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JORDANIAN MINISTRY OF INDUSTRY AND TRADE

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EXECUTIVE OVERVIEW

The Ministry of Industry and Trade (MIT), in response to changing requirements and opportunities to support Jordanian business operations, is evaluating its management structure and activities, including its information and management systems. During the past few years, particularly since the deregulation of licensing procedures inaugurated in 1988 and the subsequent currency devaluation, important roles of the Ministry have shifted. Deemphasized now is direct governmental involvement in business activities. Reemphasized now is the provision of needed services to industry and trade.

Licensing requirements have been simplified, approval of export licenses and investment incentives are made routinely and improved coordination of business support activities is being sought, both among the Ministry's directorates and between the Ministry and other government agencies. The principal goal is to provide useful, cost effective "outreach" services to business that result in increased volume and value of business transactions, particularly foreign trade, while at the same time safeguarding the legitimate interests of taxpayers, shareholders and consumers.

Much is being done. More may be needed.

Past efforts to provide direct services to businesses have been limited and often not cost effective. New proposals to increase business support activities are being carefully evaluated and, where possible, tested before significant resources are committed. When businesses do not seek a service or are not willing to pay a portion of costs, officials assess the justification for offering such assistance.

The Ministry, through its cadre of approximately 330 employees, is seeking to forge new, cost effective roles in support of Jordanian trade and industry. With that objective in mind, the consultants collaborated with Ministerial staff members to develop a series of proposed operational guidelines and recommendations which may be evaluated, tested, and where feasible, implemented.

Realign Institutional Operations to Reflect Current and Proposed Activities

The Ministry currently has eleven directorates, plus a separate department for "Archives". Several directorates have been added in recent years, including one to manage "Investment Services" and another to establish computerized "Information Services".

In recent years, no major functions have been merged, downgraded or transferred since the Directorate of Energy was transformed into a separate Ministry. Modifications are overdue.

Specific recommendations for institutional realignment are as follows:

1. Mold a new "Directorate of Controller of Business Operations." This proposed Directorate should combine the principal control functions now carried out by the three directorates of Industry, Companies, and Insurance. Combining these operations, with appropriate departmental divisions of responsibilities, will facilitate the following:

- (a) Enhance decision making and team work.
- (b) Permit the establishment of an integrated, computerized database, in a cost effective manner, and optimize computer operations.
- (c) Improve interchange of data and licensing procedures among sub-units.
- (d) Permit the development of more specialized skills such as auditing and business review.
- (e) Consolidate the use of personnel to perform agreed operations.

2. Develop a new "Directorate of Registration and Licensing". Responsibilities for licensing and registration are now carried out principally by five directorates: the Directorate of Trade, which licenses import and export transactions at the rate of 70,000 per year; the Directorate of Trade Registration which provides operating licenses for tens of thousands of businesses; and the three directorates of Industry, Companies and Insurance, which both register and audit firms. The advantages of coordinating registration of all business operations in one directorate are similar to those cited above for the Directorate of Controller of Business Operations.

3. Form a new "Directorate of Business Support Services." Business promotion activities of three existing directorates should be combined and augmented. Entities performing some business services are: the Directorate of Investment Services, including the moribund operations of the one-stop investment window; the Directorate of Economic Cooperation and Export Promotion, which arranges and helps to manage bilateral trade agreements; and a few promotional activities of the Directorate of Encouragement of Investment. (The main functions of the latter are not the encouragement of investment but the evaluation and management of applications for investment incentives.)

Combining and reinforcing the work of these separate operations should provide the following advantages:

- (a) Enable staff members to be specially selected and trained in skills required for effective outreach services to businesses, including:

- identification of market trends and recommendations regarding products and services, through foreign market research.
 - assistance in making overseas contacts and evaluating the reliability and experience of prospective business contacts and aid in promoting products through publicity, trade missions and direct introduction to potential buyers.
- (b) Promote the training of a small cadre of experienced trade assistance specialists knowledgeable about Jordanian business issues and capable of promoting business interests in concert with other governmental organizations.
 - (c) Permit the Directorate staff to directly input data from its various functions to a distributed computerized information system.
 - (d) Ensure that all business services are coordinated to permit effective analysis and management understanding of trade and marketing activities.
 - (e) Facilitate collaboration with other business assistance programs such as the Chambers of Commerce, Chamber of Industries, World Trade Center, Jordan Commercial Centers Corporation (JCCC), and others such as the proposed Jordan Export Development Corporation (JEDCO).
4. Commit the resources needed to enhance the professional skills of staff members to perform their mandated functions. Establish, for example, an in-house training capacity to build basic skills; provide off-site training in specific skills such as financial auditing, cost accounting, and business management; and conduct more on-the-site inspections of business facilities which, for instance, merit attention because of perceived operational or financial problems.
5. Change the location of the import and export licensing offices and all business registration activities now located on the 3rd and 4th floors, and relocate them to the ground floor so that the daily throng of hundreds of applicants need not pass through the halls of upper floors when seeking routine authorizations and information.
6. Maximize support for trade and investment. Examples of proposed activities are:
- (a) Establish the capacity to provide clear, relevant information to export-oriented businesses on economic conditions, statistics and sector analysis on a active basis; step up the use of newsletters, seminars and face-to-face meetings; publicize success stories; mobilize and publish data on marketing opportunities, incentives, constraints and risks for target countries and regions such as Gulf States, Magreb States and Eastern Europe.

- (b) Strengthen direct communications with businesses; appoint a business or consumer affairs representative, reporting to the Minister, to follow up communications and resolve complaints; create a business advisory board.

7. Initiate support for small enterprises. In a typical business development sequence, investment (and possibly exports) customarily stem from trading experiences. The Ministry can effectively up-grade its provision of services to traders and small enterprises so that all parties benefit. Specific proposals include the following:

- (a) Provide selected training to small enterprises, particularly through the Ministry's regional offices and, where feasible, help resolve basic operational problems.
- (b) Secure the collaboration of vocational schools, the Industrial Development Bank, voluntary agencies, foreign aid agencies and chambers of commerce, to expand organized outreach services.
- (c) Train technically oriented personnel of the Ministry, currently underemployed, to help provide agreed services.

8. Create an independent institution of standards and specifications. The Ministry now operates, through its Directorate of Standards, testing laboratories for food, gold and a few other items. About 70 people are employed in this work. Management of these functions, including the establishment of guidelines and the administration of testing criteria, may best be accomplished by an autonomous body.

9. Strengthen administrative controls and support Ministerial personnel. The existing Directorate of Administration should be revamped to accommodate expected changes in personnel and functions of the Ministry. Specific proposals include:

- (a) Ensure that facilities are established to train and help motivate personnel to work effectively in new job positions.
- (b) Provide a framework for the resolution of personnel grievances.
- (c) Prepare job descriptions for all Ministry personnel and arrange annual evaluations of personnel performance.
- (d) Revise as suggested the control and follow up systems for communications.

10. Reinstitute the requirements of internal audits of both financial and management functions of the Ministry. Currently, the Ministry collects fees on a variety of activities, primarily the issuance of import licenses, averaging 70,000 transactions per annum with fees calculated at 5% of the cost and freight (C&F) value. The Ministry conducts quality control

functions to ensure that each piece of gold jewelry has the specified proportion (karats) of gold. Each day about 40 kilograms of jewelry are sampled and stamped. Employees routinely exercise considerable control over business operations. The Ministry should therefore ensure, via internal audits, that these operations are properly managed to minimize discrepancies or abuses and to detect unwise controls on business activities.

11. Establish a small unit to coordinate planning and study activities. The Ministry's staff have substantial insights and raw data on the operation of Jordanian trade and industry. To help mobilize these resources, a small cadre of research specialists and economic planners should be engaged. These specialists would, for example: establish criteria for data collection; coordinate study efforts undertaken by individual directorates; offer recommendations regarding industrial policy options; analyze the cost effectiveness of technical services to industry; evaluate the pros and cons of licensing requirements; and, assess the efficiency of internal operations and communications between the Ministry and other governmental entities.

Expand Information and Management Systems

The consultants devoted considerable effort assessing the Ministry's existing information and management systems (IMS), estimating future needs, proposing cost effective strategies, suggesting equipment needs and costs and outlining essential training requirements. Principal recommendations regarding IMS activities are as follows:

12. Distribute to each of the four proposed directorates responsibility for direct data entry, as close to the source as possible.

13. Maintain a small central office for information management staff, composed principally of a systems analyst and one or two programmers.

Under these proposals, each directorate is to be provided with needed hardware and staff to input data direct at the source. Concurrently, a central office of Information Management Systems (IMS) should be created by augmenting and training the existing managerial staff. The unit would utilize the talents of one or two capable programmers and a systems analyst to help direct the IMS work of each directorate. The staff would, for example, require directorates to utilize a common coding system when identifying specific companies and businesses. (Currently, four or more different coding systems may be used to identify a single business entity registered in different directorates.) The IMS unit would also continue to lead efforts among governmental organizations (e.g. customs, treasury, central bank) to communicate with one another regarding data on companies, trade statistics and business operations.

14. Train staff members thoroughly. Before investing in more equipment, a cadre of qualified workers must be trained. Utilization of computer equipment, installed primarily in 1989, has been slowed by a shortage of trained personnel combined with uncertainties regarding the advantages of using data for management control, report preparation and policy planning. Supervisors also must undergo training (as initiated in September 1990) regarding the uses, benefits and costs of using equipment for operational control, cost accounting, report generation and overall decision making.

The estimated cost of a proposed short term (6-12 months) IMS program, including equipment and proposed training, is roughly \$20,000; a recommended longer term effort (12-36 months), including training and equipment should cost an additional \$28,000.

I. INTRODUCTION

The Ministry of Industry and Trade (MIT) requested assistance in determining how it might effectively carry out its broad range of current and prospective responsibilities. These include: (1) oversight of industry and trade operations, (2) issuance of licenses and registration, (3) allocation of investment incentives, and (4) provision of guidance and services to both industry and trade, particularly export and investment promotion.

A separate but related concern of the Ministry is to ensure that efficient use is made of existing computer hardware and software which, along with relevant staff, comprise the core of Ministry's rapidly expanding information and management system operations.

In order to anticipate its needs for personnel, office space, equipment and services, the Ministry during the past two years has consulted with Jordanian entities such as the Jordan Electric Authority, the Ministry of Planning and the Royal Scientific Society to help assess its options and opportunities. Assistance has also been provided in the form of consultancy services and equipment by outside agencies, including the UNDP.

The U.S. Agency for International Development (USAID) mission in Amman, which is providing assistance to Jordanian firms in support of private enterprise, collaborated with the Ministry to undertake this institutional assessment. The findings and recommendations are intended to assist the Ministry in carrying out its defined regulatory roles and in performing effectively new roles, particularly the promotion of legitimate private business operations.

TvT Associates, a management consulting firm based in Washington, D.C., provided consultants to perform the institutional assessment. These consultants worked in close coordination with Jordanian advisors who are providing long term assistance to the Ministry. The TvT personnel, Mr. F. H. Thomas, institutional development specialist, and Mr. Samuel Taddesse, computer and information management systems specialist, performed their initial field research in Jordan in the period August 3, 1990 to September 7, 1990. Follow up visits and further evaluation, as required, are to be arranged later. The political situation in the region during the period of this assessment necessitated a revision to the original terms of reference. The consultants' principal designated tasks, as revised in August, 1990, were as follows:

- Assess the Ministry's current operations, structure and flow of work.
- Review the Ministry's record keeping and data entry procedures.
- Evaluate the needs and views of the industrial and trade sector with regard to the Ministry's current and potential services.

Recommendations are presented on the following:

- Appropriate goals, activities and priorities of the Ministry.
- Required computerized management information systems and record keeping.
- Actions and equipment needed (to implement recommended changes).

Issues and proposals relating to organizational realignment, consolidation and reinforcement are set forth in Section II. Activities and proposals relating to information and management systems (IMS) are presented in Section III.

II. INSTITUTIONAL REALIGNMENT, CONSOLIDATION AND REINFORCEMENT

The work of the Ministry of Industry and Trade, which has been evolving rapidly in recent years, presently consists principally of registration of industries and traders, legally mandated oversight of businesses, issuance of licenses and, most recently, support for export and investment functions. Registration procedures are conducted on tens of thousands of Jordanian industries, companies and traders annually. Import and export licenses are issued at a rate of 70,000 per annum. Assessments and audits are conducted on several hundred businesses each year.

In a separate but related activity, officials enforce regulations governing standards and specifications of a wide range of goods in collaboration with entities such as the Royal Scientific Society. Another oversight activity of the Ministry is the assessment of justification for granting of incentives to investors in the form of tax holidays and exemptions from payment of duties on imports. Other current activities consist of limited efforts to promote exports and encourage investment. The Ministry plays a major role in negotiations and oversight of the terms of bilateral trade agreements, in coordination with the semi-autonomous body, the Jordanian Commercial Centers Corporation (JCCC). The latter body guides the implementation of such trade agreements.

Approximately 330 persons are employed in the Ministry.

During the past two years, the Ministry has purchased and installed major hardware needed to develop a modern computerized information and management system (IMS). Still to be developed is an implementation strategy. Personnel are not yet well trained. The general goal of IMS operation is to provide the Ministry with the capability to dramatically simplify and improve its record keeping functions and to provide managers with the means of accessing and manipulating data as a basis for sound policy formulation. The IMS implementation has been slowed, not only by the lack of trained personnel but by uncertainties regarding the justification for the computerization of data and the nature of studies and audits required. Presently no data is entered at the source. All data entry consists of retyping handwritten documents.

Under the present organizational structure each of eleven (11) directorates, plus the Archives Department, reports separately to the Secretary General and to the Minister. Customarily, all directors attend a daily staff meeting to discuss a wide range of issues.

Functions at the Ministry have changed significantly in recent years and several new directorates have been created. Notwithstanding changed circumstances, no significant realignment of directorates or reassignment of personnel have occurred. No descriptions

of job responsibilities of individual directorates have been formulated recently and no job descriptions exist for individual employees.

The Ministry is being induced by shifts in national policy designed to encourage greater autonomy and responsibility of actions by private firms, to curtail some of its control functions and to devise ways of helping business operate more effectively, for common good. In response, the Minister is seeking recommendations to revamp functions and personnel to achieve agreed objectives.

An organizational chart of the Ministry's current structure is depicted in Figure 1.

Four charts, shown below as Figures 2, 2a, 2b and 2c, depict the main elements of proposed realignments of the Ministry's directorates.

Recommendations

1. Create a Directorate of Controller of Business Operations

One major, broad proposal is to consolidate specified functions of existing directorates. For instance, three directorates now exercise some control, via audits and registration, over most private business operations. A new entity should be established, possibly designated as the Directorate of Controller of Business Operations. The principal activities should be formulated from business oversight functions performed by existing Directorates. They are:

- The audit and registration requirements of the existing Directorate of Industry which audits functions of several thousand firms identified by their operating features as "industries".
- The audit and legal oversight of the Directorate of Companies, regarding firms identified as "companies".
- Control of operations of 18 private insurance firms, conducted by the Directorate of Insurance.

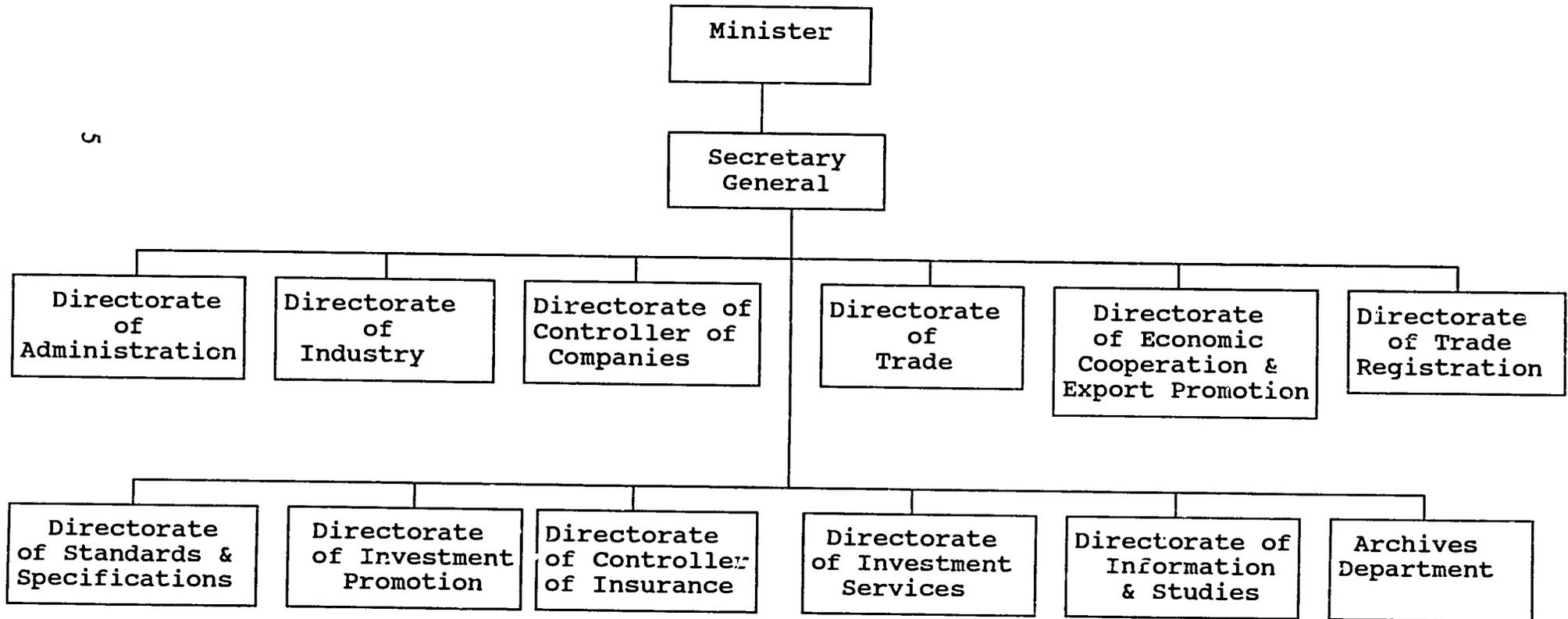
Combining required, worthwhile functions in one Directorate, to be divided into an appropriate number of sub-sections, will permit certain advantages to accrue. The new administrative arrangement should:

- (a) enable the director to coordinate common elements of business oversight for all industries, companies and insurance firms.

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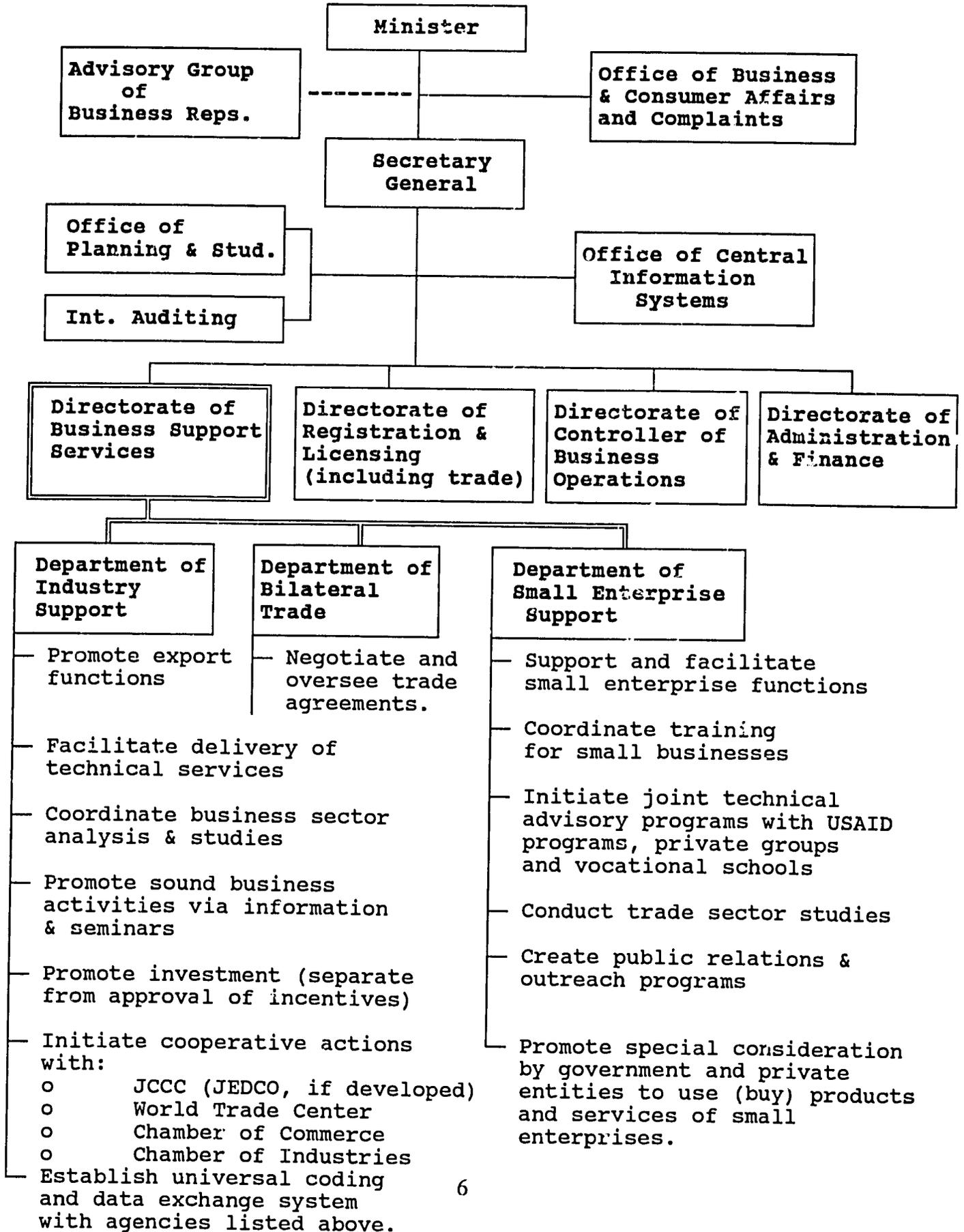
Figure 1: Current Organizational Structure

Eleven (11) Directorates plus Archives Department
(September, 1990)



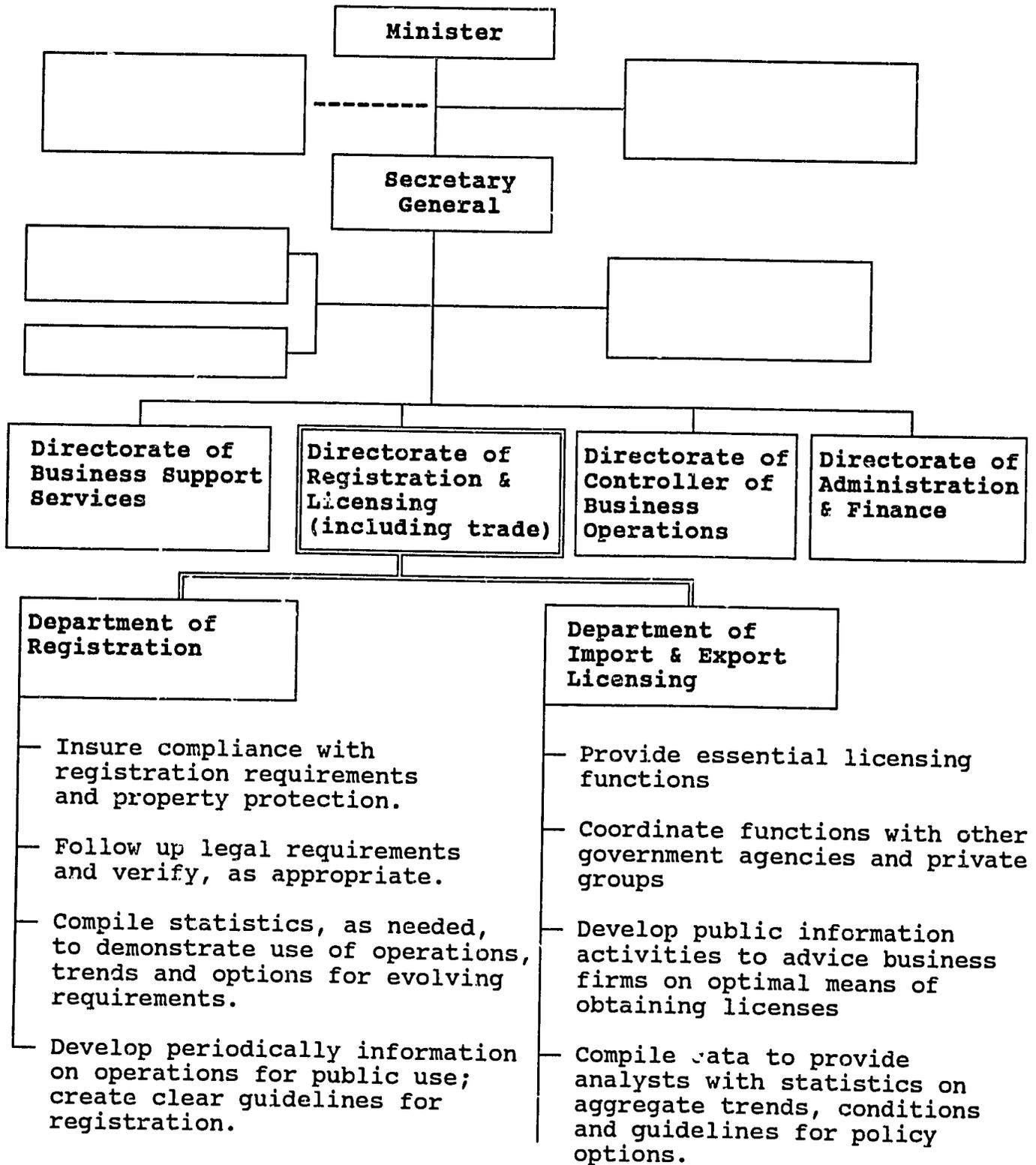
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Figure 2: Proposed Realignment of Functions



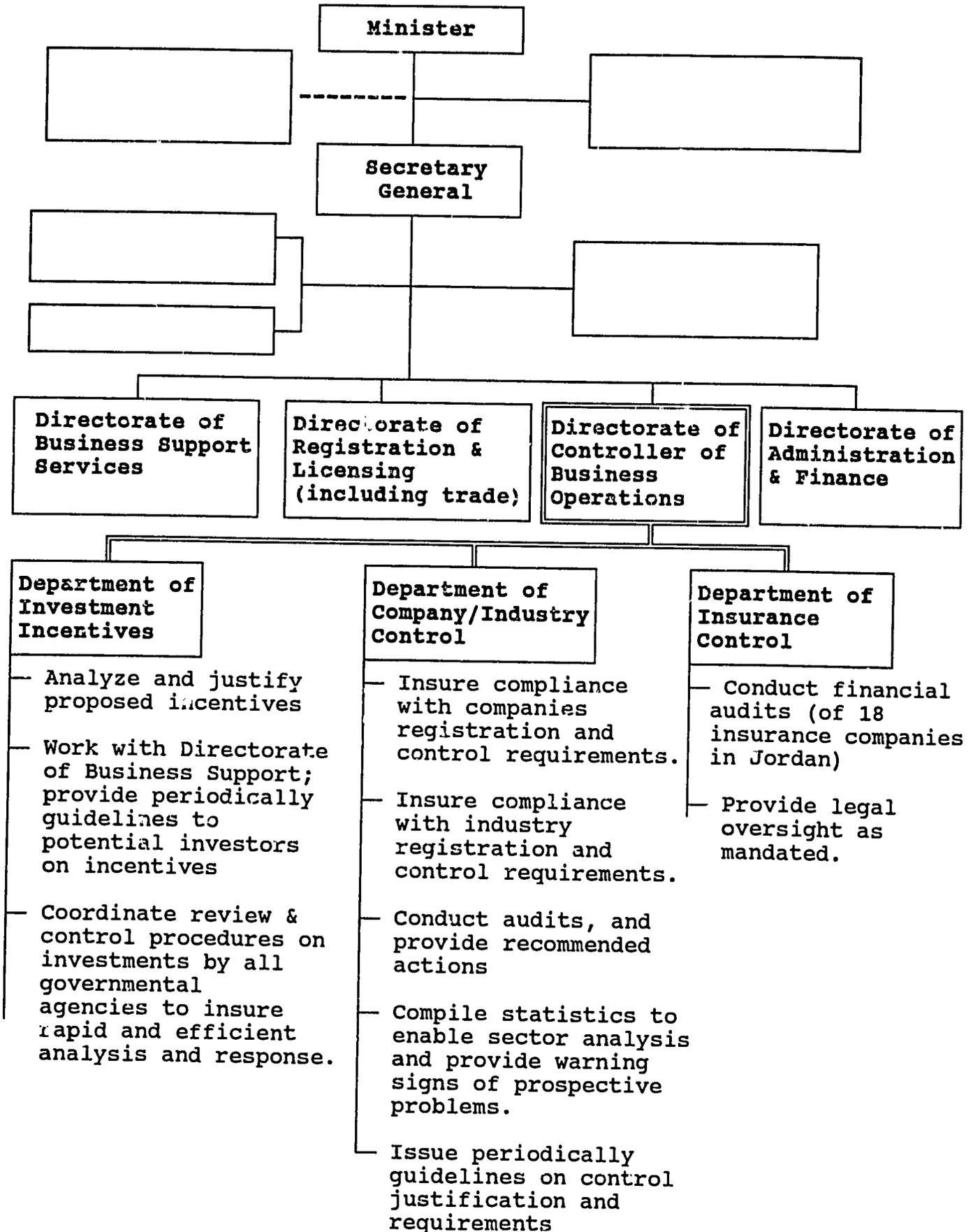
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Figure 2a: Proposed Realignment of Functions



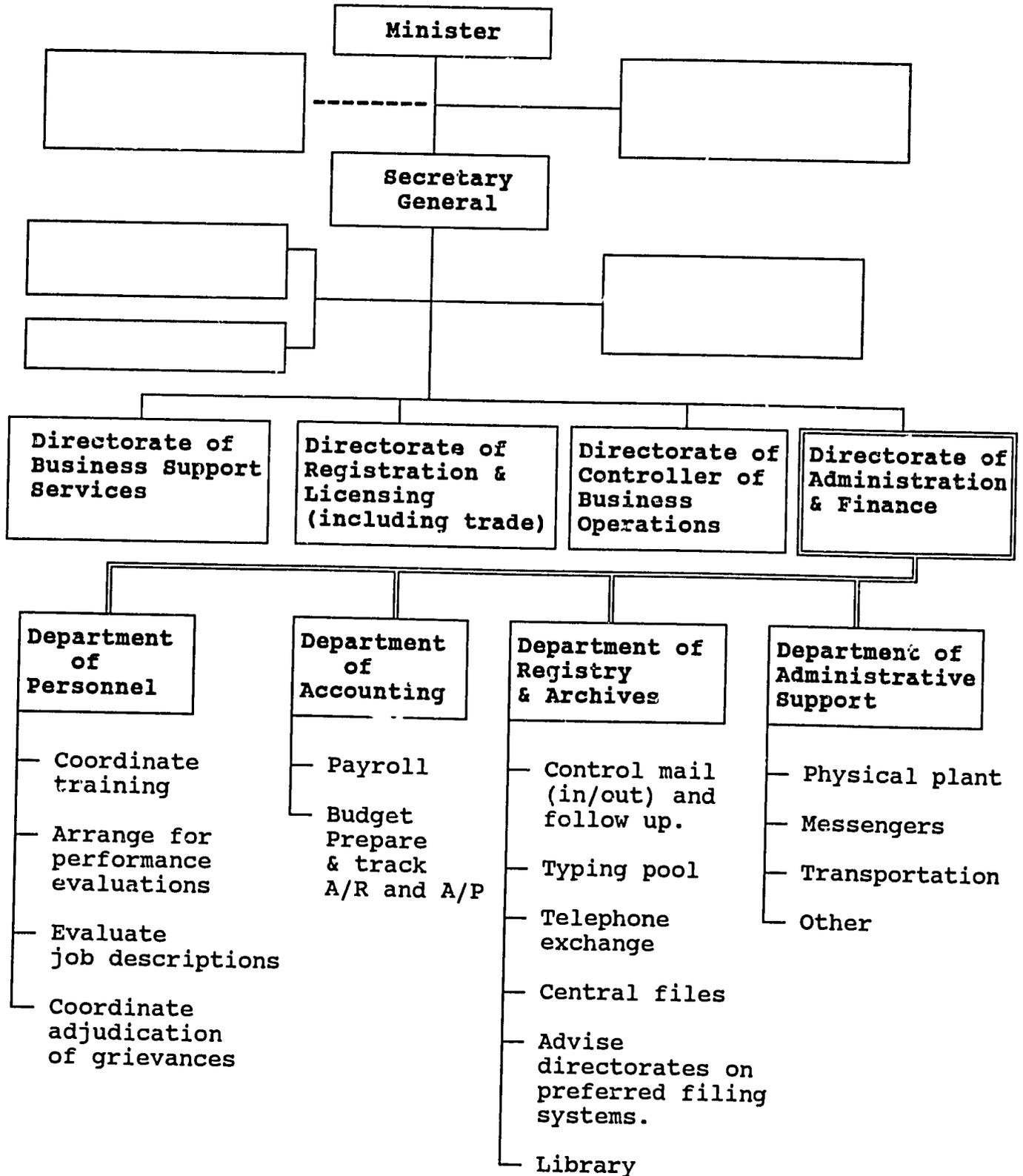
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Figure 2b: Proposed Realignment of Functions



**Institutional Assessment
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Figure 2c: Proposed Realignment of Functions



- (b) permit sub-units to operate, with required independence, under a single management structure.
- (c) improve the interchange of data, skills and personnel among the sub-units.
- (d) permit staff members to develop broader skills needed for effective oversight of the directorate's full range of operations.
- (e) strengthen the establishment of integrated computerized files and databases on all relevant financial and operational activities of business establishments.
- (f) facilitate more effective use of computer equipment and IMS personnel engaged in information operations.
- (g) create greater levels of cohesion, specialization of personnel and availability of comprehensive information so that the directorate may develop the capacity to prepare analytical studies of interest to businesses and government.

2. Establish a Directorate of Registration and Licensing

Responsibilities for issuance of import and export licenses and the registration of companies and traders share common characteristics. Presently, these activities are performed by several directorates: the Directorate of Trade (which primarily issues import licenses in a pro forma manner, after payment of a fee of five (5) percent of the anticipated cost and freight cost of imported goods); the Directorate of Registration of traders (which conducts registrations of small businesses and property (patents and trademarks, etc.), primarily to permit statistical computation of business activities, in coordination with municipalities); and, the registration functions of the existing Directorates of Industry, Companies and Insurance.

Combining registration and licensing activities in a new entity should create advantages which are essentially the same as those cited above for the Directorate of Controller of Business Operations. These include: improved coordination, integrated databases, more effective use of computer equipment and IMS personnel, improved utilization of trained personnel and enhanced capacity to provide analytical studies of interest to businesses and government.

3. Mold a Directorate of Business Support Services

Business promotion activities of three existing directorates may be effectively combined and substantially augmented to form a new Directorate of Business Support Services. Directorates now performing some business services are: the Directorate of Investment Services, including the moribund operations of the one-stop investment window;

some of the functions of the Directorate of Economic Cooperation and Export promotion, which arranges bilateral trade agreements primarily; and, a few promotional activities of the Directorate of Encouragement of Investment. (Principal functions of the latter are the evaluation of applications for investment incentives.)

Combining and reinforcing the work of these separate operations should provide the following advantages:

- (a) Enable staff members to be specially selected and trained in skills required for effective outreach services to businesses, including:
 - identification of market trends;
 - development of expertise regarding products and services which are in demand overseas, through foreign market evaluations;
 - assistance in making business contacts and evaluating the reliability and experience of prospective business partners; and
 - aid in promoting Jordanian products through, for example, trade missions and direct introductions of sellers of high priority products to potential buyers.
- (b) Facilitate the training of a small cadre of experienced trade assistance specialists knowledgeable about the work of all Jordanian trade promotion organizations, private or governmental.
- (c) Permit the Directorate staff to directly input data originating with various offices to the distributed computerized information system.
- (d) Ensure that all business files services are coordinated to permit effective analysis and understanding of trade and marketing activities.
- (e) Put the Government's export network to work for interested businesses.
- (f) Provide active collaboration with other trade and business assistance programs such as the:
 - Chambers of Commerce
 - Chamber of Industries
 - World Trade Center
 - Jordan Commercial Centers Corporation (JCCC)

4. Initiate Support to Small Enterprises

An important new function of the revamped Directorate of Business Support Services should be direct, significant assistance to small businesses. Currently, no central governmental department provides comprehensive help. In a typical developmental process, investment and production (possibly including exports) follow from trading experiences.

Roughly a score of Ministry officials, who used to provide technical oversight to companies, are currently underemployed. They have basic skills which, coupled with additional training, could be developed into a significant technical outreach service to small businesses. The Ministry has three field offices outside of Amman, which could provide administrative and logistical support for a well formulated program. Collaboration with other agencies is essential; the Ministry should take the lead to induce vocational schools, voluntary agencies, foreign aid organizations and chambers of commerce to participate in a jointly formulated strategy of support to small businesses.

5. Establish a Unit of Planning and Studies Coordination

The Ministry's staff of experienced personnel have a reservoir of insights and data on the operation of trade and industry in Jordan. Several existing directorates have, in their formal or informal list of work tasks, a requirement that they conduct studies. Currently, however, no directorate is preparing studies on a regular basis. Possibly this is because the nature of work has changed and responsibilities have been diminished significantly following liberalization of controls in 1988. Possibly, directors are uncertain what reports or studies might be useful to top management. Also, the interests and concerns of business have not yet been well formulated. In any case, few demands are made on the directorates to collect statistics or to prepare analytical studies. Meanwhile, however, demands are growing for the executive office of the Ministry to provide quick assessment of trade trends and policy options.

To respond to the need for insightful assessments and to help mobilize the extensive resources of the Ministry, in terms of raw data and experienced personnel, the consultants propose that two to three research specialists and economic planners be recruited to form a small office of Planning and Studies Coordination. These specialists, drawn partially from personnel in the Ministry and partly from other sources, should be trained to undertake work of the following nature:

- Establish criteria for data collection for directorates.
- Coordinate study efforts.
- Offer recommendations regarding industrial policy options.
- Analyze the cost effectiveness of technical services to industry.
- Evaluate the pros and cons of licensing requirements.

- Promote efficiency in internal operations (possibly in coordination with the internal audit function which is proposed in recommendation number 7.)
- Guide the work priorities of the office of central information systems, and evaluate methods of enhancing the effectiveness of the Ministry vis-a-vis businesses and governmental agencies.

Background of Issues Concerning Administration and Finance

While work responsibilities in the Ministry have changed especially since 1988, when requirements for trade licensing were simplified, and investors no longer have to submit for evaluation by Ministry personnel formal feasibility studies on prospective projects, the number and qualifications of employees has remained virtually constant. Currently, the Ministry is endeavoring to develop more active programs in investment and export promotion. Personnel are, in general, trained to control the allocation of resources and licenses. They have little experience providing outreach services to clients.

Most directorates have an oral understanding of the principal functions to be performed on a routine or intermittent basis. The responsibilities of several, such as the directorates of "Insurance Control" and "Trade" (export/import licensing) are moderately well defined, although not always confirmed in writing.

Guidelines available for some directorates, citing general responsibilities, are out of date and do not fully reflect current conditions and job functions. Notable in this regard is the Directorate of Investment Promotion.

No job descriptions are available to guide the work of individual workers. No regular evaluations are carried out to estimate the suitability of employees to perform specified job functions. No incentive schemes are in operation.

Training of personnel is extremely limited although occasionally employees are nominated by foreign entities to enroll in courses. A Jordan Institute of Management (JIM) representative indicated that no employee from the Ministry has enrolled in a management course at JIM in recent years.

The work of several directorates is demanding and fraught with risks. Hundreds of fees, for example are collected each day from prospective importers and exporters. The Directorate of Standards receives daily an average of 40 kilograms of gold jewelry which must be assayed and stamped to show the proportion (karat) of gold contained in each. The control of business operations exercised by Ministry personnel, through periodic audits, is pervasive. Possibly intrusive actions can develop from inspections and the issuance or non-issuance of various certificates and licenses. The exercise of these important duties by Ministry personnel are essential elements of policies designed to protect the public and

business operations from improper or illegal activities. At the same time, these programs should from time to time be audited in order to minimize if not eliminate possible discrepancies or abuses and to avoid unwise interference in business affairs.

Specific proposals to revamp the Directorate of Administration and Finance are as follows:

6. Require all directors and senior managers to submit promptly a detailed report on the principal functions of each unit in their directorate.

These reports should include a brief description of the work to be performed according to the latest guideline available, a complete statement of actual functions presently performed by each section and, to the extent possible, by each worker. Reports should include the following elements:

- a brief description of the work responsibilities cited in the most recent printed guidelines.
- a statement of what major activities are actually and currently being performed.
- an explanation of work responsibilities undertaken in response to specific governmental regulations in the form of laws, registration and licensing controls, investment incentive requirements and so on; Ministerial mandates of responsibility should be identified and explained.
- recommendations on how the work of the individual directorate and each major sub-unit can be streamlined and improved.
- a brief statement outlining the costs, benefits and risks involved in making proposed changes of job functions and personnel.

7. Reinstate the practice of performing internal audits of Ministry operations, both financial transactions and business control functions; a unit formulated to perform such evaluations should report directly to the Minister.

8. Develop training facilities, staffed by accredited part-time instructors, to provide training in a limited array of basic subjects.

Examples are as follows:

- Management techniques
- Principles of accounting
- Word processing and data entry

- Job motivation; how to cope with new work requirements
- Written and oral communications
- Business communication skills

9. Establish a framework for the adjudication and resolution of job-related grievances; provide guidance to staff members on how to seek counseling and assistance in job search activities.

10. Create an Independent Institution of Standards, Specifications and Quality Control

During the past decade, Jordan has been developing the capacity to represent the safety and well being of consumers by enforcing requirements of agreed standards, specifications and quality control measures. These measures are applicable to an array of industrial and consumer products, whether imported or produced locally. The Ministry's existing Directorate of Standards, Specifications and Quality Control is responsible for both the formulation and enforcement of guidelines utilizing a staff of 70 technicians and some of its own testing facilities to evaluate, for example, gold products and foodstuffs. The testing of a much wider range of consumer and industrial products is conducted primarily by the Royal Scientific Society, using the skills of several hundred specialists working in 30 laboratories. Private certified laboratories are being used to test some products. The Ministry of Health also conducts or directs the testing of designated products of concern to that organization.

Discussions regarding the advantages of establishing a separate autonomous organization of standards, specifications and quality control have been conducted by several organizations, including the World Bank, over the past few years. Proponents of this idea include the Royal Scientific Society. The Ministry faces difficulties in engaging qualified technicians and science specialists because of severe limitations on the salaries that may be paid. Increasingly, testing is being conducted by private entities, while the ministry's staff maintains primary control over the legal and administrative facets of the operations. The consultants recommend that the Ministry take the initiative to establish an autonomous body, to determine and conduct standards and control, in which appropriate participation by the Ministry is maintained.

11. Establish a Representative of Business and Consumer Affairs and Complaints

Part of the Ministry's effort to expand outreach services to businesses is to improve relations with the public. One element of an overall plan, now being formulated, is an improvement of the physical appearance and efficiency of the Ministry's reception area. This is a useful step.

Another potentially helpful action, designed to improve business relations, would be to designate a senior official to be primarily responsible to provide rapid, effective responses to business and consumer inquiries and complaints. Such an official, given considerable

authority to follow up communications, could emulate the role of an "ombudsman" and improve the image of the Ministry as a responsive, supportive organization. This consumer or business advocate would report directly to the Minister.

12. Encourage the Formulation of a Business Advisory Council

An important element of the Ministry's strategy to provide services to businesses is to improve communications between interested parties. The aim is to increase the volume and value of economic transactions, particularly foreign trade and investment, while at the same time safeguarding the interest of taxpayers, shareholders and consumers at large. When formulating specific elements of a strategy, particularly in fast changing circumstances, Ministerial officials may wish to solicit suggestions and questions from businesses. One means of developing a useful dialogue is to solicit the support of a group of responsible private sector representatives who would meet periodically to exchange views on how best to achieve agreed goals.

Representatives of private business already provide useful guidance to the work of a number of semi-autonomous financial institutions and trade promotion entities. Inviting participation by such representatives to discuss policies and actions of the Ministry should, when carefully organized, enhance the effectiveness of resulting decisions.

III. INFORMATION AND MANAGEMENT SYSTEMS OF THE MINISTRY

Efforts to establish information management systems (IMS) were initiated in 1987 and installation of hardware and software development work began in March 1989. The existing hardware configuration supports a centralized data processing environment with data terminals, IBM compatible personal computers (PCs) and printers connected to a VAX 3500 mini-computer.

Software has been developed by a private Jordanian firm, the Computer-Engineering Bureau (CEB). Currently, database capabilities exist for basic information functions specified by five directorates -- Trade (import and export licensing), Controller of Companies, Industry, Standards and Specifications, and Trade Registration. These database programs, developed and installed in May/June 1990, are currently designed to serve a limited range of the interests of each directorate. There is no provision to integrate data across different directorates.

Database programs are supported by an ORACLE relational database manager platform. All programs reside in the VAX 3500 mini-computer. Modifications and enhancements to these database programs are on-going. The private company, CEB, viewed by the consultants as fully capable of servicing most IMS needs of the Ministry, is contracted to provide a full range of support up to December, 1991.

Overall, the hardware exists to develop an effective information management systems (IMS) operation. Systems planning and personnel training are still in the elementary stages. Prompt action is needed to train both IMS personnel and end users regarding the capabilities of existing equipment.

In order to serve anticipated needs of the four proposed major directorates, the Ministry should promptly initiate a program, led by the existing Directorate of Information and Studies, to transfer directly to responsible data generators in each directorate the day-to-day data entry and report generation tasks. Concurrently, personnel in the directorates must be trained to identify the data to be computerized, assess the needs for statistical manipulations and begin utilizing the equipment for agreed tasks. All directorates must standardize relevant data collection forms and initiate standard analytical procedures for existing and proposed tasks that are to be computerized. Ultimately, standardized data collection forms should be published and distributed to industries and traders to speed up and simplify reporting requirements.

To take advantage of the existing extensive equipment capabilities, details of an IMS plan must be formulated to guide decisions to be made over the long run (12 to 36 months). The plan should include the following elements:

- define further the data requirements of each directorate or department;
- determine, and where necessary reorganize, the array of services to be provided to industries, traders and other government entities;
- formulate a strategy to provide overall coordination and integration of major elements of the IMS system in terms of objectives, equipment uses and requirements for operating personnel;
- establish promptly a distributed data processing environment in each major directorate whereby each directorate is responsible to input its own data and to use the system to satisfy agreed requirements;
- consolidate and, where appropriate, relocate customer services of registration and licensing in one central location to provide for more effective and efficient utilization of equipment and trained personnel;
- establish an appropriately staffed office of central information systems to manage the broad elements of the computerization plan and provide support for hardware maintenance, software programming and identification of training needs:
- accord highest priority to the development of a trained cadre of personnel able to manage and, in the future, upgrade the IMS operations.

The existing Directorate of Information and Studies is staffed as follows:

• Director	1
• Supervisor	1
• Operators	2
• Coding employee	1
• Data entry clerks	5

Currently, the Directorate's staff members lack the programming and system analysis skills required to formulate effective database specifications and programs. As IMS functions are distributed to the directorates, and the system is upgraded, extensive training of personnel will be required.

The existing equipment is adequate to respond to current IMS needs. Assuming that distributed data input and processing systems are established in each of the major directorates, then certain additional equipment will be needed in the short term and, with different assumptions, in the long term.

The stand alone databases developed for four of the five directorates are not being utilized. One directorate processes only historical data for export and import licenses. Currently, raw data is keyed in to the computer by clerks in the centralized information system, reading data from handwritten forms prepared by personnel in the directorate.

Database programs use different key fields to identify customers (companies, industries, etc.) and are not compatible with an integrated database management system. The databases are currently being modified but there is no standard procedure to establish a unified system or to provide for a comprehensive enhancement of programs.

Existing systems have no provision for computer security. There are no established procedures to back up data systematically.

Recommendations

13. Establish a Central Office of Information Systems, based on the staff of the existing Directorate of Information and Studies, to head the Ministry’s information management operations.

The Center’s activities should focus on providing system coherence, establishing computer hardware and software standards and developing the details of strategies for program implementation, integration and future expansion.

The staff of the new central IMS should include the following:

<u>Function</u>	<u>Number of Employees and Source</u>
• Office Manager	1 (Suggest training incumbent)

Responsibilities: Define objectives and set priorities for this office and act as liaison with Ministry officials and other governmental agencies; develop and direct a long term computerization plan; provide appropriate computer training to develop identified computer skills of own staff plus the staff members of operating directorates.

• System Manager	1 (New)
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Responsibilities: Support and upgrade the system as appropriate; write specifications for a structured database.

• Programmers	1 or 2 (Suggest train one worker from current staff and hire one new trained programmer)
---------------	--

Responsibilities: Write input and output programs in ORACLE; make modifications and enhancements to the existing database programs.

- Hardware Technician 1 (Suggest train employee from existing staff)

Responsibilities: Oversee basic hardware and network installation and maintenance services; act as liaison with vendors.

- Trainer of data entry clerks 1 (Preferably train existing staff member)

Responsibilities: Explain existing systems and programs and train end-users in directorates.

- Data Entry Clerks 2 (Upgrade training of existing staff persons)

These clerks will serve the requirements of the Office of Central Information Systems; the operational directorates will have their own data entry clerks.

14. Provide thorough training for all staff members of the IMS Center, as well as designated employees of operating directorates.

The following short and long term training programs are suggested; all programs may be conducted in Amman using, as appropriate, facilities and staff of the Royal Scientific Society (RSS) and the private contractor, Computer Engineering Bureau (CEB).

- (a) General computer literacy seminar.

Provide this training to all directors and section heads. (Such training began in September, 1990.)

- (b) ORACLE & DBASE software; application and theory

- Introductory elements
- Intermediate
- Advanced

When trainees master ORACLE, they can develop relational databases and create computerized data records and files used to generate registration certificates, import and export licenses and other pertinent information. These courses are normally presented in about 20 to 30 hours of instruction at each level. All end-user personnel should be required to take the elementary and intermediate level course work. Training in the advanced level should be provided to employees who will be using the programs regularly.

(c) Spreadsheet training (SQL-Calc)

Introductory courses on SQL-Calc, which normally require about 20 to 30 hours of instruction and hands-on exercise, should be taken by all end-user personnel. The program provides employees with the capacity to perform arithmetic operations on financial and economic data.

(d) Apprenticeship/Hands-on training in

- Structured database design
- Programming

These courses, designed to provide personnel with the capacity to specify and build databases for specific tasks, require 3 to 6 months of instruction including hands-on exercises. Such training should be provided promptly to the IMS system manager and the programming staff.

(e) Key boarding and data entry

Courses on key boarding and data entry, which normally require about 20 to 30 hours of instruction, should be given to all end-user personnel.

(f) Database query and report generation

This training, which normally requires about 20 to 30 hours of instruction and hands-on exercise, should be given to end-user personnel directly involved in database management activities such as sorting and examining computerized data.

(g) Desktop Publishing

Courses in document layout and training in the software, used to integrate text, graphics and pictures, should be given to personnel responsible for publishing registration forms, leaflets, newsletters, brochures and instructions for businesses. About 20 to 40 hours of instruction, including hands-on practice, is required to become reasonably proficient.

15. Provide each directorate with its own data entry terminals to permit data to be entered at the point of creation.

The advantage of performing the data entry at the point of creation are numerous:

- There are no delays or bottlenecks in the systems.
- Copies can be printed quickly.

- Data can be verified easily and quickly; the end-user ("owner") can verify that the data entered is correct.
- Typographical errors are minimized and overall database integrity is maintained.

The Directorate of Trade should, for example, develop the capacity to produce the import/export licenses directly through a computer printout. This will eliminate the need to prepare license documents by hand and eliminate the repetitive procedure by which copies of forms are conveyed to the IMS group to be later coded and computerized for historical purposes.

16. Require the Office of Central Information Systems to publish guidelines, both for its staff and end-users, to explain procedures required to make changes in programs and databases.

17. Integrate essential identification elements of each database across directorates. This is vital to enhancing management decision support and to generate useful statistics for industry and sector analysis.

A unique registration number should be selected to be the main key field to identify each business (e.g., industry or company). Each may also have an additional industry registration number, municipal occupation certificate number, or trade registration number. In all cases, however, a single key identifier would be used on all transactions.

18. Develop a computer security program, possibly with the assistance of the private CEB company, and establish computer access priority codes that will be updated periodically.

The access codes should be provided only to authorized personnel; transactions may then be tracked by these authorization codes to assist internal auditing reviews.

19. Back up the system.

To prevent loss of data due to fire, electrical problems or any other reasons, the following procedures should be adopted.

- (a) Copy data accumulated in computer storage disks to backup magnetic tapes each week.
- (b) Use two separate magnetic tapes; store one tape outside the Ministry's premises, in a safe and cool place.

20. Identify and justify all equipment required to establish a distributed data processing system in each directorate.

Estimates should take into account the following factors:

- (a) All distributed data processing environment will be implemented fully over the next two and a half years.
- (b) All facilities serving business on a repetitive basis, such as registration and licensing, should be consolidated and placed in one central location preferably on the ground floor. This will allow for optimum use of equipment and trained personnel.
- (c) Personal computers (PCs) can be used both as stand alone work stations and as data terminals. This will minimize the number of terminals and PCs required for data entry, retrieval and data analysis.
- (d) Existing equipment will be utilized effectively before additional equipment is purchased.

21. Develop and enforce standards for computer equipment use and computer software purchase.

Operating system standards and application software standards must be developed and enforced to ensure compatibility among computer work performed by different directorates and individuals. The Central Office of Information Systems should lead this effort. When faced with temporarily heavy work loads, such as the need to computerize old files, the Ministry should consider renting equipment or contract to have the tasks performed by other organizations such as the Royal Scientific Society, the Jordan Electric Authority or private entities.

IMS Issues Concerning Directorate of Controller of Business Operations

The existing Directorate of Controller of Companies audits and analyzes financial and legal reports submitted by thousands of companies. Follow up work is undertaken to identify problems, illegal practices, or noncompliance with government regulations and requirements. Currently, financial reports of businesses are transcribed onto standardized forms, in preparation for analysis. The Directorate does not have written guidelines citing how financial reviews and analyses are to be conducted. Each auditor or analyst uses techniques developed through individual experience. The Directorate determines the appropriateness of issuing the following documents and authorizations needed by businesses:

- Certificate of waste, use of imported raw material and the use of semi-processed inputs in the production of goods; this document is used to monitor compliance with duty waivers and tax incentives.
- Certificate of value-added, for goods destined for exports, especially in the free-trade zone, as well as for products included under protocols of bilateral trade agreements. (Value-added calculations are performed both by the Ministry and the Chamber of Industries.)

Written guidelines exist to explain the calculations of value-added but there are no standardized forms issued to customers to collect and tabulate the data. No standard formulas or data collection forms exist to guide the determination of wastage and use of imported raw material. The quality and type of data collected depends primarily on the expertise and judgement of the analyst.

Recommendations are as follows:

22. Develop and publish, through the proposed Directorate of Controller of Business Operations, standard guidelines and analytical procedures used to analyze company operations.

Customarily such procedures require the use of financial ratios such as return on equity; return on assets; return on capital; return on revenue; debt to equity ratio etc.. These can be easily and effectively computerized and integrated so that the computer will assist in identifying company operations which deviate from norms.

23. Develop and publish standard data collection and reporting forms in order to avoid typographical errors associated with the transcription of data from one form to another and to optimize the use of trained personnel.

Forms should be issued to customers and used directly by businesses for reporting data to the Ministry. Data can then be easily computerized, using standard formats. Forms should be prepared and used by all directorates that seek data from businesses, including the proposed Directorate of Controller of Business Operations. Financial data used for calculating value-added could, for example, be entered into a computerized database, based on figures compiled in standard formats.

24. Initiate a program to share data with the Chamber of Industries to improve coordination in the issuance of Certificate of Origin.

Consistency between the value-added determined by the Chamber and the Ministry can be enhanced through a computerized system of (a) sharing customer data and (b) identifying the criteria used in the approval process.

IMS Issues for Directorate of Registration & Licensing

Three existing directorates issue licenses and conduct registrations of businesses. The Directorate of Controller of Companies issues registration certificates to public share companies, limited liability private corporations, partnerships and to personal limited liability companies. The process is manual. It includes review of partnership agreements, number and value of shares distributed, list of shareholders, list of company directors and amount of capital. Businesses must satisfy the Ministry's requirements for issuance of industry registration certificates before applying for company registration.

The Directorate of Trade Registration is responsible for registering proprietorship (individual ownership) businesses and trade agents. The Directorate's property section also registers trademarks, company names, patents and industrial designs.

The Directorate of Trade processes and issues import and export licenses. It also requires customers to register as importers or exporters. In order to register as an importer and/or exporter, a business must submit a copy of the Company's Registration Certificate and a copy of the relevant Municipal Occupation Certificate.

Businesses typically apply for import and/or export licenses using standard license application forms. Five copies of import licenses are prepared. The original is given to the importer; one copy is mailed to the Central bank; one copy to Customs; one copy to port of shipment; and one copy is retained by the Ministry. For export licenses, four copies are required. The original is given to the exporter; one copy for Customs; one copy for the Central Bank; and one copy is retained by the Ministry. Currently, the copy of the import and export licenses which is retained by the Directorate is sent to the IMS unit, at the end of each work day, to be keyed into the central computerized database for statistical purposes. One employee in the IMS staff determines the preferred code for each license and then conveys it to a data entry clerk.

Recommendations are as follows:

- 25. Simplify and combine the industry and the company registration requirements. This will eliminate duplication of information required by overlapping processes.**
- 26. Coordinate and begin to utilize the several database programs developed by the private contractor (CEB) for all company, trade and industry registrations.**

Data contained on registration applications and export and import license applications should be entered directly into the computerized database. Copies of the registration certificates and export and import licenses should be printed directly at the point of entry.

Individuals authorized to sign the certificates and licenses should verify the data, make corrections on the spot, and arrange to print the form for signature. This approach will markedly hasten the processing of registration, certification and licensing requests and eliminate the second step of manual coding and keying of data.

27. Ensure that the unique company registration number is adopted by all directorates within the Ministry as the customer's unique identification code; all paper work and files relating to a company should bear this identification code.

28. Ensure that a common industry classification code (for example, customs tariff codes) are used by all directorates within the Ministry.

Unification of company identification codes and the unification of industry classification codes will facilitate the integration of the current, separately developed, database programs. This should minimize duplication of information and enable users to prepare meaningful and accurate statistical reports.

IMS Issues for Directorate of Business Support Services

Currently, three directorates provide outreach services to industry and commerce: the Directorate of Investment Services; Economic Cooperation and Export Promotion; and, Encouragement of Investment.

No documents have been published in recent years by the Ministry providing information regarding Jordanian government investment regulations or opportunities for investment and export.

One recommendation is proposed.

29. The proposed Directorate of Business Support Services should be appropriately staffed and directed to take the lead in explaining to businesses government regulations, investment laws and extracts of data for prospective investors.

The Ministry's newly acquired desktop publishing system could be used to effectively develop attractively packaged information for businesses at minimal cost. The package might contain information on the following:

- Company registration requirements
- Investment incentives
- Import & export licensing requirements
- Industry/product classification codes
- Export opportunities abroad
- Technical assistance & services available

IMS Issues for Directorate of Administration & Finance

The current Directorate of Administration is responsible for preparing the Ministry's annual operating budget and monthly payroll in coordination with the directorates. The unit also collects fees paid by customers. Summaries of fees collected are prepared and submitted to the Central Bank on a regular basis.

All administrative reports, including payroll calculations, are still prepared manually.

Recommendations are as follows:

30. Rapidly computerize most accounting functions; as the Ministry implements distributed data processing environment, fees collected from customers also may be calculated and summarized.

31. As each directorate computerizes and is required to track operating budgets and expenses, summary reports should be developed and generated automatically; time spent on number crunching can be used for analysis and verification of data and, with training, the work of accounting clerks can be made more accurate and useful.

Issues Concerning Document Processing, Storage and Retrieval Procedures

The Ministry daily receives scores of written communications from governmental agencies, international organizations and the business community. The Ministry also generates numerous reports and letters in response and in support of its regulatory functions and outreach services to the business community. Documents coming to and going out of the Ministry are registered and archived by the Chief Clerk.

The current filing system and file tracking procedures are inadequate. Subject codes are drawn from memory. No published tables are readily available to filing clerks to determine proper codes. The Chief Clerk, utilizing a system established 35 years ago, sorts, registers and distributes incoming mail. He has no delegated authority to request action to be taken, to establish due dates, or to follow up.

Each directorate uses a different filing system. Paper work related to company registration and related requirements are archived by the current Directorate of Controller of Companies. Documents related to import/export licensing are archived by the present Directorate of Trade. Reports related to licensing of industries are filed by the existing Directorate of Industries. Documents related to the registration of proprietorship companies, patents, industrial designs, trade marks, and commercial names are archived by the current Directorate of Trade Registration.

Recommendations are as follows:

32. Designate an official empowered to establish due dates and follow upon all action oriented correspondences.

33. Maintain a manual and a computerized ledger to facilitate follow up of status of each document, which require action. The manual, and the computerized ledger, should including the following:

DATE RECEIVED:
SENDER:
REFERENCE #:
SUBJECT CODE:
DESCRIPTION:
SENT ACTION TO:
ACTION DUE DATE:
STATUS:

The designated mail control agent should request and ensure that each directorate adopt a similar document tracking and filing procedures.

The Chief Clerk should establish both a manual and computerized ledger for recording and tracking files and documents. Ledgers should include the following:

DATE RECEIVED
SENDER
REFERENCE #
SUBJECT CODE
DESCRIPTION
CHECKED OUT BY
CHECK OUT DATE
SIGNATURE
DATE RETURNED

34. Letters, studies and other documents should be filed by SENDER and SUBJECT, with the latest document on the top. The advantages are:

- The central officer may more readily locate files and documents
- Documents identified by sender, subject and date, can be more easily located

35. File copies of documents such as studies and special reports, which the Ministry determines should be retained by the Chief Clerk, should be sent to the Archive office within two work days; documents should be loaned, for a limited time, to personnel using a document tracking system as discussed above.

36. Consolidate all company files within the Ministry; paper work for each business should be filed using the unique registration number (with the latest document filed on the top.)

Critical information on companies, such as the following, can be sorted and displayed when an integrated computer database is established:

COMPANY REGISTRATION #
COMPANY NAME
DATE ESTABLISHED
EXPORTER LICENSE #
IMPORTER LICENSE #
MUNICIPAL OCCUPATION LICENSE #
INDUSTRY LICENSE #

GRAPHIC PRESENTATIONS AND CHARTS

Figure 3 presents an overview of the proposed IMS systems network.

Figure 4 lists existing computer equipment and proposed new equipment divided into short (6-12 months) and long term (12-36 months) requirements.

Figure 5 cites current and proposed software.

Figure 6 estimates personnel requirements to operate the proposed IMS programs.

Figure 7 presents cost estimates for equipment software and personnel training.

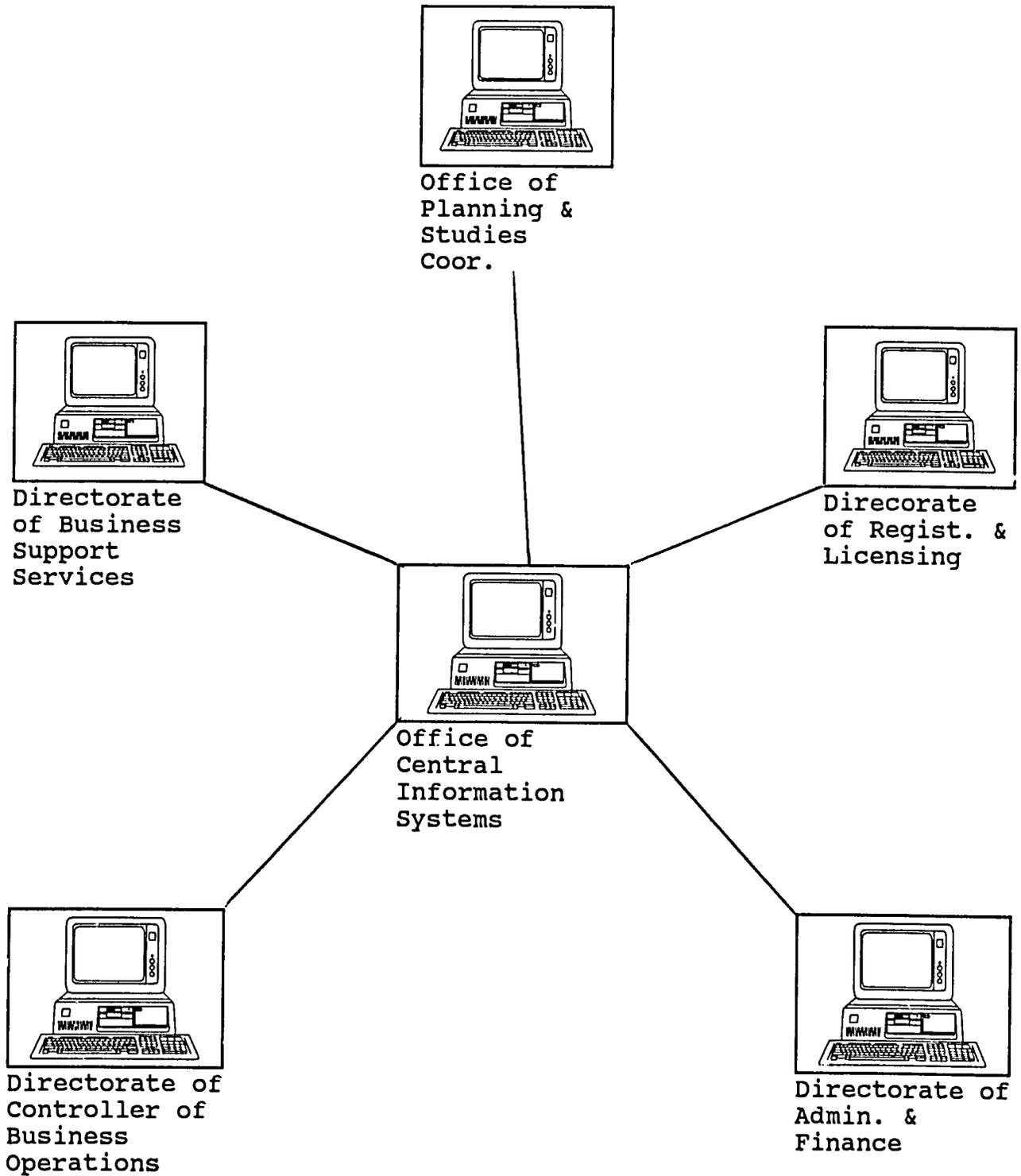
Figure 8 is a GANTT chart of the timing of major activities.

Figure 9 is a proposed document tracking ledger for the Office of Secretary General.

Figure 9a depicts a ledger for the Chief Clerk.

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Figure 3: Distributed Data Processing Environment Overview



	<u>Current</u>	<u>Proposed</u>	<u>Incremental Short Term</u>	<u>Long Term</u>
Directorate of Business Support Services				
- Macintosh Computer	-	1	1	-
- Apple Dot Matrix Printer	-	1	1	-
- Macintosh Desktop Publisher				
Macintosh Computer	1	1	-	-
Macintosh Laser Printer	1	1	-	-
- IBM Compatible PCs	-	1	1	-
- Epson LQ-1050 printers	-	1	1	-
Office of Planning & Studies Coordination				
- IBM Compatible PCs	-	2	1	1
- Epson LQ-1050 printers	-	1	1	-
Office of the Minister & Secretary General (Secretarial Support)				
- IBM Compatible PCs	2	2	-	-
- Epson LQ-850 printers	1	1	-	-
- IBM Proprinter	1	1	-	-
TOTAL EQUIPMENT REQUIREMENT				
- Macintosh Computer	-	1	1	-
- Apple Dot Matrix Printer	-	1	1	-
- Macintosh Desktop Publisher				
Macintosh Computer	1	1	-	-
Macintosh Laser Printer	1	1	-	-
- IBM Compatible PCs	4	16	6	6
- IBM Compatible Shared Server	-	1	-	1
- Dot Matrix printers	5	10	3	2
- Al Raid Word Processor	1	1	-	-
- Data Terminals	5	7	-	2
- Networking Cables & Accessories (350 Meters)	-	1	-	1

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Figure 6: Personnel Requirement

	<u>Current</u>	<u>Proposed</u>	<u>Incremental Short Term</u>	<u>Long Term</u>
Office of Central Information System				
- Director	1	1	-	-
- System Manager	-	1	1	-
- Supervisor	1	-	(1)	-
- Programmers	-	2	1	1
- Hardware Technicians	1	1	-	-
- Coders	1	-	(1)	-
- Trainer of Data Entry Clerk	-	1	1	-
- Data Entry Clerks	5	2	(3)	-
Directorate of Registration & Licensing				
o Dept. of Registration				
- Data Entry Clerks	-	3	3	-
o Dept. of Import/Export Licensing				
- Data Entry Clerks	-	2	2	-
Directorate of Controller of Business Operations				
o Dept. of Investment Incentives	-	-	-	-
o Dept. of Company/Industry Control				
- Data Entry Clerks	-	2	2	-
o Dept. of Insurance Control				
- Data Entry Clerks	-	1	1	-
Directorate of Administration & Finance				
o Dept. of Personnel				
- Data Entry Clerks	-	1	1	-

	<u>Current</u>	<u>Proposed</u>	<u>Incremental Short Term</u>	<u>Long Term</u>
o Dept. of Registry & Archives				
- Data Entry Clerks (Archives)	-	1	1	-
- Typing Pool	3	3	-	-
o Dept. of Accounting				
- Data Entry Clerks	-	2	1	1
o Dept. of Admin. Support	-	-	-	-
Directorate of Business Support Services				
o Dept. of Industry Support				
- Desktop Publisher Specialist	-	1	1	-
- Word Processing Specialist	-	1	1	-
o Dept. of Small Enterprise Support	-	-	-	-
Office of Planning & Studies Coordination				
	-	-	-	-
Office of the Minister & Secretary General (Secretarial Support)				
	-	-	-	-

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Information & Management Systems

Figure 7: Cost Estimates in US Dollars

	Incremental Cost	
	<u>Short Term</u>	<u>Long Term</u>
EQUIPMENT:		
IBM Compatible (80286) PCs	\$ 9,000.00	\$10,800.00
IBM Compatible Server	-	2,000.00
Epson Dot Matrix Printers	1,500.00	1,000.00
Data Terminals	-	600.00
Networking Wires & Accessories	1,500.00	1,500.00
Modems - 2400 Baud	-	600.00
SOFTWARE:		
SQL-Calc spreadsheet software	600.00	-
Business Graphics Software	300.00	-
Communication Software	100.00	100.00
TRAINING:		
Introductory Level Courses	3,000.00	2,000.00
Intermediate Level Courses	2,000.00	4,000.00
Advanced Level Courses	-	3,000.00
Subtotal	<u>18,000.00</u>	<u>25,600.00</u>
Contingency @ 10%	1,800.00	2,560.00
TOTAL	<u>19,800.00</u>	<u>28,160.00</u>

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Figure 8: Information Management Systems Implementation

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	1990		1991				1992			
	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q
Ministry Restructuring (Clarify objectives, define functions & responsibilities)	***	*****	*****	*****						
Floor Space Planning (Place direct customer support groups on ground floor)		*****	*****	*****	**					
Computerization Plan (Define Ministry info. system needs, write database spec., layout programming requirements)	*	*****	*****	*****	***					
Info. System Group Staffing (Hire appropriate personnel to operate computer systems)		*****	*****	*****	****					
Staff Training (Staff training on relevant computer system must begin now)		*****	*****	*****	*****	*****	*****			
Network Cabling				*****	*****	*****	*			
Equipment Purchase & Installation			*	*****	*****	*****	*****	*****		
Testing of installed systems		*****	*****	*****	*****	*****	*****	*****	*****	
Full Implementation					***	* ****	*****	*****	*****	*****

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Figure 9: Document Tracking Ledger

Office the Secretary General

Date Recv'd	Sender	Ref. #	Subject Code	Description	Sent for Action to	Due Date	Status

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Figure 9a: File/Document Tracking Ledger

Office the Chief Clerk

Date Recv'd	Sender	Ref. #	Subject Code	Description	Checked Out By:	Check Out Date	Sig.

APPENDIX A

LIST OF CONTACTS AND INTERVIEWS

CONTACTS

Ministry of Industry and Trade

H.E. the Minister, Ziad Fariz (former Minister of Planning)
Secretary General, Ibrahim Badran
Dr. Mohammed Bani Hani, Director of Industries (Registration and Control)
Mr. Jamil Tadros, Deputy Director of Industries
Dr. Sayel Hyasat, Director of Companies (Registration)
Mr. Ghazi Batarseh, Manager of Studies Section for Companies
Mr. Asem Al-Hindawi, Director, Economic Cooperation (bilateral agreements) and
Export Promotion
Mr. Jamil Qammou, Deputy Director, Economic Cooperation
Dr. Samir Emeish, Director, Encouragement of Investment (approval of subsidies
authorization)
Mr. Shawqi J. Haddadin, Director of Insurance (Control and Oversight)
Mr. Issam Abu Khader, Manager, Insurance
Mr. Mohammed Kashow, Director of Information and Studies
Ahmad Rawashdeh, Assistant, Information Directorate
Mr. Hassan Saudi, Director of Standards, Measurements and Quality Control
Salem Ghawi, Manager, Standards
Mr. Mohan med Khreisat, Director of Registration (of trade and commercial
enterprises)
Dr. Yousef Hayajneh, Director, Investment Services "Window"
Mr. Eid Ereifej, Manager, Investment Services
Mr. Suhail Mallah, Director of Administration
Mr. Nouras Khreisat, Director of Trade (issuance of import/export licenses)
Mr. Salem Kihaywi, Deputy Director of Trade (issuance of import and export
licenses)
Mr. Nazih Wehbeh, In Charge of Export Licenses
Mr. Khaled Kamal, In Charge of Import Licenses
Mr. Bahjat Khateeb, Manager, Archives and Registry
Mr. Ghassan Abu Amara, Assistant to Secretary General

Ministry of Planning

Mr. Salem O. Ghawi, Director; Technical and Economic Cooperation Department

Jordan Central Bank

Mr. Mohammed Salem, Deputy Governor