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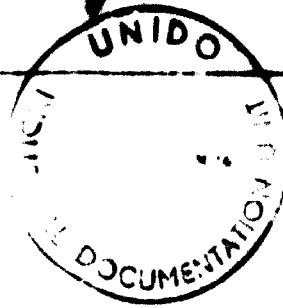
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EXPLORATORY MISSION TO INVESTIGATE
SHORT- AND MEDIUM-TERM PLANS TO BE UNDERTAKEN WITH A VIEW
TO ESTABLISHING A MANAGEMENT INFORMATION AND
CONTROL SYSTEM IN THE MINISTRY OF ECONOMY ^{1/}

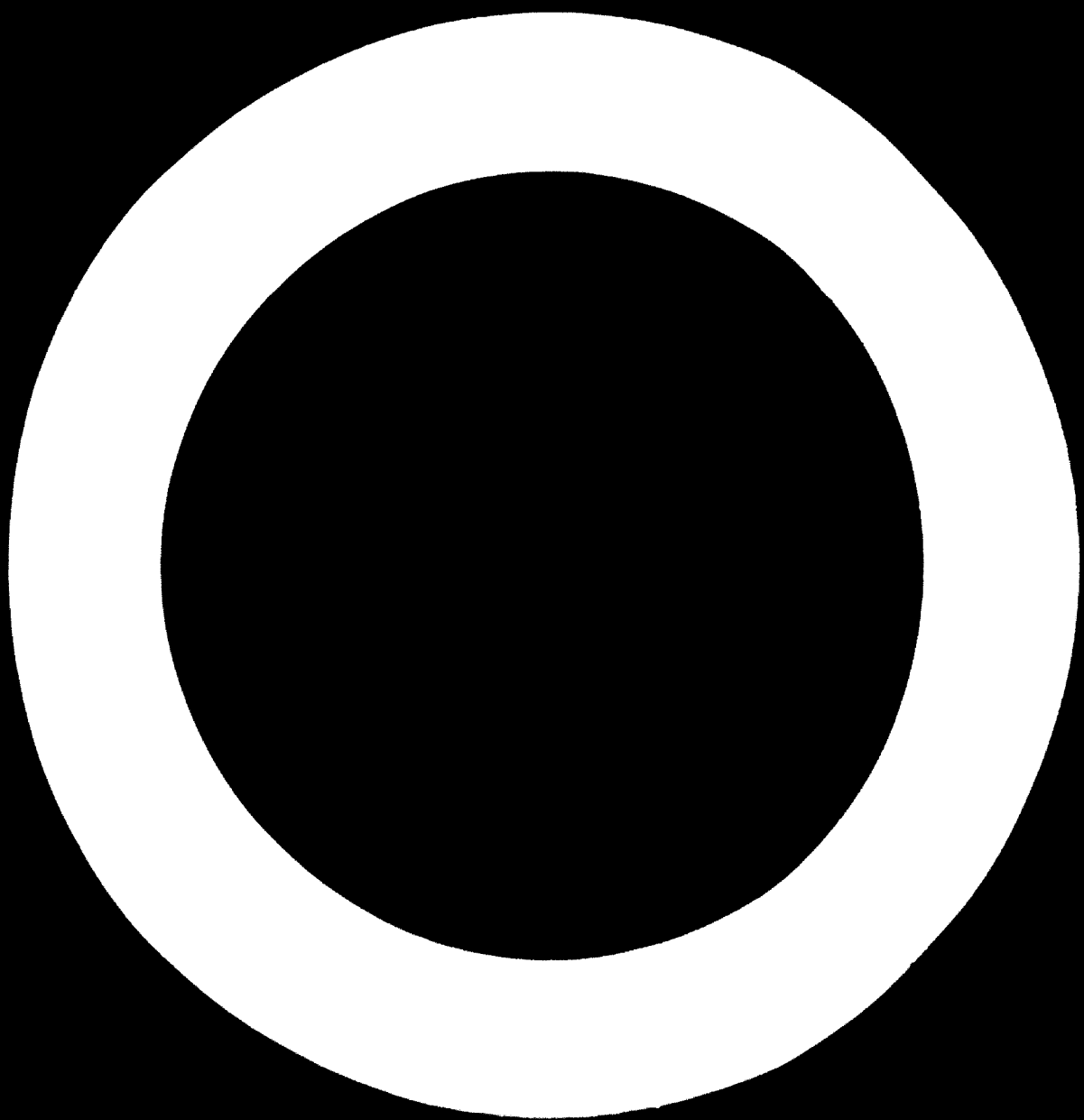
REPORT OF ASSIGNMENT

IRA-101-7 (SIS)

Gordon O. Pehrson
Consultant

The views and opinions expressed in this paper are those of the consultant and do not necessarily reflect the views of the secretariat of UNIDO.





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I. INTRODUCTION

Background on UNIDO Assignment IRA-101-D (SIS)

A study mission to the Ministry of Economy, Government of Iran, was undertaken in response to a request from the Ministry for technical assistance to improve its present information system and to pave the way for the establishment of a more comprehensive, flexible and reliable management information system and decision-making process.

The request reflected concern on the part of the higher levels of the Government that the complex economic interrelations of an industrialized society do not lend themselves to simple analysis and ad hoc judgements.

The assignment resulting from the request has placed principal focus on information flows to and from various decision points in the Ministry and on the identification of areas wherein specific application of systems analysis techniques could be undertaken. Furthermore, the assignment has clearly recognized an essential element for the introduction of a new problem-solving approach - that is, the establishment of a so-called management information system which would present measured options for choice in the decision-making process and permit effective administration of the decisions made.

Since the assignment covered the entire range of responsibilities of the Ministry, it was necessary to examine each of the Departments and agencies that operate under the Ministerial authority. Also, the Consultant has taken note of the interrelated responsibilities between the Ministry of Economy and the Plan Organization. However, the assignment did not include an examination of the inter-Ministerial relationships nor of the responsibilities of the Minister of Economy not directly related to his position as chief executive officer of the Ministry.

The assignment was carried out in Iran between 15 January and 6 April 1970 by Dr. Robert G. Johnson, Senior Consultant to UNIDO.

General Observations

The economic growth of Iran during the past decade has been one of the most rapid in any developing country. The planned annual increase in government expenditure on national income through the current Fourth Development Plan is considered to be realistic. The industrial sector is targeted to contribute a significant growth contribution towards this goal.

The industrial sector, with principal responsibilities in the industrial development of the country, and policy decisions and administrative matters relating to economic development, with its many important social, cultural and political dimensions, is regarded to be so complex that no single person or institution for the economy of the country is likely to be able to identify all the factors for economic development exist in the programme of industrial development.

In the Ministry of Economic and Financial Government, there is a highly developed administrative structure. The personal views of selected advisers, both inside and outside the Ministry, are often sought on major policy issues even though they are not under the direct responsibility of the Ministry. In the initiation of major economic projects, there is a great reliance on the judgements of selected persons within the Ministry. It therefore seems to be great individual responsibility for such judgements. It is a cultural fact that in Iran there are such stronger personal and sensitive drives for individual recognition than for co-operative group activities. In this connexion, it should be noted that UNIDO is currently undertaking a programme on "achievement motivation" which could give valuable insight and assessment into this problem.

Recognition of the cultural fact is relevant in that it is unlikely that some of the economic development programmes that have worked well in other cultural environments with different value systems - e.g. Japan - would work well in Iran. In so far as the purposes of this assignment are concerned, the existence of the cultural fact in Iran may prove to be a practical constraint on several important recommendations that the Consultant has made for probing the effects of past decisions and for initiating follow-up procedures on future decisions.

That cultural fact may also be a constraint on the initiation of information gathering and analysis procedures which depersonalize data. The depersonalization of data constituted an important element in the design of computer-based information systems even in the most modern and efficient industrial organizations. That element would have special significance in Iran. In other words, a system approach to improving management decisions must first take into account the personalized management system that prevails in the country.

On the other hand, the tendency in Iran to take individual and personalized decisions makes for great potential in the development of small-scale industry. The willingness to "go it alone" and to take risks in business adventures has contributed importantly to the successful development of the Iranian economy. In this connection, it should be stressed that the application of the new UNIDO programmes for achieving the development of existing entrepreneurship and the identification of potential entrepreneurial talent would be relevant. They would increase the number of trained individuals involved in the mobilization of capital and in the establishment of enterprises.

The Ministry of Economy is a good place within the Government of Iran through which to explore new approaches and to re-examine the usefulness of old practices related to economic development. The Ministry possesses excellent means and there are many opportunities for improving the existing, and for establishing new, areas of information circuitry among Government agencies.

Within the Ministry there are motivated and talented skills, and the number, quality and grouping of well-trained young personnel is most impressive.

There is rich and creative variety in the pattern of agency organization and in the types of relationships to Ministerial authority established to administer specific programmes. There is willingness to experiment with new ideas and to commit to change.

Moreover, the Ministry has an impressive record of utilizing consultants and of giving serious attention to their recommendations.

There exists a strong base for making major advances in three areas of economic development: a) in the creation of a system of information gathering and analysis procedures; b) in the planned development of entrepreneurship; and c) in the design of economic simulation

It is a necessary and logical thinking in terms of information system in order to contribute to the design and administration of Government policies and general economic objectives, in order to establish a system of control to build the comprehensive information system which will be used in the decision making in all other parts of the Government administration.

Development of the Ministry of Economy

Since the economic reforms were carried out, the Ministry of Economy expanded its role and contact with other agencies and organizations. In view of the complexity of the development report, the Ministry has been reorganized and restructured, and a Senior Deputy Ministry and two new Deputy Ministers have been appointed. (See Chart I.)

...in making recommendations, ...of the Ministry into ...responsibilities and common ...that any such classification ...

...agencies with ...within the context of ...the important potential ...the influence of ...to all the ...

...it can be noted that the Consultant ...three broad areas:

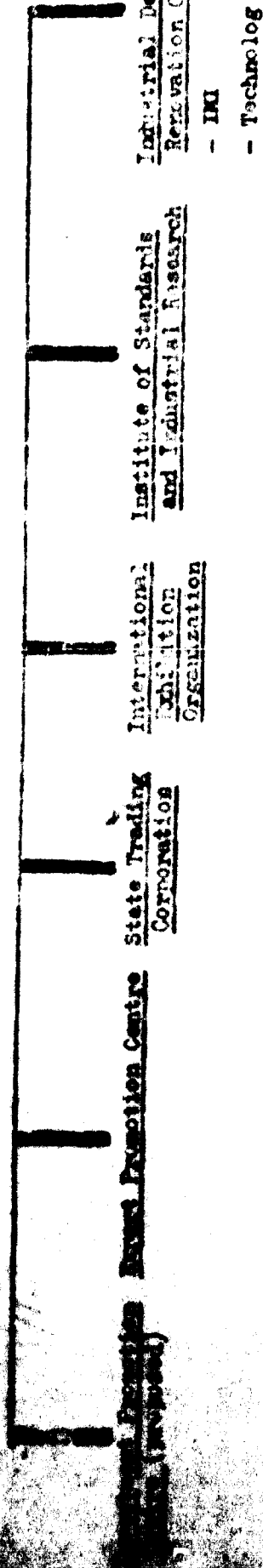
- a) ...available in ...properly brought ...
- b) ...the domestic economy of Iran ...economic indicators and on follow-up reporting ... (See Chart IV)
- c) Development of new sources of information that relate the economy of Iran to foreign economies. (See Chart V)

Throughout these discussions there is an emphasis on capturing the value of information that is considered in all major decisions as they may relate to the design of a large data bank for future use in economic policy and administrative decisions. The economic decisions in Iran are still being written on a fairly blank economic blackboard, and the implementation of these decisions should be scrutinized periodically. It is essential that new data sources be created on the domestic economy with emphasis on the creation of economic indicators and on follow-up reporting. Licensing decisions should be made with the requirement that licensees report back on their operational experiences in order to build an orderly flow of information for the Ministry. The fact that the Government is creating and will operate

CHART II

Departments and Agencies with Government-Wide

Charters of Authority and Responsibilities



... the industrial sector gives it a complete opportunity
to establish in these projects the economic information feedback systems
that will be of great importance and value for the country's economic health.

... the suggested improvements in the flow of existing
information from the departments and agencies of the Ministry.

... the suggested new information sources on foreign
agencies as they relate to Iran.

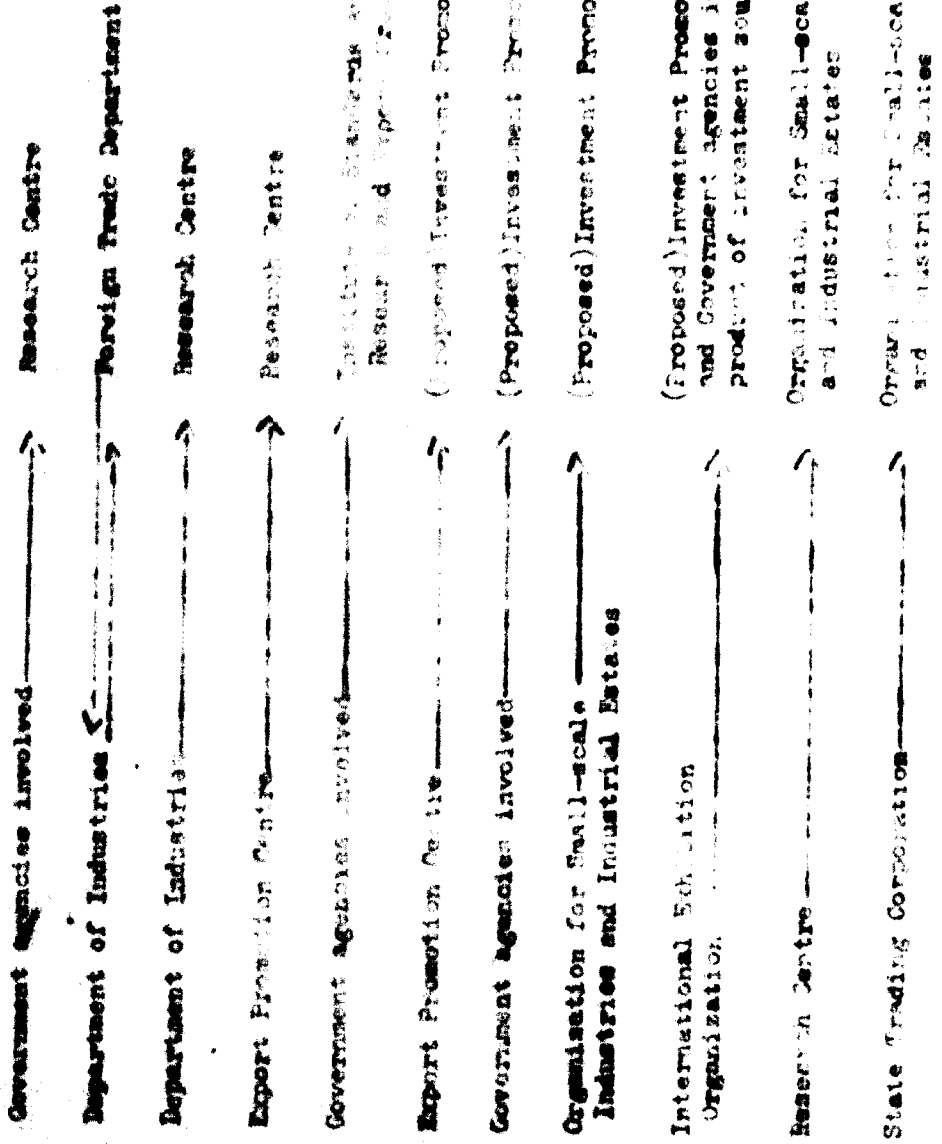
... the recommen- al areas for the application of modern
... analysis techniques.

Chart III

Recommended Action to Improve the Flow of Existing Information
 To and From Various Departments and Agencies of the Ministry

Flow

20



6(a)

Proposed New Inflation Control Measures
on National Economy

Requirements of Industries

Licensing conditions made with the requirement that the licensee report periodically on his operational performance. (See page 19.)

Government-owned Industry

Statistical control flow from the accounting departments of the following:

1. National Iron Steel Corporation - all existing and future steel mills. (See page 20.)
2. Central Organization for Companies. (See page 24.)
3. Iron Factories Company Ltd. (See page 24.)
4. Industrial Development and Renovation Organization - the heavy processing industries and ultimately the light processing industries. (See page 21.)

Group I

Support For Information Sources on Foreign Economies

As They Relate to ITC

World of Trade Desk
Provides services on world
trade to ITC.

Investment Promotion Center

Conducts study on investment promotion
opportunities of foreign countries.
(See page 11.)

International Migration Commission

Provides services that would attract
immigrants to ITC from foreign trade
areas to which ITC is the Government
and its industry. (See page 11.)

Group One: Export Promotion Center and
the Proposed Investment Promotion
Center (combined overseas offices)

Foreign market research data compiled
by the combined overseas offices.
(See page 10.)

Chart VI

Recommended Areas for Application of Modern
Management and System Analysis Techniques

Steel Rolling Corporation

Introduction of supply management techniques to Government purchases. (See page 13.)

National Iron Steel Corporation

Introduction of modern scheduling and management control techniques to the operations of Government-owned steel mills. (See page 20.)

Introduction of a modern cost accounting system to the operations of Government-owned steel mills. The systems should be designed to allow a flow of statistical core data to Government agencies performing market research, project appraisals and economic research functions. (See page 20.)

Industrial Environment and Innovation Organization

Introduction of a modern cost accounting system to the heavy industries section, designed as follows. (See page 23.)

Department of Hydroelectric

Introduction of a survey technique for classification and organization of data presented in reports by planning and report agencies. (See page 24.)

Department of Public Operations

Utilization of computer-based operations research techniques in Government-owned mines, and the establishment of a government-sponsored consulting service to introduce these techniques to all mining operations in Iran. (See page 25.)

Utilization of operations research methods in the integration of utility and transportation system decisions with mine-operation decisions. (See page 23.)

Introduction of modern marketing methods for creating packaged sales of domestic mineral resources to overseas markets. (See page 23.)

Statistics Bureau

Utilization of computer-based advanced prediction methods to problems of economic prediction. (See page 26.)
Utilization of statistical sampling methods to annual industrial survey work. (See page 26.)

Survey

Introduction of Programming-Language budgeting-system (PPMS). (See Page 27.)
Introduction of an internal audit function. (See page 29.)

GROUP ONE Departments and Agencies with Principal Involvement
with Matters of Investment and Foreign Trade

Group One includes seven units, several of which are currently under reorganization.

Foreign trade in Iran is a Government monopoly established by law some forty years ago. This monopoly has been relaxed in all fields except in armaments, sugar, tobacco, and in gold and silver.

Within the context of this Group, the Government has given high priority in its economic planning to four main objectives: a) promoting foreign interest in Iranian products; b) encouraging domestic production for import substitution; c) promoting foreign investments; and d) relating the development of Iranian economy to the economies of the neighbouring countries. It should be noted that the Ministry of Economy does not have an exclusive responsibility with respect to these objectives. Important exceptions exist relating to the authority of the National Iranian Oil Company and to the development of tourist trade. Nevertheless, the following Departments and agencies within the Ministry of Economy represent strong instruments of influence.

1. The Department of Foreign Trade

The Department works essentially on three tasks: a) establishment and administration of import and export regulations; b) participation in international trade and credit agreements; and c) provision of information on credit facilities open to the business community in Iran. A body, now limited to activities in export marketing, is created to be attached to the Export Promotion Centre.

Under the Department of Foreign Trade, the Department of Customs and Excise is the following procedure:

2. The Department of Industries decides either to grant or withhold the licence.
3. If the licence is obtained, the licensee applies to the Department of Foreign Trade for relief from custom duties and/or import prohibitions, whose schedules the Department establishes annually.
4. The Foreign Trade Department takes a pragmatic approach in granting exceptions to import prohibitions. It may, for example, work out a set of agreements with the prospective importers whereby if they agree to first buy the output of the domestic plant, they will then be permitted to import the balance under favourable tariff terms.

These procedures represent a continuing "tariff control" type of activity requiring personal integrity. Official confidence in the procedures followed in granting exceptions is supported by readily available relevant data.

Thus the information flow to and from these decisions would seem to be a most important area for detailed procedural analysis. The Department of Foreign Trade, in order to make valid judgments on granting import privileges to an approved licensee, must have ready access to relevant data on the objectives and operational experiences of the licensee's firm that have influenced the Department of Industries' decision to grant the license. Additionally, the information brought forward by the licensee to support his request for relief from import controls could also become an integral part of the feedback information used to check the progress of the licensee in meeting his original performance commitments.

The design of a suitable summary tabulation for classifying and recording this kind of economic traffic flow could well engage the attention of a trained economic analyst. The information collected on these licensing and import decisions will serve to create an important input to the Ministry's economic research and simulation capabilities.

Trade agreements

The Department is also importantly involved in staff work related to trade and transit agreements, a complex and expanding area of activity that often personally involves the Minister himself. The successful negotiation of a recent major trade agreement was impressive in the demonstration of how a strong and cohesive group of Government executives could be organized in effectively negotiating a complex bilateral agreement. The Department's staff members are also actively engaged in the negotiation of trade agreements with other countries.

negotiations. That information must concern the strengths and weaknesses of not only the Iranian economy, but also of the economy of the alternative other party to the agreement. The assignment of a UNIDO expert with a strong business staff experience in venture development would provide needed assistance in this area to the Department.

Information on world commodity prices

The Department's plans to establish an information service on world commodity prices deserve careful attention. It would be worthwhile to study the possibilities for incorporating this information service function into the recently merged Chambers of Commerce and Industry.

2. Export Promotion Centre

The Export Promotion Centre carries out promotional activities with domestic producers to assist them in development of export items; similarly, with potential foreign consumers to create interest in Iranian products. Being partly subsidized by import revenues, the Centre plays a key role in the administration of export subsidies. The Centre's promotional activities extend beyond the sphere of the Ministry of Economy to include the interests of all Government agencies involved in international trade.

The functions of the Export Promotion Centre are broad. If the Centre is to effectively serve as a communication link between potential foreign consumers and domestic producers, it must receive accurate and timely information on a) domestic items currently available for export; b) the demand for these items; and c) conditions in foreign markets.

The Department's plans to establish an information service on world commodity prices deserve careful attention. It would be worthwhile to study the possibilities for incorporating this information service function into the recently merged Chambers of Commerce and Industry.

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require all Government agencies involved in making export decisions to advise the Centre of the action taken and to supply background information on those decisions. For this purpose, a suitable form could be drafted by the Organization and Methods staff in the Ministry of Economy. Information thus collected should also be made available to the recently proposed Investment Promotion Centre.

The development of potential export markets is a matter already under vigorous attention. The UKIDO consultant, however, has recommended that consideration be given to adding export promotion activities to the planned responsibilities of a number of foreign offices proposed in the organization of the new Investment Promotion Centre. Aside from the obvious housekeeping advantages of sharing staff and common facilities, this single location would result in multiple use of a common source of information on foreign economies as they related to Iran. Data could thus be obtained on supply/demand situations as they exist in foreign markets with regard to specific items - information that could be feedback to Iran and considered in decisions on present and potential export item production programmes.

Information about the full range of the Export Promotion Centre's services would be a valuable part of the over-all investment information being planned for the use of the Investment Promotion Centre. Closest possible relations should be established between the Export Promotion Centre and the International Exhibition Organization.

3. The Proposed Investment Promotion Centre

The Consultant has discussed only the activity of this proposed agency and has not commented on specific investment attracting laws currently under development and review.

This agency, which is to be included within the Ministry of Economy, will undertake functions broadly classified as follows: a) provision of information to prospective investors, either upon request or as a promotional activity; b) participation with prospective investors in the development of economically viable investment projects; and c) advice to the Government on matters related to the creation of an attractive investment environment in Iran.

Information to prospective investors

At no single place within the Government is it possible for potential investors to obtain all of the information that is of direct interest to potential investors. The Consultant has enumerated that several types of information should be brought together and made a part of an investment attraction "one" kit for the proposed agency.

Consideration should be given in the new Centre to the establishment of two suitable types of service that would underscore the Government's desire to promote investments. First, the new Centre should gather information from the various Government agencies in response to all the investor's questions and inquiries, thereby eliminating the need for the potential investor to attempt to obtain answers individually from those agencies.

Secondly, the Centre should provide guidance and assistance to potential investors in obtaining both the necessary licensing approvals and the commitments of follow-up support for the investment from all Government agencies involved. Through the latter service, this agency could, in partnership with the investor, establish a "project" for each approved investment, using simplified PERT charts or similar scheduling devices for identifying support needed and for creating a base for follow-up reporting on the approved investment.

Advice to the Government

The Centre has a serious role to play in research on investment promotion experiences of foreign countries. Much information exists on this subject in the United Nations as well as in many interregional and international organizations. The subject is clearly qualifying for graduate work at the doctoral level, and the Consultant has recommended that the Centre discuss the possibilities for collaboration with the University of Teheran.

The Consultant has noted that the mission of the Centre is one of the most important in the Ministry for the formulation of meaningful investment projects that carry out plans to actionable decisions. There is a job to be done, in gathering and organizing information, for strengthening Government policies and programmes. He envisages further UNIDO assistance to the Centre.

4. The International Exhibition Organization

The Organization's current literature search and classification efforts on potential participants in Iranian trade fairs programmes could have larger utility if expanded to serve the interests of other Government agencies involved in foreign commerce and investment. In this connection, the Consultant has recommended that the Director of the Organization contact the University of Wisconsin in the United States for information about their subscription service called "Project EXPORT". EXPORT is an interesting approach to solving the problem of accumulating large amounts of pertinent data and for relating these data to the individual needs of interested members of their subscribers. This approach would be of benefit to the International Exhibition Organization in the establishment of a similar service which would provide pertinent data about foreign trade fairs and exhibitions.

The Organization's special records on exhibitors at Iranian trade fairs should be made available for use to all Government agencies. There are well-organized and useful data that could serve the interests of other Government agencies in their search for information on product or investment sources. These files reflect the expressed assumptions of many overseas companies that they can serve markets in Iran.

5. The State Trading Corporation

This Corporation, initially established to represent the Government in trade negotiations with countries of centrally-planned economies, is now concerned with Government purchasing in eight categories of goods. The agency has interesting potential in its capacity as a customer in the economy.

Modern methods of supply management should be introduced to the thinking of the Corporation and, through this Corporation, to all Government agencies using common supply items. Furthermore, the number of common items should be increased to more than the present number. Consideration should also be given to employing the use of computer skills in the operations of stock control and purchase management.

of the Institute of Standards and Industrial Research of Iran (ISIRI)

Discussion of ISIRI in Group One will focus attention on activities of the Institute related to international trade: ISIRI performs the functions of improving the quality of over fifty items of exports.

Licensing

The time of licensing presents an important opportunity to serve the objectives of improved standards: the requirements for quality production and for compliance with standards should become an important part of every licensing decision. The Institute should therefore play a consultative role in all licensing decisions.

Quality control

At this stage of industrialization in Iran, it is important that there be more influence brought to bear on industry for improving the quality of items produced. Individual product testing is no longer sufficient; the emphasis must now be on installing adequate processes of quality control. The Institute's efforts in this area would be strengthened through the assignment of an expert in the field of quality control procedures, with specific knowledge adaptable to Iran. Also, assistance from UNIDO in improving information flow to and from this agency deserves priority attention.

Intra-Ministerial relations

The Institute has a lead time of one and one-half years in the development of a new standard. In order to effectively plan its work load and priorities, the Institute must be given as much advance information as possible on items planned for export. It has been suggested, in consultation with the Export Promotion Centre, that a procedural form be established whereby all Government agencies planning items for export would notify the

Centre of its actions and supply relevant background information. (See page 9.) The suggestion is extended here to include the establishment of a similar procedural form that would permit the Institute to be alerted on all actions taken with regard to exports. Closer co-operation between the Institute and the State Trading Corporation would prove beneficial to quality control.

7. The Research Centre for Industrial and Trade Development

Discussion on the Research Centre in Group One will focus attention on its staff activities, particularly those of the Director, in international trade agreements.

The final organization of staff position papers and direct participation in international trade negotiations seem to represent a direct responsibility of the Director.

As has been observed in connexion with the Department of Foreign Trade, UNIDO assistance in the form of a venture development analyst is needed to help the Centre in the development and the organization of reliable information on national economy as well as on the economies of potential third parties to trade agreements. (See page 8.)

GROUP TWO Departments and Agencies With Common Objectives
Related to the Promotion of Small-Scale Business

The following five agencies have been included within Group Two are:

1. The Organization for Small-Scale Industries and Industrial Estates;
2. The Department of Domestic Trade;
3. The Handicraft Centre;
4. The Iran Carpet Company; and
5. The Research Centre for Industrial and Trade Development.

The Government has established the first four of these agencies and has encouraged the national regional development work of the Research Centre, as part of its over-all policy of promoting industrial development.

1. The Organization for Small-Scale Industries and Industrial Estates

Licensing

For administrative efficiency, it might be feasible to grant this newly chartered Organization authority to issue licences to the small businesses it seeks to establish. At present, the issuance of licence for a small-scale business applicant requires the approval of the Department of Industries.

The purchasing operations of the Iran Trade Corporation could be a valuable contribution to the objectives of the Organization. With the Government as a customer and the encouragement of small-businesses identified with socio-economic objectives, the Government might be expected to carry its "principles to purchase" in support of many small-scale business opportunities. The Organization might well seek to probe the experiences of larger enterprises' programmes for bringing problems to small-scale business units.

Discussions between the new Investment Promotion Centre and potential large-scale industrial investors might be aided greatly if the potential investor was aware of the possibilities for subcontracting supplies from local small-scale businesses.

2. The Department of Domestic Trade

The present conditions of small business and industrial promotion in the country are such that the Department of Domestic Trade should be encouraged to...

Department that the Government's interest in the consumer seems to find most direct reflection. The Consultant was impressed with the resourceful and talented leadership within the Department. However, he observed that as a whole the Department seemed to be operating under rather vaguely defined administrative structure, both with respect to the goals as well as to authority within the Department. The present and the potential functions of a Department are deserving of special study in-depth.

3. The Handicraft Centre

The purpose of the Centre is to promote the development of handicraft skills in the country as a source of economic support to many individuals and, as an outlet for creative skills. For the purpose of the Centre's programme, handicraft includes ten categories of items that have not been developed previously in Iran.

The Centre possesses many talented young people who evidence high motivation and skill in their work. The Centre is well-conceived and well-managed.

The Handicraft Centre maintains close co-operation with the International Fair Organisation as well as with ISIRI. However, the programmes of the Export Promotion Centre and the Handicraft Centre have not been properly co-ordinated and efforts should be made to narrow this gap.

There are good opportunities for establishing foreign outlets for the products of the Handicraft Centre, as has been previously discussed in connection with the Export Promotion Centre and with the new Investment Promotion Centre. (See Group One, page 10.) Feedback information on items that could be produced by the Centre for foreign markets would be of great value.

4. The Investment Centre

The Investment Centre could benefit by studying the good management practices of the Handicraft Centre. It could also benefit from the experience of the Export Promotion Centre in connection with the development of special operations of the Investment Centre.

The establishment of a marketing programme for Persian carpets is a subject that should be reviewed again in the light of a rapidly changing market interest in the value of handmade objects of unique quality.

5. The Research Centre for Industrial and Trade Development

The Research Centre is discussed within Group Two for two reasons: a) it could be an information source to the Organisation for Small-Scale Industries and Industrial Estates; and b) it is actively involved in national regional industrial development work.

The Centre could serve as a source of information to the Organisation for Small-Scale Industries and Industrial Estates in connexion with the potential needs of industry as whole for small parts. Under systematic encouragement, small businesses could make a start in meeting such requirements. Moreover, it would be possible to introduce standard items into the economy.

National regional industrial development work

The work that is beginning in national regional development, under the sponsorship of the Centre, is exciting in its record of early accomplishments and certainly most promising in its potential. This work provides excellent opportunities for getting the presence of the Central Government into the provinces as authorities to act on matters that have a direct economic base and purpose. This involves, however, the broad management question of decentralisation which apparently has not been resolved.

The plans to develop seminars on national regional development plans and programmes have been strongly endorsed by the Consultant. The practical work that is on record will give strong substance to these seminars.

The Consultant has also endorsed the plan to create a permanent co-ordinating group of the same nature involved with the Institute, the Research Centre, and other bodies which are to report to the Government agencies. The group should be given their identity, a budget of work, staff for their management, the agreement of the Government, and recognition from the public.

GROUP THREE Department and Agencies with Serious and Growing Responsibilities in the Establishment and the Operations of Major Industrial Projects

The following agencies are included in Group Three: a) The Department of Industries; b) The National Iron Steel Company; c) and the Industrial Development and Renovation Organization (IDRO). These agencies have been and will continue to be the most important bases within the Ministry on which to build industrialization programmes.

1. The Department of Industries

The Department has authority in both the public and the private sectors to grant or withhold licenses for the establishment of new or for the expansion of an existing industrial activity. Additionally it influences the granting of import permissions and the setting of tariff schedules, and is directly involved in import duty rebates - three functions that are carried out by the Foreign Trade Department. (See Group One.) The Department of Industries is also party to the Ministry of Internal Revenue's custom duty decisions on the proper classification of imported items.

Licensing

The granting of a license to establish or to expand industrial activity is probably the single most important action that the Ministry of Economy performs in carrying out industrialized plans to stimulate for action. The Government has stressed that the present procedures involved in licensing - that is, the process of applying to the Department of Industries for a license to establish or to expand industrial production - should be carefully reviewed and improved. It is recommended that the work of the potential licensees be specifically recommended for consideration to the Ministry of Economy. The Ministry of Economy should also be involved in the process of licensing for the establishment of new industrial projects. (See Group One.)

Intra-Ministerial Relations

The direct and indirect involvement of the Department of Industries in important decisions made by the Foreign Trade Department underscores the need for a continuous information flow on common matters between the two Departments. The work assignment for an economic analyst suggested in connexion with the functions of the Foreign Trade Department should be defined to include similar attention to the "economic indicators" found in the data presented for review in applications to the Department of Industries for these series of licensing approvals.

Furthermore, the Consultant makes the following two suggestions on the interrelated functions of the Department of Industries and of the Research Centre for Industrial and Trade Department:

1) The Department of Industries utilizes the services of the Centre's staff for project evaluation work in connexion with licensing approvals. It would be mutually beneficial if the Department reported back to the Centre its assessment of the evaluation made by the Centre's staff on each project.

2) The Master Plan work of the Centre is beginning to reflect some elements of a systems approach to defining economic context within which specific industrial projects can be fitted. As the Centre's work improves in this area, the Department of Industries' attention can then be turned more to carrying out its responsibilities for making industrial projects operate as effectively as they are planned and approved for operation.

2. The National Iron Steel Corporation

While the Corporation's plans are still in the construction stage, there is an opportunity to introduce directly to the programme the most modern scheduling and management control techniques - PERT, PERT/Cost and Critical Path. The talent to install these techniques, under suitable instruction, exists in the Corporation's Technical Office in Tehran. The demonstration of an effective application of these techniques through the Corporation would provide a solid base for their application to key other applications in Iran. The assignment of an expert is recommended.

Similarly, the design and implementation of a system of accounting systems should be done by the Corporation. The design of such a system should be done by the Corporation and the implementation of such a system should be done by the Corporation.

The full potential for creating an information flow on economic indicators from these Government-owned steel plants should be explored by experts and exploited by the Ministry.

A further comment on the mining operations of the Corporation has been included in the observations on Group Four. (See pages 22 and 23.)

3. Industrial Development and Renovation Organisation (IDRO)

The Industrial Development and Renovation Organisation (IDRO) consists at present of a number of subsidiary companies in the heavy and light processing industries and in mining. The opportunities for introducing to the operations of IDRO the modern management techniques, mentioned in connexion with the National Iron Steel Corporation, are equally applicable. Within IDRO, there are two separate companies that offer consulting services to industry: Technology and the Industrial Management Institute (IMI).

Technology has an impressive performance record and appears to be operating with the knowledge of advanced concepts of a systems approach to the technical and economic considerations in its work. The existence of this consulting group in Idro is a recurring strength on which to build forecasts of progress in systems planning of economic growth. The skills and potentials of this group should be most carefully gauged by the Minister and, in this connexion, it is recommended that a few complex project evaluations be contracted to this group to test their competence and learn directly of the extent of their skills.

IMI is equally impressive in its technical and management consulting operations. It is recommended that the IMI group be drawn into several of the projects mentioned by the Committee and that assistance be planned for IMI in the transfer to the Idro management techniques. There is also a need for additional help in the design and implementation of modern accounting systems. The heavy industry companies should be encouraged to consider the implementation of modern accounting systems.

It is recommended that a central committee be set up to coordinate the logical plans and to monitor its activities.

GROUP FOUR

Department and Agencies with Important Responsibilities
Related to the Development of Mineral Resources

The Department and Agencies included in Group Four are the following: the Department of Mines; the Geological Institute; the Iron Mining and Metallurgical Company; the National Iron Steel Corporation; and the Industrial Development and Renovation Organization, in its mining operations.

Organizational changes are under way to establish, through a new Deputy Minister, co-ordinating direction for the departments and agencies involved in the development of mineral resources.

There are four major stages to be considered in successful operation of any mining enterprise: a) location and evaluation of mineral reserves; b) construction of a mining operation; c) transportation of products to market and all marketing. The application of new management techniques should be considered in total country-wide terms for the exploitation of the potentially great mineral resources of Iran.

Location and evaluation of mineral resources

The satellite-based detection and measuring devices, used in connection with space programmes of both the Union of Soviet Socialist Republics (USSR) and the United States (US) could provide Iran with excellent mapping services that may lead to important advances in the country's geological activities. The possibilities for obtaining these services should be fully explored.

Construction

Application of advanced computer-based geophysical research methods employed in the most modern mining operations of a mineral reserve should be carefully studied, not only for the exploitation of Government-owned reserves but also for Government-sponsored commercial activities in mining operations. This would provide the Government with clues to identifying and exploiting valuable reserves.

Transportation to market

The opportunity for integrating mining and transportation operations should be studied with mine operations. The existence of skilled personnel related to the transportation of mineral products should be studied by the Government. The importance of the transportation of mineral products should be studied by the Government.

The potential of these resources that may be developed in 1958 will have to be made available to the public, which will add a large shipping dimension to the transportation planning program. With expert assistance, marketing programs should be carefully worked out to develop, in global terms, package sales of these resources.

GROUP FIVE Agencies with Responsibilities for the Operations
of Several Government-owned Small-Scale Enterprises

1. The Iron Factories Company Ltd.

Fifty-four company units, established by the Government as part of an industrial development programme, were merged into the structure of a holding company, the Iron Factories Company. Only one of the original 50 units remains to be incorporated and action has already been taken to complete this process. Thus the Consultant has noted that the mission of this agency has essentially been accomplished.

2. The Central Organization for Small Enterprises

The Organization is an aggregation of small company units, organized to improve the efficiency of operations and to establish standards of quality in products. The Consultant did not seek to evaluate the effectiveness of the Organization in reaching its economic and social objectives, since assistance has been and is being received from the Industrial Management Institute (IMI) of the Ministry and from a private consulting firm.

The availability of Government-owned plants, with counterparts in the private sector, often creates opportunities for conducting a) case studies, experimental work and the establishment of "statistical area" data sources and economic indicators.

CONCLUSIONS

Studies of the operations of these Government-owned plants may have value in highlighting related problems. In particular, their experience in handling transactions comparable to private enterprise could have important training value and could provide guidelines for the conduct of Government or policy and operational issues. It should be recognized that the development work requires a special staff in cooperation with a group in the participation of joint operations in industrial work.

Experimental Work

Through experimental work carried out at these plants, the Government has excellent opportunities to bring about improvements in counterpart plants in the private industrial sector. Some of the work that is planned for improving quality control processes, for testing practical improvements in accounting and production systems and for introducing training programmes are examples of how Government influence could be effectively brought to bear. However, such actions require the initiative of a higher authority than that of the Organization since they are not usually part of the operational responsibilities of the company management.

Maintenance of Statistical Data

These Government operations could also be reliable sources of statistical data needed to develop economic indicators and to supply information to Government agencies involved in marketing research and project evaluation activities.

It should also be noted that each of these company units could be significantly involved as subjects for internal audit attention, if the recommendation made on this subject in Group Seven is endorsed. (See page 29.)

GROUP SIX Staff Groups with Principal Responsibilities for Providing Economic Data and Analysis Services to the Ministry of Economy

The two agencies included in Group Six are: a) The Statistics Bureau; and b) The Research Centre for Industrial and Trade Development. These agencies are involved directly in supplying economic data to the various Departments and agencies within the Ministry as well as to the Minister himself in his personal role within the high councils of the Government on matters related to major economic policies and programmes. Both groups have received extensive UNIDO assistance.

1. The Statistics Bureau:

This Bureau in a relatively short period has made impressive progress in serving the statistical needs of the Ministry, and it is well recognized at the higher levels of authority.

Industrial Survey

The Bureau prepares annually a statistical survey which is as definitive a report on the industrial sector as exists in the country. There is an opportunity here to apply statistical sampling methods for the purposes of the new survey in which more complete reporting through better professionally trained interviewers would produce information of greater use for the Master Plan work of the Centre.

Although there is every evidence of professionalism in the statistical work of the Bureau, skilled resources are admittedly quite thin. There is a particular need for a top flight economic statistician, who can help in the resolution of the current conflicts in definitions, classifications and methodology in the economic reports of the Ministry of Economy, the Plan Organisation and the Central Bank.

Within this Bureau, the potential for ultimate use of computers to simulate economic efforts from known or planned actions should be developed. There are good and pragmatic reasons for the introduction of computer-based programmes to the Bureau even in the absence of reliable economic data. There is an intriguing potential for the application of some of the advanced techniques as well as an opportunity for creating bench data of measured relevance to the operations of Government-companies and the general monitoring of economic

The Consultant has endorsed the present plans of the Ministry to make computer capacity available to the Bureau.

The Bureau should also be considered for undertaking the task of codifying the elements of industry for which the various Ministries of the Government are responsible. The establishment of such a code system would have Government wide benefits.

2. The Research Centre for Industrial and Trade Development

The three functions of the Centre discussed in Group Six are the following: a) project evaluations; b) master planning for industrial sectors; and c) economic policy staff recommendations.

Information needed in support of each of these three functions is not yet available in the following areas: GNP data per capital, per family or age group; personal income by sector and per capital and per family; employment and unemployment figures by provinces; tax revenues from economic sectors.

Project evaluation work

The research staff undertakes project evaluations only on the request of the Department of Industries. The specific project evaluations examined by the Consultant indicated creative approaches to making market forecasts for a variety of projects. Assignment of additional staff with relevant industrial experience could improve judgment in the evaluation work now being carried out. There is a need for more sharing of information and thought between the Departments involved in licensing decisions and the Research Centre, as well as for the formulation of a common set of guidelines.

Master planning for industrial sectors

It is too early to judge quality in the work of the master plans now being prepared for the industrial sectors. The assignment of the four UNIDO experts for the period 1970-1972 provides an opportunity to evaluate the Centre's work in this area. However, the master plans and the master planning work relate directly to the industrial sector and should be coordinated with the Statistical Bureau.

The Bureau should be considered for undertaking the task of codifying the elements of industry for which the various Ministries of the Government are responsible. The establishment of such a code system would have Government wide benefits.

An immediate improvement in this work is to apply a requirement that all present assumptions made in this master planning work be completely identified and made a matter of record and continuing validation as additional data becomes available.

Economic policy work:

The Centre is becoming increasingly involved in economy policy matters in connexion with the Minister's participation in the High Economic Council. There is concern that each of the Ministries and Government agencies participating in the Council has its own private source of economic information which often provides conflicts among different reports presented. This kind of competition for influences in matters of economic policy should be resolved as much as possible by preliminary joint staff work. The potential impact of a well-designed Input-Output simulation capability would seem quite evident.

The assignment of a highly qualified macro-economist to the Research Centre would not only strengthen the advisory role of the Minister, but would also prove beneficial for the development of economic indicators noted above.

The Budget and Organization Department

The present activities of this Department are divided into three areas:
a) training; b) organization and methods work; and c) budgeting procedures.

The Department should be a strong candidate for further study and expert assistance from the United Nations.

Consideration should be given by the Ministry to the introduction of the concept of controllership into its management structure. This would involve consolidating the budget and accounting functions, adding a fiscal system design, and an internal audit function. The minor personnel functions presently carried out by the Department should be reassigned to the Personnel Office (the Civil Service Commission).

Training

The Department's work on processing information on fellowships and scholarships available to the Ministry's personnel is interrelated with the work of the Civil Service Commission which sets the standards for evaluation and classification of this type of information. The Consultant has questioned the need for the Department's involvement in this type of work.

Organization and Methods

It is suggested that the Organization and Methods Group set up a procedural form that would be used by all Government agencies involved in export decisions to refer to advise both the Export Promotion Centre and the Institute of Statistics and Industrial Research of their actions and to supply relevant background information. (See Group One, pages 10 and 14.)

PPES

The Consultant suggests that the Department's performance in this area could be greatly improved through the introduction of Programming - Planning and Evaluation System (PPES), which places stronger emphasis on program planning and on the means for carrying out programmes. PPES would be a valuable procedure in the context of decisions. The Consultant suggests that the Department should be an agency in the Government for the purpose of programming and evaluation. Furthermore, he recommends that an advisory committee be set up under the Ministry, which would support the Department in its programming and evaluation projects and accomplishments. The Department should also be closely linked with the Central Organization

III. RECOMMENDATIONS

Because of the nature of the assignment and of the problems involved, the Consultant's observations have been addressed to the functions of the Ministry of Economy as a whole - "to look for elements of an interdependent system" in the workings of the Ministry.

The Consultant's recommendations have been organized in terms of who could best take action. Also, table 1 outlines the type of expert which he has observed is needed, the responsibilities to be assigned this expert and the suggested source of possible assistance.

The Consultant has recommended that UNIDO initiate in discussions with the Ministry the need for providing a package programme which may also include non-UNIDO resources of the United Nations.

Recommended Actions within the Ministry

1. Consider assignment of an additional monitoring responsibility to Deputy Ministers for groupings of Departments and agencies within the Ministry. This responsibility should carry a special emphasis on present and potential co-ordination of effort to the common purposes of the proposed groupings. Such an assignment would not disturb the present lines of authority relationships.
2. As an early action under this assignment, each Deputy Minister might be requested to establish a series of workshop sessions with the agencies in his assigned group in order to discuss important points of their direct inter-relationships. These sessions could be a part of a larger management conference, possibly organized by the new Senior Deputy Minister, that could serve to introduce new personalities and positions to all the staff in the Ministry. With the workshop component as part of it, the conference could also be a productive opportunity for the staff involved to bring forward their specific needs for support from other agencies and to outline the resources of support that they could provide to other agencies.
3. Assign to the organization and methods group of the Budget Department the relatively simple procedural problem of establishing a flow of information to the Export Promotion Centre and to the Institute of Standards and Industrial

Research from all Government agencies on planned actions for creating items for export (See Group One, pages 9 and 14.)

Recommendations Related to the Agencies of the Ministry

1. Delegate authority to the Organisation for Small-Scale Industries and Industrial Estates, under the general policy guidelines of the Department of Industries, to issue licenses for establishing small-scale business (See Group Two, page 16.)
2. Endorse the efforts of the Research Centre to establish a permanent committee, under the leadership of the Centre's senior staff, for developing an inter-agency programme for national regional economic development (See Group Two, page 18.)
3. Endorse the proposed seminar on national regional economic development being planned by the Research Centre (See Group Two, page 18.)
4. Direct that any action taken on licensing proposals, for which project evaluation and/or assistance from the Research Centre had been required, be directly communicated to that part of the Centre (See Group Six, page 27.)
5. Recommend that the Departments and agencies involved in licensing decisions and the Research Centre staff develop a simple abstracting procedure whereby licensing actions will be reported to the Centre.
6. Assign several carefully selected, preferably complex, project evaluation problems under joint contract to Technolog and INI as a simple test of their skills (See Group Three, page 21.)
7. Request joint reports from consultants in both the Export Promotion Centre and the International Exhibition Organisation, in order to establish improved relations between these two agencies.
8. Introduce a proposal for combining the overseas offices of Iran Air, National Iran Tourist Organisation, the Export Promotion Centre, and the Investment Promotion Centre; the interests of the Handicraft Centre and the Iran Export Agency should be included.
9. Assign for study work to be undertaken on the operations of the Iran Shipping Company and the National Organisation for Commerce. These studies are complementary, including the number of present on-going studies. The possibility of getting these studies done by a single study should be explored.

10. Arrange for a special study to be made of the investment promotion experiences of foreign countries. The possibility of making this study part of a doctoral programme at the University of Teheran should also be explored. It is further recommended that such an assignment should carry with it a commitment to later serve in a suitable place within the Government. (See Group One, page 11.)

11. Present to the Director of the International Exhibition Organisation a proposal to contact the University of Wisconsin in the United States for information about this Project INFORM. These developed procedures would seem to have direct application in Iran to the need for abstracting and circulating information about foreign trade sources to many potential subscribers in Government and in private industry. (See Group One, page 12.)

Recommendations Related to the Activities of Other
Ministries and Government Agencies

1. Place on the agenda of the High Economic Council a proposal that the top economist resources of the various Ministries represented at the Council be charged with specific responsibility for identifying important business indicators from present and planned information sources, to be used by the Council in its deliberations on economic policy and forecasts.

2. Open discussions with the Chamber of Commerce and Industry as to their interest in providing an information service on world commodity prices and forecasts.

Recommended Assistance from UNIDO

1. The Consultant has recommended that UNIDO assistance be obtained in specific areas as outlined in table 1. Also, he has made over-all recommendations as regards the application of system analysis techniques:

a) The potentials for creating a complete systems approach to economic planning through the development of simulation capabilities around the logic and quantified interrelating variable of an input-output table deserves careful consideration. Work in this area will, in a first stage, be principally useful in identifying and in assigning relative significance to existing information gaps and in directing priority attention to narrowing these gaps.

As this is accomplished and assumptions are firm with facts, the potentials for managing the major factors in an economy through both policy and actual operational decisions could be most confidently anticipated. Assistance in this area is given high priority.

- b) Concurrent work on economic simulation as a part of advanced management training is also recommended.
- c) Assistance should be given to those responsible for organising data for presentation to single or group decision makers in the Ministry. In particular, this expert skill is needed to help depersonalise discussion and to focus discussion on clearly presented facts. This type of work, with a possible introductory phase in one of the major agencies of the Ministry (e.g. the National Iron Steel Corporation) could be brought next to the Ministry and then introduced to the High Councils of Government.

Recommended Assistance from the United Nations

The opportunity for rationalizing the development of mineral resources holds great promise for the application of system analysis skills. Essentially, good foundations have been laid for this development; suitable Government apparatus and policies exist. This assistance can come only from Economic and Transport Division, Department of Economic and Social Affairs, United Nations Headquarters. (See table 1.)

Recommended Actions That Might be Included in the
Second United Nations Project in Public Administration

- 1. Consider the establishment of a controller system in the Ministry in place of the currently used and divided half accounting groups. Further attention in this project could be on the introduction of a performance budgeting system (PBS) and on the establishment of an internal audit system (see page 20, para 1).
- 2. Consider the present function of the Ministry to make it a more complete and effective administrative organization including more direct involvement in the planning and execution of the Ministry.
- 3. Consider the present function of the Ministry to make it a more complete and effective administrative organization including more direct involvement in the planning and execution of the Ministry.

of action taking place in the field where the results can be seen in actual terms.

4. Carry-on with the on-going examination of the customs service. Existing problems seem to have been recognized with attention under way.

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Table 1 (continued)

Responsibilities

Title

Economic statistician

Assistance to the Statistical Bureau in the work of resolving current conflicts in definitions, classifications and methodology among the Ministry of Economy, the Plan Organization and the Central Bank.

Suggested Source
For purely industrial data, UNIDO assistance could be rendered; UNCTAD could assist in other areas.

Business management and system analysis experts:

* * *

a) Supply management

Assistance to the State Trading Corporation in the introduction of supply management techniques to Government

UNIDO

b) Modern cost accounting

Assistance to the National Iron Steel Corporation and to the Industrial Development and Renovation Organization in the design and introduction of a modern cost accounting operational system that would serve as a statistical core data source on national economy.

UNIDO

c) Modern scheduling and management control

Assistance to the National Iron Steel Corporation in the introduction of modern scheduling and management control procedures to the Government-owned steel mills.

UNIDO

d) Modern management development and training

Assistance to Technology and to Industrial Management Institute (IMI) in the latest management techniques.

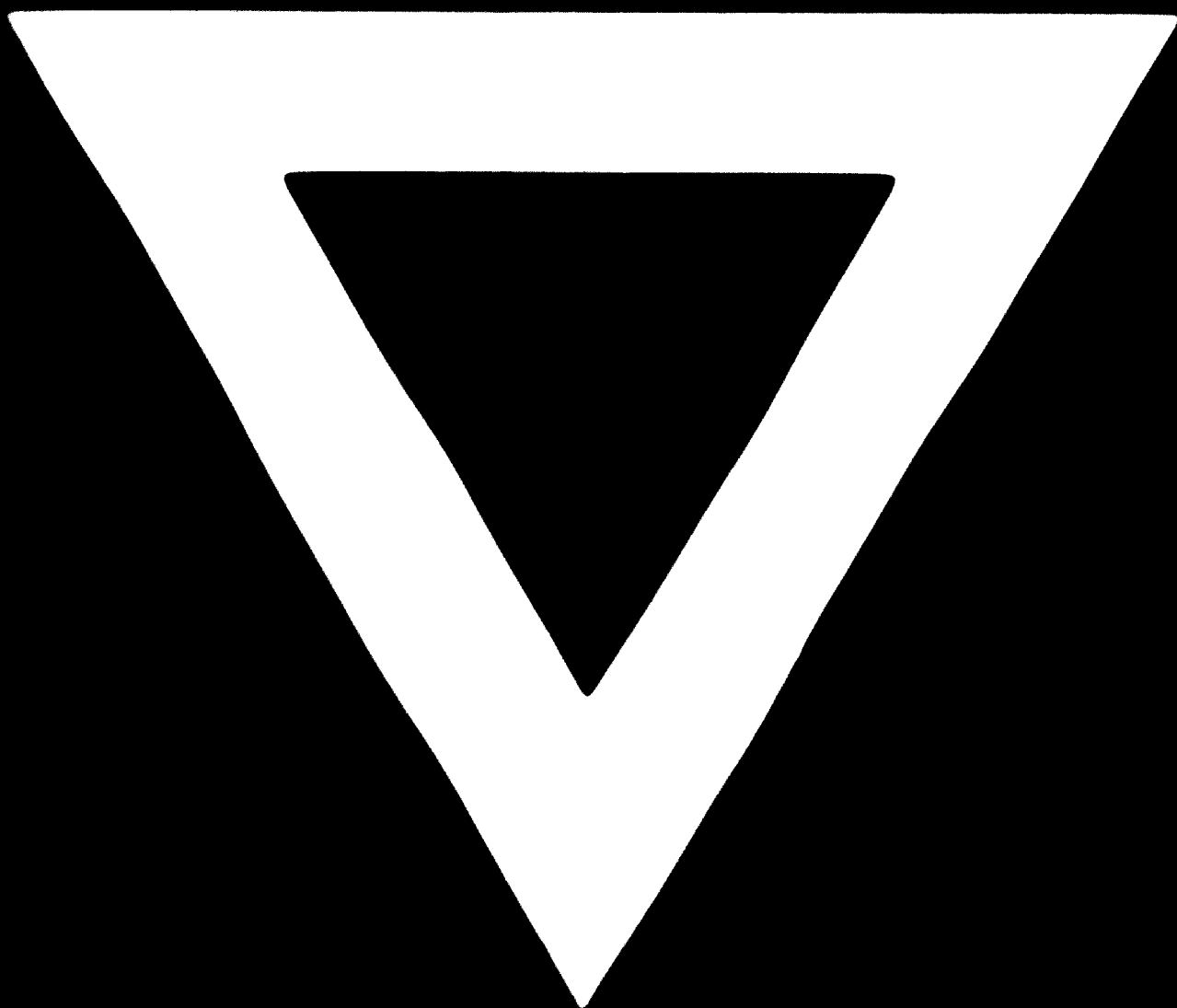
(University with assistance from the International Labour Organization)

Survey design expert

Assistance to the Export Promotion Centre in the design of a one-time comprehensive survey that would provide basic inventory record of currently available items for export.

Assistance might be rendered from UNIDO and from UNCTAD.

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