recognition on design and its value.
3) It should be noted that the excellent designs and award-winning designs in competitions will be selected by juries that include foreign designers in order to reflect international design standards in the evaluation process, i.e., a design that appeals to the export market should be selected, rather than the one that is refined or sophisticated from domestic standards.

(6) **Management Training System**

A formal education program for business owners and managers will be established to develop creative and advanced management capabilities. In particular, the program will aim to help improve international competitiveness of individual enterprises in line with the objectives of "Creative Jordan" and "Quality Jordan" projects. To ensure high quality of training, foreign instructors should be hired to teach subjects for which domestic instructors are difficult to find. One solution is to enter into an alliance with a foreign organization reputed for good management education in order to secure technical support.

In the future, distance education may be introduced using the Internet.

(7) **Project to encourage establishment of Pioneer Technology Enterprises to introduce advanced technologies, or to acquire the key technologies**

Implementation of competitive production technology starts from imports of the latest technologies available in foreign countries. As imported technologies are mastered, with some localization efforts to optimize them for domestic conditions, they establish themselves as technical know-how. Then, efforts should be continued to upgrade technical know-how by introducing and modifying new technologies. Pioneer technology enterprises will be established to develop technical know-how in selected areas by introducing: 1) leading-edge technologies which adoption serves as a springboard for technological development in various fields, and 2) key technologies[1] that essential for other industries and their viability. These technologies will then be utilized broadly by various industries and will take root as technical know-how.

[1] For instance, die making and repairing, precision machining, and machine repair, which have not emerged as industries or have declined due to the low level of domestic demand, are considered as key industrial technologies. Also, the pioneer technology enterprise should be involved in imports of raw materials on behalf of SMEs that are usually placed in a weak bargaining position.

The project to encourage the establishment will be as follows:

- Selection and evaluation of pioneer technology will be carried out by foreign experts, who will be hired by the HCST, or through special research and study. The special research and study will be undertaken by the Industrial Development Corporation, through outsourcing. The candidate outsourcing organizations include RSS, universities, and consulting firms.
- The enterprise will be funded through public offering and subscription and any deficit in working capital will be contributed by the government or the Industrial Development Bank. If possible, a foreign partner who licenses use of technology will be authorized to have equity participation.
- The government will provide the following incentives to the pioneer enterprise for the purpose of promoting its growth within a short period of time:
  - Application of currently available most preferential incentives (regardless of geographical area)
  - Exemption from corporate tax
  - Incentives for technology licensing and foreign investment

## 2.3 Third Phase (Long-term) Action

In the third phase, actions taken in the previous phases will be reviewed. Government activities will be limited to those not fully covered by the private sector (including universities). Public support is expected to play a catalytic role during the phase.

As for ongoing programs, such as the Management Training System, and the Technical/ Management Advisor Dispatching Program, know-how related to their operation and management will be transferred to universities and private consultants to encourage autonomous management.

The Industrial Development Corporation will be reassessed in terms of function, size and other aspects.

## 2.4 Input Requirement

Following is the rough estimated input requirements by project.

The total annual requirement covering the projects/ programs to be conducted in the First Phase, is estimated to be US$72,000, approximately. In addition, 18.5M/M equivalent of the costs for outsourcing advisors, instructors, 16.5M/M equivalent for the coordinators of the implementation body, and 19M/M equivalent for hiring the designers

and advisors abroad, are required.

The required number of the staff of the Industrial Development Corporation will be two (a staff and a manager), excluding the staff supporting them.

The total annual requirement covering all the projects/ programs contained in the proposed action plan, is estimated to be US$230,000, approximately. In addition, 65M/M equivalent of the costs for outsourcing advisors, instructors, 84.5M/M equivalent for the coordinators of the implementation body, and 33M/M equivalent for hiring the designers and advisors abroad, are required.

The required number of the staff of the Industrial Development Corporation will be 5 (4 staff and a manager), excluding the staff supporting them.

# Part I: Outline of the Study

# 1 Objective and Scope of the Study

## 1.1 Objective of the Study

The Study is to be conducted in such a way that it will have a close linkage with the on-going Jordan-Japan Industrial Development Cooperation program.

The objective of the Study is to improve the competitiveness of Jordan's manufacturing sector through enhancement of enterprise management capability, and includes the following:

1) Formulation of a master plan with action plans for strengthening enterprise management capability in the Hashemite Kingdom of Jordan, with a view towards increasing the international competitiveness of Jordanian manufacturing industry
2) Transfer to Jordanian counterparts of expertise on diagnostic study and management consulting methods
3) Enhance the awareness of Jordanian enterprises of the nature and importance of management capability, with special emphasis on marketing and industrial design

## 1.2 Scope of the Study

The scope of the Study, which has been agreed with the Government of Jordan, is as follows:

1. Diagnostic studies
   1-1 Review of the performances of the selected sub-sectors
   1-2 Selection of the representative enterprises for diagnosis
   1-3 Diagnostic studies for representative enterprises
   1-4 Recommendations for improvement of competitiveness
   1-5 Guidance in implementing the recommendations
   1-6 Compilation of reference manuals and study reports

2. Case Study in a workshop
   2-1 Selection of specific products for a case study, based on the results of diagnostic studies
   2-2 Conducting a workshop with special emphasis on marketing and industrial design
   2-3 Compilation of major findings of the case study

3. Formulation of a master plan with action plans for strengthening enterprise management capability

3-1 Examination of the effectiveness of services and facilities available

3-2 Formulation of a set of policy recommendations on institutional support for enterprises

3-3 Formulation of specific and practical measures to be taken by individual companies for improvement of their management capability in terms of marketing and industrial design

3-4 Suggestions for policy measures for creating a better business environment

**Industrial sub-sectors to be covered by the Study**

The Study will focus on electric and electronics industry with related supporting engineering industries such as plastic molding and metal working, for in depth coverage.

These sub-sectors are the models for strengthening competitiveness of the manufacturing sector in Jordan, based on which the master plan will be developed. In other words, the master plan as well as the action plans to be formulated under this study will place their strategic focus on straightening of enterprise management capability in the manufacturing industry as a whole.

# 2 Outline of Study and Organization of the Report

## 2.1 Outline of the Study

The present study conducted a series of works that consisted of the following key items, obtained data and information required for the development of the master plan, and prepared the master plan.

1) Upgrading of production management skills and engineering technology;
2) Upgrading of management capabilities related to marketing; and
3) Upgrading of management capabilities related to industrial design development.

These works were primarily conducted through the following programs that were part of the study: (1) Marketing Study Program; (2) Industrial Design Development Workshop; (3) Enterprise Diagnosis Program; and enterprise surveys conducted as the preparation stage for the above programs. The program focused on the following activities:

1) Obtaining an understanding of the current state of affairs
2) Providing corporate diagnosis and guidance for individual enterprises that participated in the program
3) Transferring technology to the counterparts (knowledge and techniques related to enterprise diagnosis and guidance)

In addition, two seminars and two workshops were held for each program, to introduce it to those directly involved, to summarize the results, and/or to communicate success stories to other companies.

Overall, each program was highly effective in that it enabled the study personnel including the Jordanian counterparts to obtain an in-depth understanding of present management capabilities of typical manufacturers and their limitations and constraints, which cannot be gleaned from standard interviews and commonly used types of surveys. Also, the programs played a vital role in obtaining information required to verify effectiveness of programs that are essential in developing a plan for fostering of management capabilities as well as to design an organization to implement the plan.

Finally, the study team believes that the present study served as an important step forward for upgrading of enterprise management capabilities because a number of private enterprises, which participated in various programs and seminars, have became aware of the need for improving their management capabilities.

The general flow of the key activities conducted under the study (programs, workshops and seminars) is shown in Figure SI-1. Each program is described in detail in the Annex of this report.

## 2.2 Organization of the Report

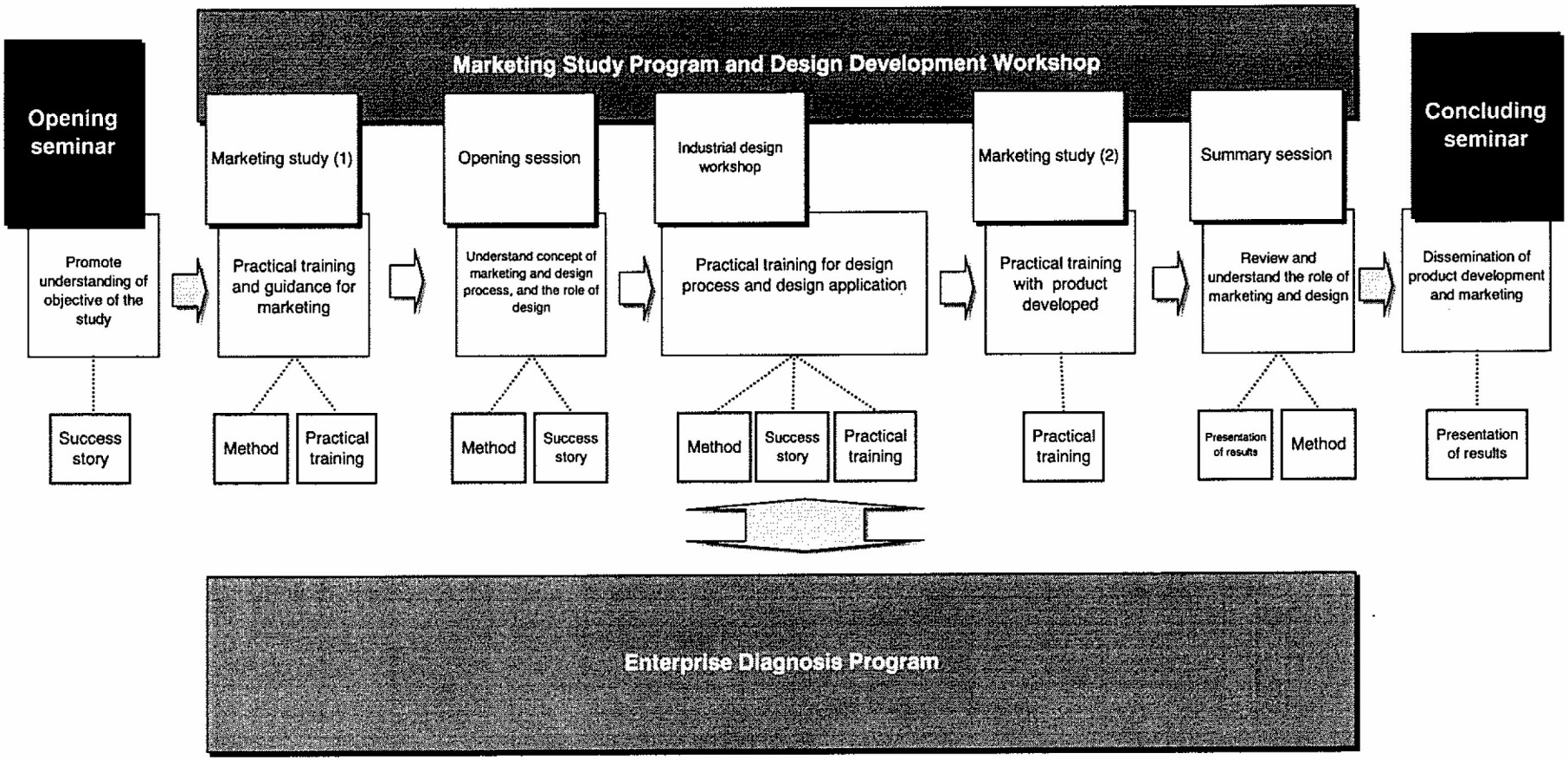
The draft final report discusses the results of the study in all aspects, including items covered in the progress and interim reports that were produced during the study.

The report consists of two volumes, "Executive Summary" and "Main Report."

The Main Report is made up of three parts, "Outline of the Study," "Current State and Issues of Enterprise Management in the Manufacturing Sector in Jordan," "Conclusion and Recommendations" and Annex. "Outline of the Study" describes the objective and scope of the study and an outline of implementation. "Current State and Issues of Enterprise Management in the Manufacturing Sector in Jordan" analyzes factors affecting enterprise management, and identifies and analyzes the current state of management and major issues. Finally, "Conclusion and Recommendations" proposes a strategic direction for upgrading of management capabilities from the industrial development viewpoint, together with a systematic approach including an institutional setup for upgrading of management capabilities, followed by implementation strategy. Then, recommendations contain a master plan for upgrading of management capabilities, which has been translated into an action plan consisting of definite activities to achieve the goal.

The Annex contains detailed reports on the Marketing Study Program, Industrial Design Development Workshop and Enterprise Diagnosis Program, and presents major findings from each program. They are designed to serve as important reference documents for the Jordanian counterparts to consult when they implement similar programs in the future.

**Figure SI - 1 Flow of the Marketing Study Program, Design Development Workshop, and Enterprise Diagnosis Program**



# Part II: Present Status and Issues on Enterprise Management in the Manufacturing Sector in Jordan

# 1 Economy and Manufacturing Industry in Jordan

## 1.1 Manufacturing Sector in the Jordanian Economy

#### Direction of economic policy

The government has been pursuing an open-market policy as the core of its economic policy since early times. It has favored liberalization of trade, labor mobility and capital transfers, and has taken a positive attitude toward freedom in engaging in business activities and toward promotion of private investment.

During the late 1980s, Jordan faced a series of economic crises, including several rounds of currency devaluation, negative economic growth, high inflation, high unemployment rates, burgeoning foreign debt, and depletion of foreign currency reserves. Then, the Gulf War in 1990-91 deprived Jordan of its major export market, Iraq.

To surmount the crises, Jordan initiated economic reforms, collectively entitled "Economic Adjustment Program," with assistance by the IMF and the World Bank. In fact, the program still provides the strategic direction of the country's ongoing economic reforms.

The Economic Adjustment Program consists of the following three items[1].

(1) Legal reforms

The legal reforms focuses on tax law (income and sales taxes), the investment promotion law, the customs duties law, and corporate law. The reforms primarily cover incentives and privileges for investment promotion, statutory confirmation of rights of foreign investors, and liberalization of use of foreign currencies.

(2) International integration

While having the objective of developing the international market through the improvement of the competitiveness and efficiency of Jordanian companies, present initiatives are limited to market opening through bilateral or multilateral agreements. In addition to agreements with Arabic countries, Jordan signed a free trade agreement with the EU in 1997 and with the WTO in 1999. A similar agreement with the U.S. has reached basic understanding.

[1] Ministry of Planning, "Economic Overview, 2000"

(3) Privatization

Privatization of state enterprises is underway with the primary aim of reducing direct involvement of the government in the economy.

**Manufacturing sector in the Jordanian economy**

The composition of the GDP in the recent few years is presented below.

| | 1995 | 1997 | 1999 |
|---|---|---|---|
| Agriculture | 6.0 | 5.3 | 4.5 |
| Mining | 3.0 | 3.1 | 3.0 |
| Manufacturing | 14.8 | 13.7 | 13.9 |
| Electricity/water | 3.6 | 3.9 | 4.0 |
| Construction | 8.5 | 6.9 | 5.7 |
| Transportation/communication | 14.3 | 15.2 | 17.9 |
| Other[2] | 49.8 | 51.9 | 51.0 |
| Total | 100.0 | 100.0 | 100.0 |

Source: Department of Statistics

The government of Jordan has been cognizant of the importance of the manufacturing sector and its role in economic development, and has been implementing a variety of infrastructure projects to support industrialization. As a result, the manufacturing sector, which stagnated in the 1960s, grew substantially in the early 1970s and gained GDP share. The sector slowed down again in the 1980s, and the government made a legal reform to promote investment in the manufacturing sector. As a result, its GDP share increased to the highest level of 15% in 1995. However, it experienced a setback again and share fell back to 14% in 1999.

## 1.2 Structural Characteristics of the Manufacturing Sector

The manufacturing sector in Jordan is dominated by three industries; chemicals, that accounts for 24% of the total (pharmaceuticals, 4%; phosphoric acid and chemical fertilizer have most of the remaining share), food and beverages 21%, and petroleum refining 18%. Other industries account for a combined total of less than 37%. This industrial structure partly explains why the country's industrial sector is unable to maintain steady, balanced growth.

[2] The service sector including commerce, hotels and restaurants, finance, real estate and government service.

The lack of inter-industrial linkage, as a result of dominance of several industries, obliges each industry to import raw materials and parts and assemble them into final products (mainly consumer goods) that are destined to both domestic and export markets. In fact, imports account for an estimated 51.3% (value basis) of raw materials and parts used by the entire manufacturing sector[3].

At present, about two-thirds of industrial products are consumed within the country and the remaining one-third is exported[4]. The manufacturing sector contributes greatly to the country's exports, accounting for 90% of the total in 1999 (including mining products).

More than 40% of total exports go to the Middle East countries (Arabic countries), while exports to the EU and the U.S. represent only 6% and 1%, respectively. Among the Middle East countries, Saudi Arabia is the largest importer, followed by Iraq and the UAE.

[3] R.S.S., "Jordanian products competitiveness and means of enhancement", (1997)

[4] Mr. Ahmed El-Saadi, Amman Chamber of Industry, "Brief on Jordan's Economy & Industry" (June 2000)

Major export items in the industrial sector are shown below.

| | Value of exports (million JD) |
|---|---|
| Phosphate, Potash and Fertilizers | 467 |
| Pharmaceutical Products | 141 |
| Detergent and Soap | 45 |
| Vegetable Oil | 59 |
| Cement | 25 |
| Clothes | 48 |
| Textiles | 34 |
| Transportation Machines & Equipment | 97 |
| Paper & Cardboard | 45 |
| Plastic Products | 14 |
| Sub-total | 975 |
| Total industrial products | 1,294 |
| Total export | 1,434 |

Source: Mr. Ahmed El-Saadi, Amman Chamber of Industry,
"Brief on Jordan's Economy & Industry" (June 2000)

The manufacturing sector employs approximately 99,800 persons (1994-98 average), of which 31,900 are in the engineering and construction materials industry, 18,200 in the food industry, and 17,500 in the chemical industry. Textile and apparel industries, which are labor intensive, employ 11,600 persons.

Medium or small enterprises dominate the business sector (approximately 96% of all establishments, totaling 14,000 in number), and many are engaged in production of consumer goods and handicraft products. The majority (7,000 establishments) are located in Amman Governorate.

## 1.3 Home Appliance Manufacturers in Jordan

Accurate data that depicts the current state of home appliance manufacturers in the country does not exist. A list compiled by the MIT has 58 companies, but includes manufacturers of air-conditioners and cooler units for business use, of switch board, of transformers, and computer assemblers, etc. The list also includes some enterprises that have closed. Further, it was not possible to confirm that the list covers the entire industrial sector. According to the information available for this study, including the results obtained from the enterprise overview survey, the home appliance manufacturers in Jordan are estimated to number slightly more than 20. The major ones manufacture air-conditioners and cooler units, and are estimated to number 15, while the category for "others" includes three that make freezers and refrigerators, three that make TV sets, two that make telephone sets, and four that make washing machines (including double counting owing to some companies making more than one type of product). The washing machine manufacturers include three that produce small type washing machines.

Most manufacturers started out as importers and many sell foreign products in addition to manufacturing their own.

At present, foreign companies have not invested in home appliance production. Also, there are no Jordanian manufacturers receiving full-scale technical assistance from foreign sources. They only purchase parts and dies and have little manufacturing know-how of their own.

Production capacity is low, at around 10,000 units per year, compared to 3 million by manufacturers operating globally.

Local products have a relatively small share of the domestic market, ranging between 20% and 40%, depending on type of product.

# 2 Present Status and Issues on Production Technology and Production Management Capabilities and Major Issues

## 2.1 General

The domestic market is very small. Availability of raw materials for industrial production is limited, necessitating the high level of dependence on imported materials. Similarly, labor supply are not very abundant, and as major consumer goods must be imported, labor costs do not constitute an offsetting competitive advantage.

Clearly, it is very difficult for the country to compete in products that are manufactured in volume, because there are many countries that are supported by much larger domestic markets and enjoy a labor cost advantage due to ample supply of workers. Similarly, the country cannot effectively compete in labor-intensive industries that primarily rely on abundant labor supply.

At present, however, many manufacturers in Jordan make products that are similar to mass-produced imports and/or provide services that are similar or inferior than foreign competitors. Inevitably, they have to compete with imports on price alone. In most markets, they face strong competition from imports and are overwhelmed by them.

In addition, the small domestic market makes it difficult for domestic manufacturers to quickly recoup their investment in new product development. The situation prevents them from introducing new products or changing product design frequently. As a result, their products are losing competitiveness against imports that are upgraded almost annually.

To compete in the market on price alone, domestic manufacturers inevitably resort to cost reduction, including costs of raw materials, parts and labor. However, they do not have the financial base needed to work at cost reduction from a long-term perspective and often sacrifice product quality or performance, causing further deterioration of their market position.

On the other hand, companies which achieve commercial success in Jordan provide products and services that are designed to meet customer needs. They compete in non-price factors, such as performance, workmanship, quality and service. Thus, most of them are characterized as manufacturers of diverse products in small lots, rather than volume producers.

Manufacturers in Jordan need to realize what their disadvantages are, i.e., the small

domestic market, lack of industrial materials, high costs of energy and other factors of production, and limited supply of low-cost labor. Then, they have to develop business strategies that address market requirements, and take into account their internal resources and constraints. This means, management capabilities that domestic manufacturers are expected to acquire are defined in operational terms as the ability to put business strategy into practice in the production process.

The present study conducted enterprise diagnoses on household appliance manufacturers, including makers of gas cookers and kerosene stoves, as well as plastics molding and processing companies. These manufacturers are essentially assemblers that import critical components, such as motors, cooling units and burners, and have their own metalworking and plastics molding processes. Metalworking operations are primarily press work, bending, coating and welding of sheet metal. Foundries are separately located and have still to make castings that are used for the above products. Plastics molding is mainly carried out by injection molding, except for the manufacture of plastic bags. Garden furniture (e.g., chairs and tables), pipes and plastic containers are made. Some shops make inner cases of refrigerators on a contract basis. Molds and dies (including a large number of second-hand ones) are mostly imported. Small shops that make parts on a contract basis use molds that are furnished by their customers.

Thus, metalworking and plastics processing carried out by domestic manufacturers seldom require advanced techniques. While many issues are related to engineering technology, production management seems to be an area where improvement efforts can be initiated with significant results.

## 2.2 Present Status of Management Capabilities of Local Manufacturers in the Production Area, and Major Issues

When production management capabilities of Jordanian manufacturers are evaluated from the standpoint of whether they have the ability to develop and execute business strategy that addresses market needs and take into account their internal resources and constraints, the following 6 areas emerge as major focal points:

### 2.2.1 Need for Fostering Product Development and Design Capabilities

To manage a manufacturing company in a manner that is responsive to the changing market requirements, that company must develop and introduce products according to its business strategy. Product development and design capabilities are essential for this.

Most manufacturers in Jordan, and particularly SMEs, do not have their own product design departments (including functional and structural design). They simply import components and parts that are mediocre in design and quality from foreign suppliers and assemble them into final products. Those who make parts in-house import old dies and molds. Few companies develop their own dies, or modify the ones they already have. As a result, they do not offer original products and fail to accumulate production technology of their own.

Production technology and know-how is accumulated through introduction, run-in (adaptation) and modification of new technology. In particular, dies and drawings embody production technology and form the basis of modification.

For Jordanian manufacturers who are exposed to the open market, however, the traditional learning process characterized by day-to-day efforts on the shop floor takes considerable time. Given the production system adopted by most domestic manufacturers (to import second-hand machinery and dies, followed by product development and modification based on old machinery or dies), the learning process alone cannot help them to attain international competitiveness required in today's marketplace within a relatively short period of time

As the study aims to develop the abilities of domestic manufacturers so as to make them internationally competitive companies within a limited period of time, there are two strategic options available, focusing on the upgrading of product development and design capabilities.

The first strategy is to obtain development and design capabilities quickly through joint ventures or a technical assistance (licensing) agreement with a foreign manufacturer that possesses such capabilities. This strategy must be preceded by direct foreign investment in Jordan.

The second strategy is to establish joint ventures by mobilizing resources from both the private and public sectors in order to serve as the centers of excellence in selected fields of technology. The joint ventures will develop and market new products by introducing and modifying advanced technologies. In the process, they will attain product development and design capabilities, including human resources. They are also expected to serve as incubators for entrepreneurs, including engineers, who may want to spin off from the joint ventures and start their own companies.

The joint ventures should preferably be specialized in the field of metallurgical

engineering, which forms the backbone of the manufacturing sector. In particular, they should be capable of supporting product development by manufacturers in general, including repairing and improvement of dies and molds, trial production of models, and small-lot machining, especially precision machining[5].

### 2.2.2 Need for Raising Quality Awareness and Promoting Understanding of Quality Control

Quality is one of the most important factors together with price and delivery on schedule to obtain customer satisfaction. Most Jordanian companies, however, do not fully realize the importance of quality control.

First of all, they believe that quality control is simply a matter of not shipping defective goods. So long as defective products are not shipped out, they do not consider occurrence of defects in the process of production to be problematic. In particular, they are happy about correcting defects by returning them to the process in order to make them marketable. They do not bother to find a cause for each defect.

Although manufacturers claim that defective products are not shipped to the market, defects are often found by distributors or end users. The defective rate of some products exceeds 10%. Furthermore, the warrant period for industrial products is relatively short in Jordan and complaints by consumers after the warranty period are not treated as resulting from product defects.

Another major issue related to quality control is the lack of effective and systematic defect control measures. The basic approach to this issue starts from collection of data on defects, circumstances and conditions related thereto. Also, it is important to use drawings as the yardstick to identify a cause for a defect and find a proper way of correcting it.

Also, there is the need for technology and materials that are less defect-prone. In particular, most SMEs in the country do not receive benefits from such technologies and materials as they have no access to information, e.g., reduction of scratches by use of plastics-covered steel plate and single coating/drying in the coating process.

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[5] Similarly, there are some more fields where Jordanian companies can establish competitiveness, including fields where demand in the country, Middle East and/or Central Asia is expected to expand in the future, and fields where Jordanian manufacturers have established a reputation in the region (e.g., pharmaceuticals and medical equipment). These fields are selected regardless of the fact the market size has not reached critical mass to allow scale of economies on the production side. They are expected to serve as core technology that can find broader applications in the future (e.g., chemical, measuring instrument and precision equipment).

### 2.2.3 Need for Improvement of Production Efficiency and Reduction of Wasteful Cost

As most manufacturers are facing fierce price competition in the market, they have high expectations toward effective cost reduction techniques.

Primary possibilities for achieving cost reduction by Jordanian manufacturers are twofold: (1) reduction of wasteful costs incurred by inappropriate machinery and work methods; and (2) reduction of excess inventory costs including products, raw materials and parts.

It should be noted, firstly, that some companies seem to incur excessive production costs by keeping production capacity that does not reflect actual sales. In particular, significant energy costs are wasted due to an improper use of equipment and inadequate work management as a result of a low capacity utilization rate.

Secondly, many factories waste time and materials due to improper uses of equipment, and to inadequate work methods. Such diseconomies primarily come from the lack of knowledge and experience in production management. The loss and waste can be reduced significantly by promoting an accurate understanding of production management, introducing the "4S" concept to minimize wastes, and conducting adequate quality control practice to prevent defects.

High inventory levels of products, raw materials and parts are commonly seen among Jordanian manufacturers, for two reasons. The first factor is the low operating rate. To compensate for this, many companies keep a higher level of production than actual sales require, and inevitably hold excessive inventory, thereby incurring additional capital costs. The second reason is the need for a considerable time for manufacturers to purchase raw materials and parts. Many companies buy them from exporters in Taiwan, Korea and Central Asia, who are not always reliable because of the long distances or the lack of reliability in supply capability. To minimize the risk of the shortage of materials, they are required to hold excessive stock of raw materials and parts.

Inventories can be reduced by implementing better production plans and inventory control. At the same time, there are some external factors that force manufacturers to build up inventory and are beyond their control. The improvement of industrial infrastructure and the streamlining of public service, such as the improvement of the transportation system, reduction of time required for customs clearance, and the use of bonded warehouses to reduce inventory costs of manufacturers, are expected to produce some results. Also, joint purchase of raw materials seems to be a workable solution from

the viewpoint discussed in the next section.

### 2.2.4 Need for Efficient Procurement of Raw Materials and Parts

Another major obstacle to cost reduction is the procurement of raw materials and parts, that are primarily imported. Most Jordanian manufacturers are small in size and import raw materials and parts separately. As a result, they are placed in a weak bargaining position against suppliers (exporters) and inevitably accept unfavorable conditions in terms of price and delivery schedule. Furthermore, they generally lack knowledge of the raw materials and parts they purchase, especially specifications and other requirements, and are apparently taken advantage of by foreign suppliers who ship inadequate or even defective products.

As suggested earlier, joint purchase by a group of manufacturers that purchase similar materials can be an effective solution. The increased volume of purchase would give them bargaining power to win favorable purchase conditions from suppliers. At the same time, it is important to streamline the physical distribution system in order to reduce inventory levels of raw materials and transportation costs.

On the other hand, product knowledge of manufacturers can be improved by establishing standard purchase specifications, and the effective use of drawings then becomes an important factor.

### 2.2.5 Need for Safety Improvement and Pollution Control

Few manufacturers take conscious measures to improve and maintain a safe working environment and prevent environmental pollution caused by their operation. As an accident (including environmental release of undesirable substances) causes a variety of parties (private and public sectors), including the manufacturer that causes the accident, to bear considerable costs, affirmative and effective measures to prevent accidents are strongly recommended.

Most manufacturers, in particular SMEs, do not give much consideration to environmental preservation and pollution control. In particular, they do not segregate wastes partly because an adequate waste collection and disposal system is not established.

### 2.2.6 Human Resource Development

To implement improvement measures that are recommended in the previous sections, Jordanian manufacturers face a major problem, namely the shortage of competent middle

managers and engineers, who can support the management in these efforts. As a result, most manufacturers have had difficulty in upgrading the efficiency and quality of their operation.

Jordan is considered to have highly educated work force. However, most industries cannot use this work force in a productive way because of various reasons pointed out below. These problems need to be solved by improving conditions external to manufacturers, while the improvement requires human resources. Thus, appropriate policy measures are necessary to improve the situation.

1) As salaries and wages are generally low in Jordan, the highly educated work force tends to go to work in neighboring countries or the EU. To stop the drain of workers, domestic companies must offer attractive salaries and better working conditions and incentives. They have to become profitable companies in order to afford this.
2) The highly educated work force does not necessarily have practical knowledge and experience because many workers have not had an opportunity to work in manufacturing industries. However, industrial development is required to help create incentives for qualified workers to learn advanced management techniques including production management and quality control.
3) Workers often change jobs to look for better salaries and other working conditions. On the other hand, companies are reluctant to train workers over a long period of time because of this factor.

The above discussion clearly indicates that a formal education and training system is required if workers are to learn management skills and knowledge that are essential for those in enterprise management, including middle managers and engineers.

In fact, educational programs for managers and engineers are offered by universities, private organizations (trade associations and the chamber of commerce and industry) and consulting firms. They are mainly taught by university professors, except for the ISO quality system and financial accounting. However, companies which have sent workers to these educational courses point out that many instructors lack practical experience

# 3 Present Status and Issues of Marketing

## 3.1 Home Appliance Industry and Market in Jordan and Middle East

### 3.1.1 Jordan

Even Amman, the capital, does not have any large retail facilities, such as a department store or shopping center. Home appliances are sold at small retail shops that are scattered all over the city. These retailers are not organized in manufacturer-centered distribution and marketing schemes; each carries a variety of brands.

At present, imports account for 60-70% of consumer goods, ranging from household goods, to tableware, furniture and apparel, sold at supermarkets and the small retailers. In fact, imports are estimated to account for over 60% of all industrial products sold in the country. Import share is particularly high for home appliances. Thus, dominance of imported goods serves to reduce even further the domestic market opportunities for local manufacturers.

In Jordan, consumers seem to select products on the basis of price, rather than brand. This is widely seen in home appliances and many other products.

The types of home appliances produced in Jordan are refrigerators, washing machines, telephones, TV sets, air-conditioners, and microwave ovens. Among imports, Korean products have a high share, of 50-60%.

### 3.1.2 Middle East

Among the 22 countries in the Middle East, most (that is, except Yemen and Sudan) produce home appliances. Many factories are joint ventures with foreign manufacturers (Korea, China, Europe and the U.S.) who provide technical assistance for local production of their brands, in addition to exports to the Middle East markets by themselves.

The Japanese products had accounted for an overwhelming market share of 90% during the 1980s, but products from Korea, China, the US, EU and Eastern European countries have entered the market in recent years.

The Middle East markets for major home appliances, together with share of domestic products, are summarized as follows.

| Product category | Market size (1,000 units) | Share of domestic products (%) |
|---|---|---|
| Refrigerators | 3,200 | 63 |
| Washing machines | 2,700 | 52 |
| Telephones | 2,500 | 30 |
| TV sets | 3,600 | 50 |

Source: Estimated from interview surveys of manufacturers and other organizations

Among the Middle East countries, Syria and Iraq impose import restrictions and keep products from industrialized countries out of their domestic markets. These countries border on Jordan and are potential markets for Jordanian home appliance manufacturers.

**Cairo**

Consumers are generally selective on the basis of brand, and Japanese products are very popular despite their high prices (two or three times that of comparable other products).

Consumers in Cairo consider home appliances as high-value consumer durables and want to select products that can withstand long use. As a result, their purchase decision is made primarily on the basis of product quality and functionality.

**Istanbul**

Compared to Jordan and Egypt, Turkey is strongly characterized as a market for European products. Major brands of home appliances are mainly European products, particularly of Italy and Germany. Japanese and Korean products seem to hold 15% each of the home appliance market.

**Dubai**

While Dubai has a population of around 800,000, the country imports 100,000 units of refrigerators and washing machines annually (based on official trade statistics). In fact, imports are believed to be much larger (estimated to be three to four times the statistical data), owing to re-exportation to neighboring countries, including Pakistan, India, Iran and Afghanistan. Thus, Dubai serves as a distribution center in the region.

### 3.1.3 Major characteristics of the home appliance market in the Middle East

The region is clearly distinctive from other regions in a variety of aspects, including religion, climate, diet, family structure, economic environment and limited water resources. As a result, demand for home appliances presumably reflects consumer needs and wants that are derived from such characteristics.

In practice, however, most home appliances imported from industrialized countries, including Japan and Europe, are not developed or designed in consideration to such regional characteristics of the Middle East. In fact, they are developed to meet global needs and thus are equipped with some functions that are not required in the region. In other words, if local manufacturers can develop products meeting the regional needs, they will be able to compete with foreign products and gain market share.

#### Refrigerators

Consumer needs that can be reflected in the design of refrigerators unique to the region and hence attractive in the market are derived from the eating habits and lifestyle that reflect the religion, i.e., large families and frequent week-end parties attended by relatives and friends.

Generally, refrigerators must have large capacities for soft drink bottles, medicines, paste food and eggs (eggs are frequently used in Middle East cooking, requiring storage space three times that of refrigerators sold in Japan), together with large ice-making capability. As a result, refrigerators designed for small families, characterized by many small shelves, are considered by consumers in the region to be difficult to use. In the region, larger refrigerators (400 liters or more) of automatic defrosting type are popular. Beige and light gray are the preferred colors.

Large capacity is an important consideration for cooking equipment. For instance, gas ranges sold in the region are equipped with at least five burners. Ovens have capacity (volume) ten times those sold in Japan to allow cooking of chicken, mutton and other foods for parties.

#### Washing machines

Large families demand large laundry capacity. In addition to demand for large tub machines, the special features of regional demand are that the machines have a door designed and built for that makes it possible to easily put in and remove laundry.

Another important factor is the limited availability of water, which makes water-saving

type washing machines popular in the region, i.e., the twin tub type rather than the full-automatic type.

Also, mechanical switches and buttons are preferred for the timer and other setting functions, because electronic control devices are relatively expensive and require longer time to repair because necessary parts must be imported. The mechanical control system will continue to prevail in the region at least for the next few years.

Preferred colors are beige and light gray. Many consumers also demand good spin-drying capability, a mechanism that prevents the laundry from becoming tangled, and other improvements related to the washing machine's basic function.

#### Telephones

Consumers generally want more sophisticated functions and higher performance for telephone, rather than appearance and other design features. In particular, many consumers want multi-functional products, including dial code memory, caller ID, speed dialing, connectivity to extension unit, and use of LCDs.

There is strong demand for display of Arabic letters as well as larger letters, preferably by use of LCDs. For the phones, which are used with carrying by hand, a larger size and moderate weight (not as light as newer, ultra light models) are preferred. According to a survey, 80% of consumers in the region make their purchase decisions based on the weight of the telephone. Weight seems to be a major factor for determining reliability of portable equipment.

#### TV sets

In industrialized countries, TVs are widely used for personal entertainment and are often placed near the bed. As a result, 14-inch sets are increasingly preferred. On the other hand, TVs in the Middle East countries are an important home appliance for family entertainment, which is viewed by a large number of people at one time. Obviously, design requirements are significantly different, i.e., compact design is not suitable for the region. Even 14-inch sets are expected to have two or four speakers, which should preferably be accommodated in double speaker boxes to create a bulky form.

Also, TVs are widely used for video games, and users want to have two AV terminals on the front side (one terminal for a video game console and another for a VCR). Also, many consumers want on-screen instructions for video game to be indicated in Arabic (for the convenience of children).

**Cooking equipment**

This is a product area which offers various opportunities for new product development suitable for the Middle East region. For instance, cooking equipment can be developed to meet the regional needs related to use of bean-based paste that is spread over bread. Also, there are many regional recipes using tomatoes and potatoes, and cooking equipment suitable for these foods can be developed. Special apparatus, such as a special ovens, special gas ranges and paste makers, can be commercialized for the region. Other special functions and designs can be developed and added to conventional products on the basis of market studies on the Middle East food culture. The above equipment seems to be most suitable for production in the region because most materials are available and a higher value can be added domestically.

## 3.2 Present Status and Issues on Marketing Activities of Home Appliance Manufacturers in Jordan

The reasons home appliance manufacturers are small in scale are the low level of domestic demand for home appliances, a dominant position held by imports. Medium-sized enterprises in the industry generally employ around 50 persons. In addition to being small in size, most manufacturers lack experience, human resources and an arrangements whereby marketing is part of managerial strategy. These factors make it difficult for them to compete with imported products. Specifically,

1. They can only afford to employ production and sales staff, and lack adequate resources to hire people who are not directly related to production or sales, including marketing, product development, and design development personnel.
2. They do not understand the significance of marketing, product development and design in managerial strategy.
3. Their production volumes are too small to permit them to develop and introduce new products periodically.
4. They are unable to use the results of marketing to modify the design of their products due to the absence of engineers who can handle development work.

Local companies are facing increasing competition from imported products that offer new designs or features almost every year. In fact, imports occupy the high-visibility locations in retail stores, while local products are either not displayed or relegated to corners. As a result, local products are confined to having small portions of the market, which is dominated by imports.

While most companies feel the need for making a strong marketing effort, they have little understanding of what they should do or how they can accomplish it. Marketing is usually understood as synonymous with sales and related activities, and few companies have positioned it as a strategic management technique. Furthermore, many still maintain characteristics peculiar to small enterprises or family operated businesses; the founder's family members are responsible for administrative functions such as personnel management and accounting, and financial and other management data are not available to other staff members. The companies are not managed on the basis of accurate analysis of market conditions and management indicators, and in particular, managerial analyses to identify weaknesses and available resources are rarely carried out.

Small production scale also creates inefficiency and constraints on management. Small market share, together with a limited product mix, results in considerable fluctuation of sales with the seasons, resulting in seasonal variation in production. As a result, raw materials and parts are purchased in small quantities and on an as-required basis, preventing manufacturers from maintaining strong bargaining positions against suppliers. This increases material costs.

Overall, local manufacturers are unfavorably positioned in price competition with imported goods that are produced in relatively greater quantities. For some products, the costs of raw materials and parts exceed international prices. Naturally, local manufacturers realize they cannot easily sustain operations on the basis of domestic demand alone, and they therefore look for export opportunities, but most of them still have difficulty to find out a clue for such opportunity. This is further proof that there is the strong need for these companies as well as small enterprises, to use marketing strategically.

## 3.3 Recommendations Related to Marketing Activities by Individual Home Appliance Manufacturers in Jordan

In the country where annual demand for home appliances is limited to 40,000 units for most items, annual production of a local manufacturer typically falls below 10,000 units because of competition with imports. Thus, it is not feasible for local industries to compete with world-class home appliance manufacturers that churn out 3 million units annually.

Paradoxically speaking, however, since monthly production by each manufacturer is limited to 1,000 units for refrigerators, washing machines, TVs or other products, it can be doubled relatively easily, provided that appropriate marketing activities and product improvement efforts are made. This means that managements' targets should be focused

on increase in production from 1,000 to 2,000 units per month, rather than aiming to directly compete with world brands. More precisely, marketing should focus on product development that is based on detailed study of consumer needs and can differentiate the company from competitors in terms of price, performance, function, design, quality or service. For this purpose, the following actions are required:

1. To identify weaknesses of imported products that can be overcome, and to identify the features of the company's own products or services that would give a competitive edge through carefully planned additional efforts.
2. To recruit or foster competitive distributors.
3. To differentiate products from those of competitors in a specific area or for specific items.
4. To improve products or service quality each year, through continuous differentiation efforts even if they are concerned with minor incremental changes.

At the same time, it is important to find a comparative advantage within each company's resources. Efforts should start from self-assessment of the company's own products in terms of international competitiveness, followed by development of an internal program to improve products. In Jordan, new products are imported every year, while domestic companies introduce new products at an interval of several years. It is important for domestic companies to evaluate the market position of their products through the eyes of dealers, thereby to realize that they lose international competitiveness steadily. In addition, they must improve production management to minimize inventory by making production plans on the basis of actual sales on the market. Excess inventory diverts resources away from production and prevents timely introduction of new products.

At present, marketing activities of local companies are mainly comprised of price surveys and rebate surveys for sales promotion. No surveys of merchandise power are carried out. It is important for companies to identify their own strength, which can be effectively used to win in competition, rather than rely on aggressive pricing.

The second step in market development for a domestic maker is to find retailers who will display and sell the domestic products. Sales promotion starts with securing shelf space at retail shops. Home appliance shops are already occupied by competitors' products and there is no space for new products. The storefront occupancy of a product is known to be closely correlated with market share.

Even if a new, viable product concept is developed as a result of an elaborate marketing study, Jordanian companies face several challenges before succeeding in

developing an actual product, namely they must make the investment needed for die making and selection of raw materials. At present, Jordanian manufacturers pay fairly high costs for dies and raw materials, and this affects their price competitiveness. In fact, their sustained existence depends on low-cost sourcing of these items.

After the cost issues are addressed, product development capabilities, collectively, become a critical factor. Together with industrial designers, mechanical engineers are required to translate the market needs identified by a market study into actual product design.

The next step is the development of export markets. Jordanian companies are expected to take the following approaches to overseas market development.

1. To limit the target market to the Middle East region, in consideration of production capacity and product development capability of Jordanian companies. A realistic approach is to set the target market in countries where Jordanian companies have close relationships in the form of human networks, particularly Iraq and Syria, that are not accessible by global companies.
2. If a successful entry to the Middle East market is made by addressing the domestic needs in the region, the next target that can be adopted is the people who have migrated from the region to the U.S. and Europe.
3. For companies that offer a wide range of products in large quantities, holding exhibitions or participating in trade shows in target markets (or international or regional trade shows) is recommended as an effective way of product launching, while it is highly costly. On the other hand, if product offerings are limited, direct sales promotion to retail shops and dealers by providing samples is considered as a cost effective way.
4. Finally, use of Internet-based electronic commerce (e-commerce) should be considered as an economical and increasingly adopted way of finding foreign dealers or making direct sales. It should be noted that this channel requires product offerings that are internationally competitive.

# 4 Present Status and Issues on Industrial Design Development

## 4.1 Present Status of Utilization of Industrial Design in Jordan

### 4.1.1 General

In Jordan, professional designers are increasingly involved in the fields of display and graphic design, such as advertisement, exhibition and conference, and seem to produce some favorable results. Graphic designers are also employed for production of pamphlets for tourism development activities planned by the government. Interior designers are increasingly hired to design hotels and expensive residences for the well-to-d-o, although their use is in an early stage.

In contrast, use of professional designers and design skills has shown little progress in the field of object-oriented design[6]. Industrial design in Jordan is far from producing any visible result or establishing its presence in the business or industrial worlds. The need for sophistication of package design has already been talked about, including the establishment of a design center, but no initiatives have been taken. Similarly, a design center is being considered for textile and apparel design, from the viewpoint of export promotion, but no activity has been initiated to apply the design process to these industries.

### 4.1.2 Industrial Design in Jordan

In Jordan, little progress has been made in incorporation of the design process in industrial production.

There are a few cases of design promotion, including design implementation for the Dead Sea products with assistance by the EU as well as design instruction for handicraft products. Nonetheless, they are exceptional in the total context of industry where there is little understanding of the design process and its actual application. Thus, industrial design in the country is still in its inception stage at best.

[6] Design classification based on application
1) Object-oriented design: Including industrial (product) design, package design, craft design, jewelry design, textile design, and fashion design.
2) Visual-oriented design: Including graphic design, publication design, image design, display design, and signboard design, and event design.
3) Environment-oriented design: Including interior design, architectural design, environmental design, and lighting design.

In the home appliance industry, virtually all products are manufactured using dies and key components and parts imported, while no manufacturer is developing original products. Therefore, they do not have design or product development departments. They do not make product drawings, including assembly drawings, nor write out work instructions such as for color and surface treatment. There is no design management at all, except for a degree of graphics processing related to product operation, and some designs of brands and logos.

As a result, there are few designers in the country who specialize in industrial design. And this handful of industrial designers is responsible for very low levels of work.

## 4.2 Design Environment in Jordan

### 4.2.1 Design Industry

In Jordan, there are as many as 200 people who work as professional designers. Of them, approximately 70% are graphic designers and 20% interior designers[7].

Freelance designers account for around 70% of the total designer population, and there are a very small number of designers who own and operate registered offices[8]. Many freelance designers win contracts through personal connections, rather than an established channel, and are unable to secure a steady flow of work and income. Similarly, designers working for design offices often work on a commission basis and their income is not as secure as that of ordinary salary workers.

There is only one industrial designer or two in the entire country who works (work) for private firms.

Under these circumstances, designers in Jordan do not have infrastructure to provide the support that would enable them to develop into an established industry and a professional community. In countries where design is fully incorporated into the industrial process, designers are organized and a trade association is formed to represent the interest of the designer community, playing an important role in promoting design in industry and society. Development of such infrastructure is essential for the promotion and effective use of design in Jordan.

[7] Estimated from interviews of several designers. Other figures were also estimated from the interview results.

[8] Designers who provide graphic design service (AD, PR) are required to register with the Ministry of Information (one-time registration upon commencement of work) and the Ministry of Industry and Trade (renewed annually).

### 4.2.2 Design Education

In Jordan, there are five universities offer design courses, including that under the planning stage of establishment.

Among them only one university, Yarmouk, offers industrial design education, in the Fine Arts Department.

Industries in the country do not have the need for industrial design and thus are not interested in role or capability of designers. As a result, there is no strong intent to use designers as resources. The lack of a design market prevents industrial experience from being used in design education as a desirable feedback cycle, producing designers who lack practical knowledge and skills.

While graduates from design schools should receive training on the job, they must learn basic design skills, particularly sketching. Design education in the country does not appear to provide sufficient basic training. In light of the fact that design can be expected to play an effective role in the country's future economic development, design education should be upgraded in many respects, including the start of basic design training in secondary education and the establishment of fine arts and design colleges, such as are seen in many countries.

As both industry and government do not have a clear goal of design promotion, universities are unable to have a clear goal for design education[9].

Also, design education in the country is immature in terms of linkage among different design fields. At present, various design courses are offered, such as package, display, craft and environmental design. Their contents are not sufficient, and their inter-linkage is not developed. This prevents students from developing comprehensive design skills, including the acquisition of an international sensitivity.

### 4.2.3 Government in Design Promotion

There have been some moves to use design for industrial development and similar purposes. In some industries, initiatives have been made to incorporate the design process in the work of the companies, under support of foreign donor organizations.

Some results are already seen in the handicraft-related industries. Various projects

[9] For instance, design education in Japan has been developed to achieve the following three goals:
1) Education at art colleges focusing on traditional craft production and application in local industries
2) Design education at engineering colleges aiming to develop products that are suitable for modern and volume production systems
3) Design education at educational colleges to develop professionals in design education

are in progress under the leadership of NGOs. Also, projects in the graphic and package design fields are underway, specifically for several companies manufacturing Dead Sea products.

The JEDCO plans to establish a design center under support of the Italian government with the view of promoting exports of textile and apparel products. Also, the RSS is considering a design center plan to improve package design for industrial products.

Nevertheless, each project focuses on its immediate goal, such as a specific industry, area or enterprise, while there is a lack of a broader vision or policy from a national perspective, i.e., how should design be used to achieve various national goals; how should design resources (including human resources) be developed; and how should the design development environment be developed? The government does not have any department that is responsible for policy making related to design and its promotion, and there is no public organization or association that leads systematic activities for design development.

# 5 Present Status and Issues on Business Environment

## 5.1 General

The Government of Jordan has been striving to develop the manufacturing sector and improve the business environment by primarily focusing on the encouragement of private investment and the removal of foreseeable obstacles to business operation. More precisely, government actions taken toward the goals are roughly classified into the following four areas:

1) Improvement in the areas of regulations and administrative procedures;
2) Improvement of market access;
3) Infrastructure development; and
4) Support for individual enterprises in technology and management.

## 5.2 Deregulation, Institutional Reform and Streamlining of Administrative Procedures

Business enterprises particularly want deregulation and streamlining of administrative procedures related to customs duties, incorporation and business operation. Also, the need for institutional reform in the area of investment promotion as well as the streamlining of administrative procedures can be identified from the macroeconomic viewpoint.

These problems (impediments) can roughly be classified into two types. One is related to policy implementation, particularly application of customs duties and sales tax. Another is related to complicated procedures, lack of transparency, inept bureaucracy and corruption. While the government has been promoting deregulation and institutional reform as an integral element of economic reform policy, many problems still remain to be resolved.

The problems related to administrative procedures for incorporation and business operation have been analyzed by the FIAS and the USAID, which jointly conducted a study at the request of the Jordan Investment Board (JIB) and prepared a report entitled "Improving Administrative Procedure for Investors." The recommendations are focused on the following areas.

1) Elimination of unnecessary approval procedures
2) Improvement of overlapping of approvals that serve a legitimate purpose

3) Lack of transparency and predictability
4) Need for procedural reform
5) Areas which require leadership commitment and officials participation
6) Remove administrative barriers through restructuring and replenishing government agencies and change the mind set and operational style of the employees

Despite the fact that the analysis identifies major issues involved, together with recommendations for resolution, many managers still complain that they are much too tied up in preparing documents that must be submitted to various government agencies and have little time for business management.

These unfavorable conditions should be removed or improved by taking the following actions.

1) Revision of laws and regulations in compliance with the above recommendations, and the securing of transparency related to operating standards and procedures
2) Education and training for government officials (including education and training in administrative procedures, basic principles of public administration, and application of laws and regulations)
3) Improvement of working conditions for key employees (to improve motivation)

## 5.3 Improvement of Access to Foreign Market

Jordan has improved its accessibility to the foreign markets, through various bilateral and multilateral agreements.

The remaining task is how the Jordanian industries will make actual market entry abroad by improving their competitiveness in the international market.

## 5.4 Infrastructure Development

Industrial infrastructure in the country is relatively well developed, but it is costly in actual use partly because of the above problems related to administrative procedures and partly because of high water and energy costs that cannot be avoided in Jordan because of its geographic conditions.

## 5.5 Enterprise Support

The corporate support program has traditionally been carried out with foreign assistance, rather than at the direct initiative by the Jordanian government. The Ministry of Industry and Trade, which is expected to assume leadership in such programs, is

primarily responsible for registration, regulation and approval related to public support for individual enterprises. In fact, the ministry is about to start direct involvement in government support for industrial development[10].

(1) Technical and management support

Several organizations operate technical and management support programs for business enterprises, but none has been established and is operated under the government's integrated policy (e.g., continuous programs under an official SME promotion policy). There is no information source that gives a complete list of SME support programs available in the country.

Various universities, the chamber of industry, and the Industrial Development Bank offer training programs for business managers. Private consulting firms offer similar courses. All these courses are designed to teach management skills (including those for middle managers) and leadership. However, many enterprises complain about the lack of practical experience among instructors.

The Royal Scientific Society provides the highest level of technical support in the country. It maintains testing equipment in the areas of electrical, plastic and metallic engineering and provides technical advice in these fields. Evaluation of the Royal Scientific Society by business enterprises is mixed. Some feel that its service is effective, while others point out that the fees are very high and the staff lacks practical experience.

The Royal Scientific Society is the only organization providing testing service. The Jordan Institute of Standards and Metrology does not have its own testing equipment and relies on the Royal Scientific Society.

Support programs consisting of consulting and guidance for individual enterprises have previously been carried out under foreign assistance, but there is none at present.

Market information is collected by the Jordan Export Development Center Corporation and the Jordan Investment Board. The Jordan Export Development Center Corporation operates a Euro Info Correspondence Center to collect and provide market and technology information.

The Jordan Trade Association has membership of around 90 companies, conducts market studies, and provides information services.

[10] At present, a draft Industry Law is under examination.

(2) Finance

There are 22 commercial banks and financial institutions, of which three are foreign banks. In addition, there are five investment banks in the private sector, and Industrial Development Bank in the public sector.

The Jordan Investment Board provides concessionary loans to the manufacturing sector. In particular, special loans are extended for investment in fixed assets (10% interest rate including charges) and the purchase of raw materials (10.5%). However, many companies are not aware of the availability of these loans. As for commercial loans, there are many complaints about lack of access as banks demand very strict conditions.

On the other hand, long term loans are difficult to obtain due to the financial constraint facing the banks.

(3) Human resource development

Jordan has 20 universities and colleges, of which seen are state-established. The total enrollment reaches 90,000, and one-third of the student body studies at national universities.

As pointed in Vision 2020, there is a significant gap between knowledge and skills taught to students who graduate from the present education system and what is required by industry. In particular, graduates lack the adaptability to the increasingly globalized and knowledge-intensive economy, as well as entrepreneurship and management techniques.

In addition to colleges and universities, the Vocational Training Center Corporation (VTC) provides vocational training. However, VTC programs mainly consist of basic training and are not capable of providing workers with advanced training for higher skills.

VTC also provides a special training program for companies who have technical skill problems, although its effectiveness is not known.

In Jordan, only a handful of companies can afford to provide in-house training for new employees, and many companies expect college graduates to have necessary skills. However, they are usually disappointed by the lack of skills and complain about the effectiveness of a college education.

Several universities conduct internship programs, under which students acquire work experience in various companies prior to graduation. However, companies which are willing to provide such opportunities are fairly limited in number. At the same time, companies receiving interns complain about universities that send students without adequate preparation or orientation.

## 5.6 Tasks for Improvement

The first priority should be placed on correction of the public sector's cautious attitude toward public programs, i.e., correct the overemphasis on give-it-way of SME support projects, and the improvement in the ability of staff of organizations responsible for execution of support programs to provide effective service.

First of all, the government sector often demands an excessively high level of profitability (feasibility) from public programs, largely because there are no clear standards as to how far public service should be financed by government on the basis of the public interest. The establishment of SME promotion policy is expected to provide such a standard.

Secondly, there is the need to improve the efficiency of public service provided by the government sector. There are several approaches to this that can be employed, including the establishment of a new organization or the restructuring of existing organizations to provide integrated service. These approaches, however, require significant time and cost, while not necessarily ensuring satisfactory accomplishment of the goal. Therefore, it is recommended to use the existing resources and organizations to their fullest extent. The recommendations consist of the following elements: (1) introduction of the market principle to ensure the improvement of service quality; (2) introduction of a qualification system for government personnel to promote delegation of authority within each organization and encourage the development of professional knowledge and skills; and (3) the effective use of foreign capital, in terms of financial resources, technology and market power, to supplement government efforts.