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STRENGTHENING THE PLANNING UNIT OF THE
MINISTRY OF INDUSTRY AND TECHNOLOGY
BR/UGA/84/003
UGANDA

Technical report: Proposals for Functions
and Structure of the Ministry of Industry and Technology*

Prepared for the Government of Uganda
by the United Nations Industrial Development Organization,
acting as executing agency for the United Nations Development Programme

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EXPLANATORY NOTES

Value of the local currency-New Ugandan Shillings (NUS\$)
United States Dollars in April 1988
1 US\$ = 60 NUS\$

ABBREVIATIONS

CIDO Chief Industrial Development Officer

E.T.O. Engineering and Technology Officer

ISIC International Standard Industrial Classification

MTAC Management Training and Advisory Center

N.G.O. Non-Governmental Organization

PIDO Principal Industrial Development Officer
PIES Public Industrial Enterprises Secretariat
PITIO Principal Industrial and Technological Information Officer
PTA Preference Trade Area

SETO Senior Engineering and Technology Officer
SIDO Senior Industrial Development Officer
SO Scientific Officer
SSO Senior Scientific Officer

UDC Universal Decimal Classification

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THE PROPOSED FUNCTIONS AND STRUCTURE OF THE
MINISTRY OF INDUSTRY AND TECHNOLOGY

INTRODUCTION:-

The industrial administration functions of the Ministry of Industry were adopted from the Ministry of Commerce and Industry when the latter was split into two Ministries in 1974. These functions were handed down from the colonial times when the functions of the Government and the various Ministries comprising it, mainly consisted of:-

- a. maintenance of law and order.
- b. administration of economic activities and,
- c. revenue collection.

The main thrust of the Ministry of Industry was administration of the industrial laws and regulations, licensing of new industrial investments both local and foreign and monitoring the management of public enterprises. The activities in regard to industrial promotion and development were slowly grafted on to the functions of the Ministry but have not yet been adequately spelt out and supported by trained personnel to undertake such activities. As the Ministry was created immediately after the Asian exodus, it had additionally to undertake the burden of co-ordination, control, supervision and monitoring of the abandoned industrial enterprises for which it was ill-equipped. In 1986 the N.R.M. Government added a new responsibility of technology development to the Ministry of Industry and re-named it as the Ministry of Industry and Technology.

The emphasis is now changing from industrial administration to providing initiatives in industrial development and rehabilitation. In this emerging new situation, providing services in technical, commercial and management etc. fields to existing enterprises and prospective new entrepreneurs is a strategy to accelerate and sustain a healthy self-reliant and integrated industrial base in the country. This new phase in the Ministry's functions of development initiatives, requires a team of highly motivated and professionally qualified officers with adequate training and exposure to industrial development activities and practices. Though the existing officers in the Ministry of Industry and Technology have reasonable academic qualifications in general, the exposure of some of them to industrial development activities and practices as well as industrial planning do not appear to be adequate enough to the challenging tasks ahead of them. Furthermore, the number of officers are far too few in comparison with the ever increasing tasks being allocated to them.

In the current exercise of strengthening the Ministry of Industry and Technology to effectively undertake the emerging new functions of industrial planning, industrial development, industrial promotion, acquisition, development and adaptation of appropriate technology, small industry and entrepreneur development etc. a five year perspective scenario is drawn. The expanded functions and activities can be initiated if 50% of the recommended personnel are placed on position immediately and the remaining 50% recruited in two phases during the next two years.

In making the following proposals the current workload of the Ministry is taken note of, together with recognition of the fact, that Government's initiatives and intervention are necessary to bring about changes in the existing scenario during the next five years.

It is suggested that industrial establishments, currently under the administrative supervision of other Ministries such as Ministry of Agriculture and Forestry, Lint Marketing Board, Cooperatives, Commerce, which include Class 3 (Manufacturing) of the ISIC may be transferred to the Ministry of Industry and Technology so that the strengthened Ministry will be a focal point for planning, promotion and development of industries and industrial technologies in the country.

The staff strength suggested in this proposal should be able to undertake the planning and development activities outlined for the Ministry for the first five years when the Ministry is strengthened and new establishments added under its jurisdiction.

FUNCTIONS:

In the following paragraphs the emerging functions of the Ministry and the professional staff strength needed are outlined:-

i. Industrial Administration:

- a. administration of the industrial laws, regulations and incentives.
- b. administration of the Foreign Investment (Protection) Act 1964.
- c. overseeing Foreign Investment (protection) Regulations 1965.
- d. Administering Foreign Investment Decree 1977.
- e. reviewing and suggesting modifications to the 1964 Act and 1977 Decree and formulating proposals relevant to the industries sector in revising the Investment Law for the country.

- f. monitoring the use of foreign exchange allocated to industrial enterprises.

ii. Industrial Management:

- a. Monitoring the managements of public sector enterprises, associated companies and parastatal organisations under the Ministry of Industry and Technology.
- b. Organising technical assistance and management development support directly or through aid agencies for enterprises under (a) above as well as for those enterprises requiring such assistance in the enterprises owned by nationals in the private sector.
- c. Provision of training opportunities for high level, middle level and technical personnel in (a) above as well as for deserving private entrepreneurs either through domestic sources or international aid sources;
- d. Drawing up programmes and proposals in respect of the ownership issues relating to enterprises in (a) above.
- e. organising technical assistance and training programmes to operatives and management personnel in the private sector particularly in the Small-Scale and Cottage industrial enterprises.
- f. Developing programmes which will lead to the privatisation of public sector enterprises, associated companies and parastatal organisations under the Ministry of Industry and Technology.

iii. Planning and Programming:

Industrial Planning is an important function in the Ministry. In view of the "mixed economy" policy followed by the Government the planning exercise has to gear to the public, parastatal and Government associated enterprises as well as the private sector. Within the overall industrial (macro) economic requirements of the country, the Plan

has to comprise of definite investment and production programmes of public, parastatal and Government associated enterprises and an "Indicative Plan" covering a large segment of the manufacturing sector constituting of private large, medium, small-scale and artisan enterprises.

The important elements of the Industrial Planning exercise are:-

- a. Long-term and medium term plans for the Manufacturing Sector,
- b. Preparation of industrial policies and strategies to harmonise with the Plan.
- c. Draft project proposals reflecting new investment potentials identified in the Plan for the private, public and joint sector enterprises.
- d. Preparation of regional studies to identify and prepare regional industrial development programmes.
- e. Sub-sector industrial planning based on International Standard Industrial Classification (ISIC).
- f. Preparation of Project profiles to estimate broad parameters of investment output, employment and the infra-structure elements of industrial development at the micro level.
- g. Preparation of Plan for small, cottage and rural industries.
- h. Assessment of long-term and short-term industrial finance requirements.
- i. Assessment of development expenditure for the Manufacturing Sector.
- j. Assessment of foreign exchange and domestic financial requirements for industrial development activities.
- h. Preparing external aid proposals for the Manufacturing Sector.

iv. Technology Development, Acquisition and Application:

Technology is a critically important aspect of an efficient and cost-effective industrial sector. Utilization of appropriate technology at the enterprise level is a major factor in establishing technically efficient and commercially and economically viable enterprises in the country. In recognition of this fact, the Ministry of Industry was renamed recently as Ministry of Industry and Technology with the appointment of a new Deputy Minister in charge of the new functions of the enlarged Ministry.

The main functions with respect to technology development, technology acquisition, adaptation and application are the following:-

- i. Advising the Government on policy formulation regarding the development, adaptation and transfer of technology, application of appropriate technology and establishment of technological research and development centres;
- ii. Advising industrialists and entrepreneurs on the type of available technologies while establishing new enterprises or while expanding and diversifying existing industrial activities;
- iii. Promoting local technical skills through dissemination of information on training possibilities, and wherever possible securing and coordinating sponsorship for such training from donor agencies either locally or overseas;
- iv. Assisting in the establishment of engineering and machine building industries to fabricate simple machines and equipment required for the application of appropriate technology.
- v. Encouraging and promoting industrial technological research and development with a view to facilitating the application of technologies ideally suited to local conditions;
- vi. Establishing and promoting industrial and technological research either in existing institutions or new establishments with a view either to adapt or develop appropriate technologies suitable to Uganda's industrial needs;

- vii. Collection, collation, storage and dissemination of industrial, scientific and technological information and data;
- viii. Liaising with all agencies, national and international, which are involved in activities bearing on all aspects of technology;
- ix. Management and supervision of activities in standardization, quality control, methodology as well as industrial aspects of environment protection.

As the acquisition, development, adaptation and dissemination of appropriate technology is a new function in the Ministry of Industry and Technology, a clear demarcation between policy formulation and implementation will be made. Technology implementation will be done through different institutions already existing or to be established. These institutions will be given increasing autonomy to implement the Government's policy on technology. Various activities involved in the development, acquisition and adaptation of technologies will be funded from local resources and international aid funds as appropriate.

V. Small Industry Promotion and Development:

The Government accords high priority in the establishment, nursing, promotion and development of small-scale and cottage industries as they form the seed-bed for the future growth of a nationally owned and managed self-sustaining industrial sector. Since the small-scale and cottage enterprises are privately owned and scattered all over the country, their development, upgrading and promotion needs an innovative approach of support through existing and established socio-economic and political institutions such as the Parish, Sub-county, County, Gombolola, District Administrations and/or Resistance Committees, etc. depending on their suitability in each area. The Government's role would be catalytic in order to promote these establishments under non-Governmental institutional framework with revolving and self-accounting financial resources provided both under national development budget and external aid sources. The main functions of the Ministry of Industry and Technology with respect to the development of small-scale and cottage enterprises are:-

- a. Policy and strategy formulation for small-scale and cottage enterprises in the context of the national industrial development policy and the overall economic development policy of

- the Government within the framework of the "Ten-Point Programme" of the National Resistance Movement.
- b. Preparation of short-term, medium-term and long-term development programmes for the small-scale and cottage enterprises.
 - c. Design Industrial Estates, Site and Service Facilities, Common Facility Centres, Training Centres, etc.
 - d. Industrial extension services to include, management assistance, technology upgrading, product development, etc.
 - e. Procurement assistance for raw materials and equipment.
 - f. Marketing assistance for small enterprises.
 - g. Monitoring the recycling of external assistance.
 - h. Improvements in product/process/equipment designs for small and cottage enterprises.
 - i. Assistance in the establishment of Pilot Plants.
 - j. Organising training programmes for operatives and securing technical assistance

Proposed Organisational Structure of the Ministry:

The functions outlined above are crucial to achieve the developmental objectives of the Government and are challenging in character. An organisational structure to undertake these functions has to be functionally inter-related and operate as an organic whole. Therefore, the division of responsibilities are proposed to be functionally defined with clear lines of authority and adequate scope for initiatives and professional development. When assignments with multi-functional character have to be undertaken, personnel from different departments will constitute a "Task Force" to undertake the specific assignments.

The proposed departments in the Ministry are as follows:-

1. Administration Department
2. Planning Department
3. Industrial Operations Department
4. Technology Department.

Each Department will be divided into different Divisions which in turn will be sub-divided into Sections.

The Permanent Secretary: Is the administrative head of the Ministry and is the chief adviser on all policy issues to the Minister of Industry and Technology. He is the Accounting Officer of the Ministry. All the departmental heads shall report to the Permanent Secretary.

Under Secretary: Head of the Department comprising Administration, Finance and Establishment Divisions. The Under Secretary will provide the outline of functions of various Divisions and the staff requirements to undertake those functions.

I. PLANNING DEPARTMENT

The Chief Economist is the Head of the Planning Department. He will have three Sections under him. They are:-

Section I: Headed by a Principal Economist who will undertake industrial planning related activities in respect of the Manufacturing Sector consisting of: (a) Food Beverages and Tobacco, (b) Textile, Wearing Apparel and Leather Industries; (c) Wood and Wood Products; (d) Paper and Paper Products. These industries cover International Standard Industrial Classification Categories (ISIC) 3111 to 3420 comprising 35 sub-groups. These groups are specified in Annex I. Section I will have two Senior Economists and four Economists.

Section II: Headed by a Principal Economist will be responsible for:-

- a. Manufacture of Industrial Chemicals.
- b. Manufacture of other Chemical Products.
- c. Manufacture of Rubber Products.
- d. Manufacture of Non-Metallic Mineral Products.
- e. Manufacture of Glass Products.
- f. Manufacture of other Non-Metallic Mineral Products.
- g. Basic Metal Industries.
- h. Manufacture of fabricated Metal Products.
- i. Manufacture of Machinery except Electrical.
- j. Manufacture of Electrical Machinery.
- k. Manufacture of Transport equipment.

The sub-groups falling under Section II are classified under ISIC 3511 to 3909 and are specified in Annex II. They comprise 44 sub-groups. Section II will have two Senior Economists and five Economists.

Section III: Statistical and Technological Information Section:

This Section will be headed by a Principal Industrial and Technological Information Officer (PITIO). By the very nature of the functions of this Section, the PITIO should have multi-disciplinary exposure. He/she will have direct links with the Director of Industries, Commissioner of Technology and Deputy Director of Small-Scale Industries.

This Section will provide statistical and technical inputs to the Industrial Planning Department, Industrial Technology Department, Industrial Operations Department, and the Small Industry Division.

The Section will also receive relevant information from the other Departments and Divisions. It will assess technological information from varied sources, and establish mechanism for its dissemination to the private and public enterprises. The Section will build up a Technological Information base with the following types of information among others:-

- a. Alternative technologies; relevant and appropriate technologies which can potentially be adopted in the country.
- b. Information on process technologies, appropriate raw materials available and potential,
- c. Information on machinery and equipment through Directories and catalogues.
- d. Information on institutions which could transfer technology.
- e. Information on relevant international regional and national organisations which can be sources of technological information.
- f. Building up an industrial statistical data base.
- g. Information on policies and programmes and incentives for the development of large and small industrial enterprises in other countries.
- h. Compilation of a Directory of Industries.
- i. Maintenance of a roster of national experts who could be utilized by local industry for consultancy.
- j. Information on training facilities pertinent to industry.
- k. Information on joint ventures and joint venture agreements.
- l. Information on available sources of external financial and technical assistance to the industrial sector.

The PITIO will be assisted by one Senior Statistician, two Statistical Officers and four Statistical Assistants in all industrial statistics related functions.

The activities related to acquisition, organisation and dissemination of technological information will be done by a Senior Industrial Information Officer, assisted by two Technical Information Officers, one Computer Programmer and one Librarian.

JOB DESCRIPTION

INDUSTRIAL PLANNING DEPARTMENT

i. The Chief Economist:-

The Chief Economist shall be responsible to the Permanent Secretary in the implementing the over-all functions of the Industrial Planning Department. He will cooperate and interact with the Commissioner for Technology and the Director of the Industrial Operations Department to obtain inputs in the planning and policy formulation for the industrial sector. He will provide guidance and leadership to the Principal Economists and the Principal Technical and Information Officer and through them to the other officers under them in performing the functions of the Department. He will in particular:-

- a. guide the officers in preparing short-term, medium term and long-term development plans for the Manufacturing Sector.
- b. continuously review the industrial policies and strategies and initiate changes based on past experience and needed direction for the future development of industries.
- c. supervise and guide preparation of project proposals reflecting new investment proposals arising out of the Industrial Plan;
- d. initiate, motivate and supervise in the preparation of regional industrial development studies to promote regional industrial development;
- e. guide and supervise in the preparation of sub-sector studies to identify problems of the sub-sector and individual units requiring assistance and to identify new investment opportunities;
- f. guide and initiate preparation of project profiles for new investment opportunities indicating broad parameters of investment, output, etc;
- g. prepare methodologies and guide in estimating domestic and external financial requirements of industrial enterprises and sub-sectors;

- h. guide in the preparation of development expenditures for the Manufacturing Sector;
- i. prepare proposals for obtaining external assistance to the Manufacturing Sector;
- j. examine the tariff structure in relation to industrial development and maximising trade and development in the PTA region;
- k. provide training and guidance in industrial planning and development activities to the professional staff members of the department;
- l. provide over-all guidance and supervision in the collection of industrial statistics for planning purposes;
- m. organise the establishment of the Technological and Industrial Information Centre in co-operation with other Departments and source bases;
- n. organise dissemination of information to target groups;
- o. participate in sectoral planning meetings and seminars and cooperate with the Ministry of Planning and Economic Development in all activities concerning the preparation of the Development Plan for the Manufacturing Sector;

Qualifications:

Doctorate in Economics from a recognised University with five years experience in teaching and/or research in a University or industrial development experience in the private sector, development banks, parastatal organisation or Government.

Alternatively:

Master's degree in Economics and statistics with at least a second class from a recognised University with a minimum of 10 years experience in teaching and/or research in a University or industrial development related experience in reputed firms, development finance institutions or Government.

ii. The Principal Economists I & II:

The principal Economists shall report to the Chief Economist and will function under the latter's leadership, guidance and supervision. In order to ensure that discipline, authority and responsibility are maintained within the Industrial Planning Department and the Ministry as a whole, the Principal Economists shall keep the Chief Economist fully informed of all their professional activities and assignments. Their responsibilities, in particular, will be as follows:

Principal Economist I: Shall be responsible for all industrial establishments falling under ISIC sub-groups 3111 to 3420, that is 35 sub-groups in relation to all industrial planning activities. (See Annex I)

Principal Economist II: Shall be responsible for all industrial establishments falling under ISIC sub-groups 3511 to 3909, that is 44 sub-groups in relation to all industrial planning activities. (See Annex II)

Principal Economists I & II shall interact and cooperate particularly with Principal Industrial Development Officers I & II respectively from the Industrial Services Divisions in ensuring translation of Planning ideas into programmes and projects and their implementation. They shall also interact with the Principal Technical and Industrial Information Officer in securing technical, economic, statistical and commercial inputs for the planning exercise and in providing information to the Technical Information and Statistics Section.

The Principal Economists shall also cooperate with the Chief Industrial Development Officers heading the Regional Offices of the Small and Cottage Industrial Division in undertaking regional industrial development studies and in preparing small and cottage industries development programmes.

The Principal Economists shall also cooperate with the Principal Scientific Officers and Principal Engineering and Technology Officers in planning programmes and projects for scientific and technological application to industries and their implementation.

The Principal Economists shall undertake the following assignments in cooperation with the Senior Economists and Economists attached to their sections:-

- a. planning and scheduling of periodic work programme of the section and monitoring its progress.
- b. guiding the professional officers working under them and scrutinising and revising their work, as appropriate.
- c. based on the analysis of licensed and registered operating industrial units and the data from the periodic industrial survey exercises and in consultation with the Industrial Operations Department, Small Industries Division and Technology Department, assess the imported inputs needed for industrial establishments.
- d. prepare regional studies to identify the potential for industrial development in each area taking into account existing and potential local resources, regional, national and export demand for products suggested to be manufactured, available and potential manpower and infra-structure facilities.
- e. prepare sub-sector studies to identify problems affecting the sub-sectors and the individual enterprises and suggest remedial measures in cooperation with the Industrial Services Divisions, and Engineering and Technology Divisions;

- f. prepare technical assistance requests based on the requirements identified in the Regional Studies and Sub-sector Studies.
- g. Based on the findings of the Sub-sector Studies, Regional Studies, available Feasibility Studies, Project Profiles and other relevant material, prepare draft short-term, medium term, and long-term Industrial Development Plan for the country for discussion in the Ministry and later submission to Ministry of Planning and Economic Development.
- h. Prepare Annual Review and Progress Reports on the Implementation of the suggested programmes and policies and strategies in the Plan as approved and adopted by the Ministry of Planning and Economic Development, the Cabinet and the N.R.C.
- i. prepare monthly progress report of the sections for submission to the chief Economist and discussion at the monthly meeting of the senior officers.

Qualifications:

Master Degree with Economics major and Statistics and/or Computer Science Minor from a recognised University with a minimum of seven years experience in teaching and research in a higher institution of learning or development related experience in Government, financial institutions, parastatals or industries.

iii. Senior Economist/Economist:

The Senior Economists will report to the Principal Economists under whose supervision they work. With the assistance of the Economists, the Senior Economists shall initiate the basic work of the Planning Department. In particular, they shall:-

- a. Initiate and/or participate in sub-sectoral enterprise level surveys with the cooperation of the Statistics Section and the Appropriate Technology Division as is relevant,
- b. Initiate and/or participate in Regional Studies to identify problem areas and to suggest regional development programmes for industries.

- c. Undertake demand studies for industrial, consumer and intermediate goods.
- d. On the basis of domestic and external demand for different products and taking into account existing achievable capacity to produce such products in the country, make lists of candidate industries for inclusion in the draft industrial development plan,
- e. make estimates of the inputs needed for the "Candidate" industries in respect of capital investment, man-power, raw materials - local or foreign, power, transport facility and other infrastructure inputs.
- f. assess the impact of projects on the national economy taking into account its capacity to catalyse other industries or sectors, its use of scarce resources, its role in meeting the basic needs of the society etc. and give it appropriate ranking in priorities;
- g. make lists of several specific projects in different sub-sectors and for those getting reasonable chance of including in the Plan, organise preparation of project profiles or Prefeasibility studies by recommending appropriate technical expertise either local or through technical assistance.
- h. objectively evaluate existing industrial laws, regulations, procedures, incentives and dis-incentives, compare them with other countries and recommend appropriate changes if necessary.
- i. prepare drafts of plans, programs, strategies and policies for discussion.

Qualifications:

Senior Economists:

Higher second class honours degree with Economics/Applied Economics and Statistics with five years experience in development related activities in the Government, parastatal organisation, financial institutions or industries.

Economists:

Higher second class honours degree with Economics/Applied Economics and Statistics.

Statistical and Technological Information Service:

The main function of the service is to provide the Ministry and other government departments with statistical and technological information needed for assessment of changes taking place in manufacturing, for formulation of longer term development plans for the sector, and for provision and dissemination of statistical and technological data to the manufacturing companies, their customers and the general public. The section will be supervised by the Chief Economist and will be headed by the Principal Technical and Industrial Information Officer. It will have two main areas of activity:-

1. collection, organisation, processing and analysis of statistical data. This will be the main responsibility of the Senior Statistician.
2. Acquisition, organisation, evaluation, and dissemination of technological information. This would be the main function of the Senior Information Officer.

There should be a close cooperation and coordination between the two units which should function as a cohesive and integrated section.

The Statistical Unit: Should be responsible for the collection, organisation, analysis and evaluation of statistical data collected by the Ministry on a regular basis. This should include information about ownership, types of organisation, size of establishment, production sales, wages, labour costs, raw materials, fuel, capital stock, investment, capacity utilisation, stocks, etc. Some of the detailed information concerning the structure of the Industrial Sector will be normally collected by the Statistical Department of the Ministry of Planning and Economic Development. The statistical unit should work closely with the Department of Statistics making use of the information it collects in the censuses

of production and similar enquiries, and should concentrate on the provision of up-to-date information on production, sales, investment, changes in stock, etc. in order to enable the Ministry to monitor changes taking place in the industrial sector. When the need arises the statistical unit should conduct special enquiries about some aspect of industrial production which needs further quantification. The collected data should be systematically organised in order to facilitate easy retrieval and cross checking. Eventually the information should be computerised to enhance its usefulness.

The unit should be responsible for analysis of the data, including measurement of changes in production and labour productivity. It should also be responsible for the compilation and publication of the Directory of Manufacturing Establishments. Progressively, the accumulated data should provide a base on which development plans for the industrial sector can be prepared.

The Technological Unit: Should make available to the Ministry, the manufacturing sector, businessmen, traders, and the general public information on process technologies, machinery and equipment, industrial raw materials, organisation of production, management, marketing and any other information which is pertinent to industrial planning, promotion and development. In the establishment of the system, the unit should incorporate the following activities:-

1. Identification of information needs of users.
2. Identification of information sources within and outside the country.
3. Identification of organisations which possess technologies which are suitable for Ugandan needs, and transfer of the information to the country in collaboration with Technology Department.
4. Acquisition of the information from the identified sources. This could be in the form of books, journals, reprints, reports, etc.
5. Systematic organisation of this information, utilising accepted knowledge classification systems in order to facilitate retrieval of information under multiple search criteria.

6. Cataloging the documentary sources of information.
7. Dissemination of information to those within the Ministry, related organisations and industrialists. Introduction of mechanisms such as enquiry service, technological awareness service, bulletins, industry visits etc. should be considered.
8. Computerisation of statistical, technological and industrial information.

iv. Principal Technical and Industrial Information Officer:

The Officer will be responsible to the Chief Economist for the overall functioning and performance of the Statistical and Technical Information Section. He will cooperate with the Principal Economists I & II, in order to ensure the effective operation of the Department. He shall provide leadership, direction and guidance to the Senior Statistician and Senior Information Officer and other members of the staff.

His responsibilities include:-

- a. The overall administration of the Section.
- b. The preparation of the annual work programme, setting of objectives, targets, deadlines, etc.
- c. Evaluation and control of the progress of the work in terms of the work programme. Identification of problem areas and taking steps to overcome these in consultation with the Chief Economist.
- d. Initiation of special studies to be undertaken in the Statistical and Technological Information fields. Selection of such officers and guiding them in the execution of their studies.
- e. Coordination of the programme of the section with other sections of the Department.

- f. Supervision and guidance of the staff on systematic collection and organisation of statistical and technical information and its eventual computerisation.
- g. Installation of mechanisms which would disseminate the information collected by the section to Ministries concerned with technical matters, Industrial Operations and Planning. Entrepreneurs and businessmen should also be included. Availability of such information will improve technical and management aspects of their operators.
- h. Preparation of budgetary requirements for the operation of the section.
- i. Establishment of contacts with similar organisations in Uganda and abroad to keep in touch with the latest developments and communicate them to relevant officers and entrepreneurs.
- j. Provision of opportunities for career development and training of officers in the section. This should cover graduates and non-graduates.
- k. Formulation of long-term programmes for the systematic development of the section.

Qualifications:

The job requires dedication, imagination and foresight. The officer in charge should have the ability to foresee the type of information required by planners, decision makers, and entrepreneurs in order to equip the unit accordingly. Information work is a service where the value is measurable quantitatively. It is a job which requires constant awareness of the developments and changes in the economic, political and industrial fields. The job requires a research oriented mind.

1. Graduate of a recognised University in one of the following disciplines: Economics, Science, Statistics or Computer Science.
2. A post graduate degree would be considered as an added qualification.
3. Three years experience in Industrial and Technological Information work. Or one year's experience with professional qualification

in Information and/or Computer Science.

v. Senior Statistician:

The Senior Statistician shall be directly responsible to the Principal Statistical and Technical Information Officer and through him to the Chief Economist for the overall performance of his duties. He shall in particular be responsible for:-

- a. professional leadership, direction and guidance to the Statistical Unit.
- b. acquisition, collection, processing, and analysis of information about the industrial sector collected by the Ministry of Industry and Technology and other Government Departments, Parastatals, public and private institutions and the Department of Statistics in the Ministry of Planning and Economic Development on various aspects covering industrial planning, promotion, development monitoring, administration, etc.
- c. organising systematic recording, classification, cross referencing, upgrading and easy retrieval of the information collected and analysed.
- d. assisting in the computerisation of the statistical information.
- e. initiation of special statistical enquiries in order to provide information on aspects of the industrial sector which are not adequately quantified.
- f. organising on the job training and institutional training for professional career development of the staff members.
- g. cooperation, interaction with the Technological Department and Industrial Operations Department in the collection, organisation, use and dissemination of information.

Qualifications:

Minimum Second class honours degree from a recognised University with Statistics as a major subject. Knowledge of Computer operations desirable but not essential. Three years experience in collection and analysis of statistics.

vi. Senior Information Officer:

He will be responsible to the Principal Technical Information and Statistical Officer. The operation of the Industrial and Technological Information Service will be his/her direct responsibility in close cooperation with the Senior Statistician in the organisation and dissemination of Information. The officer's main responsibility will be to:-

- a. build up of the Industrial and Technological Information Service. This involves the acquisition, organisation and dissemination of all information related to industrial promotion and development. This should be done in consultation with the Technology Department, Industrial Operations Division and with the assistance of the Librarian. The senior officer should identify information requirements of the industrial sector, and obtain them from varied organisations.
- b. advise the Principal Officer on the equipment and facilities necessary for the operation of the services.
- c. assist the Principal Officer in the formulation of the budgetary requirements for the unit including computer operation.
- d. develop programmes for the dissemination of information and guiding and training the subordinate staff on the operation of these systems.
- e. assist the Principal Officer in all activities pertaining to the development of the section.

Qualification:

1. Science or Economics graduate of a recognised University. A class in any of the above disciplines will be an added qualification.
2. Three years experience in work related to industrial development and planning.
3. Knowledge of Computer Operations would be desirable though not essential.

vii. Computer Programmer:

The Computer Programmer is subordinated to the Senior Information Officer. The main duties consist in computerisation of all information pertaining to industry and industrial development. The areas of responsibility include:

- a. Development of programmes for the systematic computerisation of statistical data, Directory of Manufacturers, Industrial establishments licensed, information profiles of sub-sectors, imports, exports, library information, etc.
- b. Carrying out frequent system studies in order to identify areas where programmes have to be redesigned, or developed.
- c. Identification of software, and accessories required for the maintenance and efficient operation of the computer.
- d. Establishment of linkages with other organisations in order to facilitate exchange of information and also have compatibility of hardware and software.
- e. Supervision of maintenance and servicing of hardware.
- f. Be responsible for all equipment, books, diskettes, and other items.
- g. Advise the Senior and Principal Officers on requirements for development and expansion of the system.
- h. Provide computer literacy to the staff of the section and other officials of the Ministry who will require to search for information directly.

Qualifications:

1. Diploma in Computer Science or Management and design of computers.
2. Knowledge of one of the languages - BASIC, COBOL, and Software packages dBase III Plus, Lotus 1,2,3, and Word Processing. A knowledge of the UNIDO Statistical package would be useful.
3. Minimum of one year's experience in Programming and Programme development.

viii. Librarian:

The librarian is subordinated to the Senior Information Officer. He/She should operate an active Information Unit and not a passive library. The responsibilities include:-

- a. Preparation of books and periodical orders in consultation with the senior officer and other substantive departments. These should reflect the needs of the Ministry and the Industrial Sector.
- b. Identifying sources of information and accessing these. Assisting the senior officer and the Industrial and Technical Information Officers in their activities.
- c. Maintaining records of all publications of value e.g. Accession Registers.
- d. Classification, cataloguing and indexing of all books, periodical articles, reprints, reports, etc. In classification, accepted knowledge classification codes or systems should be utilised e.g. Universal Decimal Classification (UDC).
- e. Maintenance of an up-to-date catalogue.
- f. Operating library loan service and reference service.
- g. Assisting users in information searches.
- h. Preparation of documents to indicate recent additions to the library in order to make officers aware. e.g. "Recent Acquisition of Information", or "New Acquisitions".
- i. Carrying out all technical services related to library operations.
- j. Advising the Senior and Principal Officers of the requirements of the library.

Qualifications:

1. Graduate of the School of Librarianship.
2. Two years experience in library management, preferably in an organisation related to economic or industrial development.

ix. Industrial and Technical Information Officers:

These officers will be directly responsible for processing and dissemination of technological information and work under supervision of the Senior Information Officer. Their responsibilities include:

- a. Formulation of methods of dissemination of technological information to the Industrial Sector, planners and decision makers in the Ministry. This will be done with the guidance of the Senior Officer and the Principal Officer of the Section.
- b. Operation of the Inquiry Service.
- c. Preparation of information profiles on varied Industrial Sectors.
- d. Compilation of machinery catalogues files, information on Incentives, Markets, Regulatory measures etc. and building up product fields.
- e. Scanning of journals and other studies and obtaining relevant literature through the library.
- f. Visiting industries, in order to ascertain level of industrial operations, information requirements and also explaining the service so that the entrepreneurs could exploit its resources. This should be done in close cooperation with the Technology and Industrial Operations Department.

Qualifications:

1. Science graduates of a recognised University.
2. Experience in any economic and industrial field will be considered.

II. INDUSTRIAL OPERATIONS DEPARTMENT:

The Industrial Operations Department will be headed by the Director of Industries. This is the "pivot" of the Ministry, as it is responsible in ensuring that the policies and programmes of the Ministry are implemented and monitored. The post of the Commissioner of Industries may be redesignated as Director of Industries to emphasize the developmental responsibilities of the post rather than the traditional administration activities which will only take a small proportion of the time in the new set up. The following is the proposed structure of the Department:-

(a) Industrial Management Services Division:

This Division will be headed by a Chief Industries Development Officer who will also function as the operational counterpart to Public Industries Enterprise Secretariat. This Division will also undertake the proposed Inspectorate functions i.e. trouble - shooting at the enterprise level and providing First Aid type technical assistance and extension services.

This Division will have two sections headed by a Principal Industrial Development Officer each and supported by two Senior Industrial Development Officers.

Industries Services Section I: Will cover ISIC classification sub-groups 3111 to 3420 comprising 35 sub-groups as shown in Annex I. This section will be responsible for initiating diagnostic studies and analysis of problems of these sub-sectors incorporating enterprises both in the public and private sectors.

Industries Services Section II: Will cover industries under ISIC 3511 to 3909 which comprise 44 sub-groups. As in Section I, this Section will initiate diagnostic studies and analysis of problems of the enterprises falling under both the public and private sectors.

Both Section I & II will support the PIES project (Public Industries Enterprise Secretariat) and will assist the proposed Public Industrial Enterprises Policy Committee through the Director of Industries. They will work out a programme for divesting some public enterprises, privatising those that are needed for the country and are potentially viable and assisting in the rehabilitation of both private and retained public enterprises. As a part of the exercise, a programme for the

transfer of some public enterprises to the private sector, initiating development oriented policies, creating a base for a stock exchange, improving the quality of the Boards of Directors and Managers of public enterprises, etc. will be undertaken.

The training and management problem solving exercises will be locally handled to the extent possible through the Management Training and Advisory Centre, which is autonomous, but liaises with the Ministry through the Director of Industries. The MTAC and Industrial Management Services Division will cooperate at professional level.

(b) Industrial Licensing and Project Appraisal Division

The functions of this Division are self-explanatory as the name suggests. This Division will be headed by a Chief Industries Development Officer and will be supported by two Sections, one for Project Appraisal and the second one will deal with all aspects of industrial licensing and monitor industrial incentives, industrial laws and regulations.

(c) Small and Cottage Industries Division

This Division will be headed by a Deputy Director of Small Industries supported by one Principal, two Senior Industries Development Officers and four Industries Development Officers at the Headquarters. These Officers, while preparing and implementing development programmes for Small-Scale enterprises in the Kampala Region will coordinate the activities of the four Regional Offices which will be established by the Ministry.

Provincial Offices:

The Ministry will immediately establish four Regional Offices with the main thrust for the promotion and development of small and cottage enterprises. However, these offices will also be representing the Ministry of Industry and Technology in the rural areas and therefore will undertake Ministry's work, such as data collection, project implementation and monitoring, technology information dissemination, etc.

The Regional Offices will be headed by the Chief Industries Development Officers in each centre and will be assisted by one Principal and two Senior Industries Development Officers, one Statistician and one Economist. Each Regional Office will cover several Districts.

It is important to have a high ranking Chief Industries Development Officers to be in charge of the Regional Centres to demonstrate the emphasis and importance Government places on rural industrialisation through grass root initiatives. The CIDOs should be able to provide the leadership, respectability and authority needed to initiate this proposed small industry development programme throughout the country.

Furthermore, to demonstrate the importance of Regional Centres, the scope for promotion to senior positions is more in the Regional Centres than in the Headquarters. The Officers from the Headquarters, except the Deputy Director will have more opportunities for promotion in the Regional Offices than in the Headquarters.

JOB DESCRIPTIONS

INDUSTRIAL OPERATIONS DEPARTMENT

The present Industry Division will be renamed as Industrial Operations Department by adding several new result and project oriented industrial development functions. The Planning Department will prepare Plans and programmes. But these have to be translated into projects and various steps taken to implement them. Otherwise Plans and programmes will catch dust on the shelves. The Industrial Operations Division shall take initiatives and function as catalyst in implementation activities. To reflect the new additional functions of this Department and the additional responsibilities entrusted to the Head of the Department, the present post of the Commissioner of Industries, will be redesignated as Director of Industries and upgraded to reflect the importance of the post and to provide career opportunities for professionals.

i. Director of Industries:

The Director of Industries shall be the Head of the Industrial Operations Department and shall provide leadership, guidance and supervision of all the functions and activities of the Department. He shall in particular coordinate the activities of the (I) Industrial Management Services Division (II) Project Evaluation and Industrial Licensing Division and (III) Small and Cottage Industries Development Division - which are under his administrative and professional supervision.

The Director of Industries shall report to the Permanent Secretary. In particular, the Director of Industries shall:-

- a. monitor the performance of managements of public sector enterprises, Government associated companies and parastatal organisations which are under the supervision of the Ministry of Industry and Technology;
- b. organise in-depth objective examination of enterprises in the public sector or joint sector and make recommendations as to whether their ownership pattern should be changed or modified to make them more efficient, competitive and result oriented.

- c. organise technical assistance and management development support directly or through aid agencies to enterprises in the public, joint, parastatal or private sector requiring such assistance and support in the national interests.
- d. drawing up programmes and proposals in respect of enterprises whose legal ownership issue has yet to be settled.
- e. initiate measures such as legal procedures, financial issues, management issues, etc. in respect of enterprises whose ownership question has to be legally settled.
- f. administer industrial laws, regulations and incentives.
- g. administer Foreign Investment Protection Act and/or its Successor Act, if any, in respect of industrial investments in cooperation with the Ministry of Finance.
- h. review and suggest modifications to the existing industrial legislation acts, if needed.
- i. organise project evaluation exercises and make recommendations regarding issuance of Industrial Licences to the Industrial Licensing Committee/Board.
- j. induce Pre-feasibility Studies or Feasibility Studies through Management Training and Advisory Centre and/or technical assistance support personnel or consultants.
- k. co-ordinate small industry and cottage industry development programmes in the urban and rural areas.
- l. recommend Government representatives on the Boards of Directors of public enterprises.

Qualifications:

Master's Degree in Economics, Commerce, Statistics, Science or Engineering from a recognised University and a minimum of 15 years' experience in industrial development, industrial administration, development finance.

Alternatively: High second class Honours degree in Economics, Commerce, Statistics, Science or Engineering with 20 years' practical experience in industrial administration, industrial development, industrial management or development finance or management related experience in Government parastatals or private enterprises.

Industrial Management Services Division:

Industrial Management Services Division is a Service-oriented Division in industrial management . These are new activities to be initiated in the Ministry. Management expertise, though the most critically important requirement at this stage of Uganda's development, is acutely in short supply. Therefore the Division will be a focal point in rationalizing and rehabilitating the ownership and management functions of industrial enterprises. This Division will closely liaise with the Management Training and Advisory Centre and shall be the counterpart to the Public Industries Enterprise Secretariat (PIES) Project in the Ministry.

ii. Chief Industries Development Officer (CIDO)

C.I.D.O. (I) will be in charge of the Management Services Division and shall guide and co-ordinate the activities of Industrial Services Sections I & II. In particular he shall:-

a. undertake analysis of technical processes, methods and systems of work in industrial enterprises in selected public, parastatal, joint or associated sectors and provide technical assistance to rationalize the processes and methods if necessary, to make the enterprises efficient and competitive.

b. Ascertain installed and achievable production capacities and suggest ways and means of making maximum use of the machinery and equipment to meet the demand for the products.

c. Evaluate the technical, economic and commercial viabilities of enterprises proposed to be rehabilitated and prepare bankable proposals for the apparently viable enterprises.

d. Study management, accounting, marketing practices of selected enterprises and suggest improvements if necessary;

e. Provide direct technical assistance either through available local expertise or external assistance, as is appropriate, for enterprises requiring such assistance.

f. Examine the ownership issues of enterprises with questionable legal ownership and prepare procedures and initiate action in settling this issue.

- g. Examine the rationale of Government ownership of enterprises and make suitable recommendations on the future pattern of ownership.
- h. In enterprises where privatization has been decided, prepare all formalities and procedures for expeditious action.
- i. Prepare monthly progress report for Senior Officers Meeting.

Qualifications:

Masters degree in Management, Commerce, Engineering Science or Economics from a recognised University or equivalent professional qualifications recognised by Makerere University with 10 years experience in management of enterprises, consulting, teaching at the University level, banking or in responsible position in Government.

iii. Principal Industries Development Officer I & II

Under the supervision of C.I.D.O. the PIDO will be responsible for delivering the management services for the industrial establishments falling under the jurisdiction of his section. He will have two SIDO's working under him. In particular, he shall:-

- a) organise diagnostic exercises of industrial enterprises falling under public, parastatal and joint sectors and organise appropriate advisory and technical services through in-house expertise, local consultancy agencies, M.T.A.C. or external assistance.
- b) organise through " Task-Force" mechanism from within the Ministry or inter-Ministerial/parastatal technical inputs, the proposed ad-hoc Industrial Inspectorate activities and provide information to facilitate urgent decisions on critical enterprise level and sector related problems.
- c) organise evaluation of technical, economic and commercial viabilities of enterprises proposed to be rehabilitated in the context of sub--sector analysis.
- d) organise examination of ownership issues of enterprises having legal ownership problems and initiate procedures for settling such problems.
- e) co-operate and fully participate in all activities of the Public Industries Enterprises Secretariat (PIES) Project established in the Ministry.

Qualifications

Master's degree in Management, Commerce, Engineering, Science or Economics or equivalent professional qualifications recognised by the Makerere University with at least Seven years experience in Management of enterprises, consulting, teaching at University level or development finance institutions or development related activities in government.

iv. Senior Industries Development Officer and Industries Development Officer (SIDO & IDO):

Under the supervision and guidance of the Principal Industrial Development Officer, the SIDO and IDO shall:-

- a. initiate enterprise level examination of selected enterprises and identify their basic problems.
- b. evaluate the installed technical capacity and achievable capacity utilization of equipment in enterprise and identify problems, if any, to reach the achievable capacity utilization.
- c. undertake demand study and market research of specific products from enterprises to ascertain whether the enterprises should continue in production, diversify or close down.
- d. examine whether the existing machinery and equipment can produce good quality products at competitive prices or new machinery, equipment, technology or processes should be introduced.
- e. In the light of (c) & (d) above, obtain data on machinery and equipment from different supply sources;
- f. obtain alternate technology information from the Industrial and Technology Information Facility in the Ministry
- g. Prepare draft bankable investment proposals utilizing in-house expertise or external technical assistance.

Qualifications:

Graduate in Engineering, Management, Commerce or Economics from a recognised University with five years relevant experience for the SIDO post.

Honours graduate in Engineering, Management, Commerce or Economics from a recognised University for the IDO post.

Project Evaluation and Industrial Licensing Division:

Investment projects with investments exceeding U.S. Dollars 300,000, in machinery and equipment are considered as large scale enterprises and need a licence for establishment in the country. For new enterprises or expansion of existing enterprises involving foreign investments special repatriation guarantees etc. may be needed as per the existing Foreign Investment Protection Act or the new draft Act under preparation. The Project Evaluation and Industrial Licensing Division will undertake all the formalities relating to evaluation and recommendations for licensing, incentives and guarantees. The Chief Industries Development Officer will coordinate the activities of this Division. In particular, he will:-

- a. organise preparation of present and future demand estimates for the products under review.
- b. initiate and coordinate preparation of technical evaluation of the project.
- c. verify whether detailed inventory of plant, equipment and supplies is presented in the study along with costs from alternate suppliers.
- d. examine whether the right elements and parameters are taken into account in site selection.
- e. examine whether a sub-sectoral analysis is included in determining appropriate installed capacity for products.
- f. examine whether raw materials available in right quantity, appropriate quality and competitive price is taken into account.
- g. examine whether sustainable power supply, water and transport facilities has been taken care of.
- h. examine whether the project will give adequate financial returns to the investors and provide cash-flow for repaying loans.
- i. work out economic internal rate of return to evaluate the earning power of capital invested in the project.
- j. work out sensitivity analysis by giving alternative values to key variables in the project formulation.

- k. work out loan safety ratios such as:
 - i. current ratio as a test of solvency.
 - ii. debt equity ratio.
 - iii. fixed assets coverage ratio.
- l. work out management efficiency ratios such as:-
 - i. receivables outstanding
 - ii. inventory turnover ratio.
 - iii. administrative expenses to total sales value etc.
- m. work out net domestic value added by manufacturing.
- n. suggest project modification if necessary to the investors.
- o. make appropriate recommendations to the Licensing Committee.

Qualifications:

Masters degree in Commerce, Accounting or Economics from a recognised University with professional training in project appraisal and/or project preparation. Ten years experience in project related activities in development finance institutions, parastatals, private industry or Government.

Small Industries Division

vi. Deputy Director (Small-Scale and Cottage Industries):

The Deputy Director will report to the Director and will be responsible for all the functions of the Small Industries Division. He will supervise and coordinate the professional work of the Chief Industries Development Officers, Principal Industries Development Officers, Senior Industries Development Officers of the Division in Headquarters and the Regional Offices. In particular, he will be responsible for:-

- a. policy formulation for Small-Scale and Cottage Industry development,
- b. formulation of short-term, medium term and long-term programmes for the development and promotion of Small-Scale and Cottage industries within the parameters of the overall national objectives.
- c. formulation of small industry and cottage industry development programmes for specific groups such as Womens Groups, Orphan Groups, Handicapped persons etc.
- d. formulation of Small-Scale enterprises development programmes for implementation at grass-root levels;
- e. formulation of Small-Scale enterprises programmes for implementation by the non-Governmental organisations.
- f. formulation of small industry projects for obtaining technical assistance from multi-lateral and bilateral agencies.
- g. coordination of the work of the Small Industries Division with that of other Governmental and non-Governmental Organisations engaged Small and Cottage industry development activities.
- h. participate in the formulation of all studies or surveys and data collection efforts in respect of small and cottage industries.
- i. cooperation with the Technology Department in the adaptation of appropriate technology in small and cottage industry establishments.
- j. initiating the establishment of pilot projects as appropriate.

k. initiating the programme for industrial estates, site and service facilities, etc.

l. plan and implement entrepreneur development programme in coordination with Management Training and Advisory Centre.

Qualifications:

Master's or high second class Honours degree in Engineering, Science, Economics or Commerce from a recognised University with at least 10 years experience in development related activities, management of public or private enterprises or teaching at the University level. Alternatively, a diploma in Engineering from a recognised institution and 15 years practical operational and management experience in a production unit or Government.

vii. Chief Industries Development Officer (CIDO):

(Small Industries)

The CIDO will report to the Deputy Director and supervise and coordinate the work of the Principal Industries Development Officers, Senior Industries Development Officers and Industries Development Officers. He will in particular:-

- a. organise evaluation of Government's rules, regulations etc. in respect of small industry administration as a basis for formulating policies and strategies.
- b. identify prospects for the establishment and promotion of small enterprises in order to make proposals for short-term and long-term development programmes for small and cottage enterprises.
- c. identify the specific needs of vulnerable groups in society such as orphans, handicapped, etc. and suggest income generating projects for their benefit.
- d. organise women's groups for participating in small-scale and cottage industry projects.
- e. study the characteristics of local community groups, the pattern of their socio-economic and political lines of authority and hierarchy to facilitate preparation of grass-root, self-sustaining small industry development programmes.
- f. identify local, regional, national and international non-Governmental organisations functioning in the country and examine their role in respect of income-generating activities so as to ascertain whether their services and resources can be utilized for a national grass-root N.G.O. small industry development programme.

Qualifications:

University degree in Engineering, Science, Economics, Commerce, or management, in the second class Honours Division from a recognised University with ten years experience in management of industry, teaching or in development related activities in Government or non-Governmental Organisations.

Alternatively, a recognised diploma in Engineering, Commerce or Management with 15 years experience in Management or development related activities.

viii. Principal Industries Development Officer (PIDO)

(Regional Office)

The Principal Industries Development Officer is primarily concerned with industrial development with emphasis on small industries at the regional level. He will report to the CIDO of his region and the Deputy Director at the Headquarters. He will supervise the work of the SIDO. In particular, he will:-

- a. participate and often initiate regional studies to identify development prospects for small and cottage industries. Cooperate with the Planning and Technology Departments in undertaking the regional studies.
- b. participate in industrial surveys in cooperation with the Planning and Technology Departments.
- c. initiate preparation of small industry profiles and pre-feasibility studies.
- d. initiate planning and designing of small industry extension centres, common facility centres and pilot projects as is appropriate.
- e. design training programmes for workers in small industries, artisans and school leavers as appropriate.

Qualifications:

University degree in Engineering, Science, Management, Economics or Commerce in the second class honours division from a recognised University with a minimum of seven years experience in management of industry, teaching or development related activities in Government or non-Governmental organisations. Alternatively a recognised diploma in Engineering, Commerce or Management with ten years experience in management or development related activities.

ix. Senior Industries Development Officer (SIDO)

Industries Development Officer (IDO):

(Regional Office)

The SIDO and IDO at the Regional office will be expected to function as generalists in undertaking industrial development functions at the grass-root level and assisting all the three Departments at the headquarters of the Ministry and operate under the direct supervision of the PIDO at the Regional offices. They will in particular be expected to:-

- a. undertake regional and sub-sectoral studies in cooperation with the Planning and Technology Departments.
- b. submit monthly reports on industrial developments, problems and prospects in the region,
- c. identify problem areas characteristic to the region or groups of enterprises.
- d. identify technical assistance needs of enterprises.
- e. identify specific groups to develop grass-root small industry programmes.
- f. obtain technical information specific to industry groups in the region from the Industrial and Technological Information Facility in the Ministry and disseminate to the target groups.
- g. organise non-Governmental groups and promote them to undertake industry related income generating activities.
- h. organise training programmes in costing, marketing, product improvements etc.

Qualifications:

Second class honours degree in Economics, Statistics, Science, Commerce or Engineering with five years experience in industry or Government for the SIDO and second class Honours degree in any of the above subjects for the IDO.

III. TECHNOLOGY DEPARTMENT

This is a new function added on to the Ministry in 1986. The Department is headed by a Commissioner for Technology and will have two divisions, namely: (a) Scientific Division and (b) Technical Operations Division, each headed respectively by a Chief Scientific Officer and Chief Engineering and Technology Officer.

The Technology Department will have two major functions:

- Identification and promotion of industry oriented research; and
- Selection and application of technologies.

Scientific Division

The Division will be headed by a Chief Scientific Officer and assisted by two Principal Scientific Officers. The Division will also have four Senior Scientific Officers and eight Scientific Officers.

The Scientific Division will function as a catalyst in identifying and promoting industry oriented research in higher institutions of learning such as Makerere University and Applied Research in Technical Institutes and other Technical Training Institutions. The results of such a research would be passed on to the Technical Operations Division for further refining and application in enterprises.

Technical Operations Division

This Division will be headed by a Chief Engineering and Technology Officer and assisted by two Principal Engineering and Technology Officers. The Division will also have four Senior Engineering and Technology Officers and eight Engineering and Technology Officers.

The Technical Operations Division will intervene in technology selection and technology application at two levels, in the case of large new investments (exceeding \$ 300,000). This Division will fully participate in the technical evaluation of the project to ensure that the technology is appropriate to local conditions and that skills, information and practices which constitute the major elements of the technology package are clearly understood by the local partners and are effectively transferred to their operations staff. The Division will prepare technological policies and strategies to govern technology transfer through foreign investment projects. It will also obtain technical assistance, if

necessary, to evaluate the technical and technological aspects of large industrial investments so as to avoid untested investments and technologies.

In the small-scale and medium enterprises sector, there is considerable scope for the absorption of technology available elsewhere and the modification and upgrading of existing technology. If one makes a quick assessment of areas of small industry clusters, the scope for initiatives and interventions in upgrading, modifying and absorbing technologies appears very vast.

JOB DESCRIPTION

TECHNOLOGY DEPARTMENT

i. Commissioner for Technology

The Commissioner for Technology shall be responsible to the Permanent Secretary in implementing the overall functions of the Technology Department. He will cooperate and interact with the Chief Economist of the Industrial Planning Department and the Director of Industries to provide and obtain information relating to Technology development and promotion in the planning and policy formulation in the industrial sector. He will provide guidance and leadership to the Chief Scientific Officer and the Chief Engineering and Technology Officer and through them to the other officers under them in performing the functions of the Department. He will in particular:-

- a) guide the officers in preparing short, medium and long term scientific and technological plans and programmes for the Industrial Sector.
- b) continually review scientific and technical policies and strategies and initiate changes based on past experiences and needed direction for the future development of industries.
- c) establish procedures and monitoring controls to initiate and promote research in educational institutions.
- d) establish procedures to ensure that all investment proposals, both local and foreign, are channeled through this Department for technology evaluation.
- e) collaborate in the preparation of regional industrial development studies regarding technological applications.
- f) in collaboration with Technical Information and Statistics Section identify external sources of scientific and technological information and, through seminars, magazines and bulletins provide all officers with access to up-to date innovations and developments.
- g) supervise and guide the preparation of Project Proposals reflecting the scientific and technological aspects of new investment proposals arising out of the Industrial Plan.
- h) supervise and guide in the preparation of Sub-Sector Studies to identify problems of the Sub-Sectors and individual units requiring assistance and to identify new technological opportunities

- i) provide training and guidance in scientific and technical operations to the professional staff members of the department.
- j) collaborate in the organisation and establishment of the Technological and Industrial Information Centre in cooperation with other Departments and source bases.
- k) supervise dissemination of information to target groups.
- l) participate in sectoral planning meetings and seminars and cooperate with the Ministry of Planning and Economic Development in all activity concerning the preparation of technological programmes for the Manufacturing Sector.

QUALIFICATIONS

Masters degree in Engineering or Science from a recognised University and a minimum of 15 years experience in industrial development, industrial administration, or teaching at University level.

Alternatively first class or high second class Honours degree in Engineering or Science with 20 years practical experience in industrial administration, industrial development, industrial management or management related experience in Government parastatal or private enterprises.

ii. CHIEF SCIENTIFIC OFFICER

The Chief Scientific Officer, who will be at Chief Industrial Development Officer level, reports directly to the Commissioner for Technology. He will be responsible for implementing the functions at the Scientific Division and will cooperate and interact with his counter part in the Technical Operations Division to promote and develop Scientific Technology. The person should be a dynamic self starter, capable of identifying opportunities and motivating others to research, develop and implement industry oriented applications.

He will provide guidance and leadership to his Principal Scientific Officers and through them to the other officers under them in achieving the objectives of the Department. He will in particular:

- a) identify and promote industry oriented research in higher institutions.
- b) through personal involvement promote the function of the Scientific Division, establish contacts with all higher institutions of learning and formalise procedures for regular communication and meetings.
- c) through external sources keep abreast of Scientific developments, ensure this information is communicated within both the division and to counter parts in other divisions and departments.
- d) guiding the professional officers working under him and supervising and revising their work as appropriate.
- e) based on the analysis of existing manufacturing units and on data from periodic industrial survey exercises and in conjunction with the Industrial Operations Department and the Industrial Planning Department assess existing and potential requirements for Scientific Promotion and development.
- f) prepare regional studies to identify the potential for Scientific development in each area taking into account existing and potential local resources, and regional and national developments already introduced.

g) prepare sector and sub sector studies to identify problems affecting them and individual enterprises and propose remedial scientific measures in cooperation with the Industrial Services Division and the Industrial Planning Division.

i) cooperate in the preparation of technical assistance requests based on the requirements identified in the Regional and Sub-Sector Studies.

j) based on the findings of the sub-sector studies, regional studies, project profiles, feasibility studies, and other relevant information and in close collaboration with the institutions of higher learning prepare draft short term, medium term and long term Scientific Development Plans for the country for discussion in the Ministry and later submission to the Ministry of Planning and Economic Development.

k) prepare monthly progress reports of the Section for submission to the Commissioner for Technology and discussion at the monthly meeting of Senior Officers.

QUALIFICATIONS

First class degree in either Science or Engineering from a recognised University with a minimum of 5 years relevant experience in scientific research industrial development or administration or teaching at University level. A masters qualification in Science and Technology would be ideal.

Alternatively a high second class honours degree in Science or Engineering or corporate or certified membership of an internationally recognised professional Institute of Science or Engineering with a minimum of 5 years relevant experience in scientific research for industrial development or administration.

iii. CHIEF ENGINEERING AND TECHNOLOGY OFFICER

The Chief Engineering and Technology Officer, who will be a Chief Industrial Development Officer level, reports directly to the Commissioner for Technology. He is responsible for implementing the functions of the Technical Operations Division and will cooperate and interact with his counterpart in the Scientific Division to promote and develop technology in all operational activities.

The person should be a dynamic self starter, capable of identifying opportunities and motivating others to ensure that the selection and application of technology is appropriate to local conditions in the case of large new investments and that existing and available technology is applied to small scale and medium enterprises.

He will provide guidance and leadership to his Principal Engineering and Technology Officers and through them to the other officers under them in achieving the objectives of the Department. He will in particular:

- a) ensure that all engineering, technical and operational applications have the most appropriate and effective technology for local conditions.
- b) through personal contact promote the function of the Technical Operations Division, establish contacts with industrial institutions and organisations for regular communication and meetings.
- c) through external sources keep abreast of technological development, ensure this information is communicated both within the division and to counterparts in other divisions and departments.
- d) guiding the professional officers working under him and supervising and revising their work as appropriate.
- e) develop technological policies and strategies to govern technology transfer through foreign investment policies.
- f) promote the absorption of technology available elsewhere and the modification and upgrading of existing technology with particular emphasis on small scale and medium enterprises.

g) based on the analysis of existing manufacturing units from data of periodic industrial survey exercises and in conjunction with the Industrial Operations Department and the Industrial Planning Department assess existing and potential requirements for technical and technological promotion and development.

h) prepare regional studies to identify the potential for technical and technological development in each area taking into account existing and potential local resources and regional and national developments already introduced in co-operation with other Divisions.

i) prepare sector and sub-sector studies to identify problems affecting them and individual enterprises and propose remedial technical and technological measures in cooperation with the Industrial Services Division and the Industrial Planning Department.

j) cooperate in the preparation of technical assistance requests based on the requirements identified in the Regional and Sub-Sector Studies.

k) based on the findings of the sub-sector studies, regional studies, project profiles, feasibility studies and other relevant information prepare short term, medium term and long term Technical and Technological Plans for the country for discussion in the Ministry and later submission to the Ministry of Planning and Economic Development.

l) prepare monthly progress reports of the section for submission to the Commissioner for Technology and discussion at the monthly meeting of Senior Officers.

QUALIFICATION

First class degree in Engineering or Science from a recognised University with a minimum of 5 years relevant experience in technical and technological development or administration or teaching at University level. A masters qualification in Industrial or Production Engineering would be ideal.

Alternatively a high second class honours degree in Engineering or Science or corporate or certified membership of an internationally recognised professional Institute of Engineering or Science with a minimum of 5 year relevant experience in technical or technological industrial development or administration.

iv. PRINCIPAL SCIENTIFIC OFFICER I AND II

The Principal Scientific Officers shall report to the Chief Scientific Officer and will function under the latter's leadership, guidance and supervision. The Principal Scientific Officers shall keep the Chief Scientific Officer fully informed of their professional activities and assignments. They will in particular be responsible as follows:

Principal Scientific Officer I: Shall be responsible for all industrial establishments falling under the Large Enterprise Section in relation to all industry oriented scientific research.

Principal Scientific Officer II: Shall be responsible for all industrial establishments falling under the Small Enterprises Section in relation to all industry oriented Scientific research.

The Principal Scientific Officers I and II shall interact and cooperate particularly with the Principal Engineering and Technology Officers I and II in ensuring the translation of scientific ideas into programmes and projects and their implementation. They shall also interact with their counterparts in the Industrial Operations Department and the Industrial Planning Department in securing scientific economic and commercial inputs for industry.

They shall also cooperate with the Principal Engineering and Technology Officers and the Principal Economists of the Industrial Planning Department in planning programmes and projects for scientific application in industries and their implementation.

The Principal Scientific Officers shall undertake the following assignments in cooperation with the Senior Scientific Officers and Scientific Officers attached to their section:-

- a) planning and scheduling of periodic work programmes of the section and monitoring progress.
- b) guiding the professional officers working under them and supervising and revising their work as appropriate.

c) based on the analysis of licensed and registered industrial units and on data from periodic industrial survey exercises and in consultation with the Industrial Operations Department and Industrial Planning Department, assess the important scientific inputs needed for industrial establishments.

d) based on regional and sub-sector studies prepared by the Division and the Industrial Planning Department, assess the demand for scientific remedial measures to counter problems identified.

e) Cooperate and contribute to requests for technical assistance, prepared by the Division and the Industrial Planning Department, based on the requirements identified in the Regional and Sub-Sector Studies.

f) based in the findings of the sub-sector studies, Regional Studies, available feasibility studies, project Profiles and other relevant material, assess existing and potential requirements for Scientific promotion and development for presentation within the Division.

g) prepare monthly progress reports of the section for submission to the Chief Scientific Officer and discussion at meetings of Senior Officers.

QUALIFICATIONS

First or high second class honours degree in either Science or Engineering from a recognised University with a minimum of 3 years relevant experience in scientific industrial development or administration or teaching at University level.

Alternatively corporate or certified membership of an internationally recognised professional Institute of Science or Engineering with a minimum of 3 years relevant experience in scientific industrial development or administration.

v. SENIOR SCIENTIFIC OFFICER AND SCIENTIFIC OFFICER

Under the guidance and supervision of the Principal Scientific Officer of the Section the SSO's and SO's shall:-

- a) initiate at enterprise level examinations to identify their basic scientific related problems.
- b) initiate at institutional level, opportunities and promotion of scientific research suitable for industry.
- c) cooperate in the preparation of Regional and Sectoral Studies under the guidance of the Principal Scientific Officers.
- d) liaise with their counterparts in the Engineering and Technology Section ensuring that information related to engineering and technical problems are communicated for investigation.
- e) obtain information on the scientific capabilities and restrictions in existing enterprises and its suitability for use in any studies or requests for information handled in the section.
- f) obtain information on alternative scientific capabilities and developments from technical institutions and from national and international sources.

QUALIFICATIONS

SSO: Graduate in Science or Engineering from a recognised University or a corporate or certified member of a recognised international professional Institute of Science or Engineering with 3 years relevant experience.

SO: Graduate in Science or Engineering from a recognised University or a Corporate or Certified member of a recognised international professional Institute of Science or Engineering.

vi. PRINCIPAL ENGINEERING AND TECHNOLOGY OFFICER I and II

The Principal Engineering and Technology Officers shall report to the Chief Engineering and Technology Officer and will function under the latter's leadership, guidance and supervision. The Principal Engineering and Technology Officers shall keep the Chief Engineering and Technology Officer fully informed of all their professional activities and assignments.

They will in particular be responsible for:

Principal Engineering and Technology Officer I:-

Shall be responsible for all industrial establishments falling under the Large Enterprise section in relation to all industry oriented engineering, technical and technology evaluations.

Principal Engineering and Technology Officer II.

Shall be responsible for all industrial enterprises under the Small Enterprises section in relation to the absorption modification and upgrading of existing technology.

The Principal Engineering and Technology Officer I and II shall interact and cooperate, particularly with the Principal Scientific Officers I and II in ensuring the translation of engineering, technical and technological ideas into programmes and projects and their implementation. They shall also interact with their counterparts in the Industrial Operations Department and the Industrial Planning Department in securing technically and technologically well-founded economic and commercial inputs for industry.

They shall also cooperate with the Principal Scientific Officers and the Principal Economists in the Industrial Planning Department in planning programmes and projects for technical and technological application in industries and their implementation.

The Principal Engineering and Technology Officers shall undertake the following assignments in cooperation with the Senior Engineering and Technology Officers and the Engineering and Technology Officers attached to their sections:-

a) planning and scheduling of periodic work programmes of the section and monitoring progress.

b) guiding the professional officers working under them and supervising and revising their work as appropriate.

c) participate in the technical evaluation of large scale new investment proposals and projects to ensure that technology is appropriate to local conditions.

d) develop programmes to ensure the effective transfer of skills, information and practices to operations staff in new investments and closely monitor their performances.

e) cooperate in the drafting of requests for technical assistance arising from the needs in evaluations of large industrial investments.

f) develop programmes to establish detail of existing technology in small and medium enterprises and promote the absorption of alternative technology available else where.

g) based on the findings of Sub-Sector Studies, Regional Studies, available Feasibility Studies, Project Profiles and other relevant material assess existing and potential requirements for technical and technological promotion and development for presentation within the division.

h) prepare monthly progress reports of the section for submission to the Chief Engineering and Technology Officer and discussion at meetings of Senior Officers.

QUALIFICATIONS

First or high second class honours degree in either Engineering or Science from a recognised University with a minimum of 3 years relevant experience in technical and technological industrial development or administration or teaching at University level.

Alternatively corporate or certified membership of an internationally recognised professional Institute of Engineering or Science with a minimum of 3 years relevant experience in technical and technological industrial development or administration.

vii. Senior Engineering and Technology Officer and Engineering and Technology Officer

Under the guidance and supervision of the Principal Engineering and Technology Officer of the Section the SETO's and ETO's shall:-

- a) initiate at enterprise level examinations to identify their basic technical and technological related problems.
- b) cooperate in the preparation of Regional and Sectoral studies under the guidance of the Principal Engineering and Technology Officer.
- c) liaise with their counterparts in the Scientific Section ensuring that information related to Scientific problems are communicated for investigation.
- d) obtain information on the technical and technological capabilities and restrictions in existing enterprises, and ensure it is up to date and suitable for use in any studies or requests for information handled in the section.
- e) obtain information on alternative technical and technological capabilities and developments from technical institutions and from national and international sources.

QUALIFICATIONS

SETO: Graduate in Engineering or Science from a recognised University or a corporate or certified member of a recognised international professional Institute of Engineering or Science with 3 years relevant experience.

ETO: Graduate in Engineering or Science from a recognised University or a corporate or certified member of a recognised international professional Institute of Engineering or Science

ANNEX I

Sub-Groups of Industries under the Jurisdiction of Section I
in the Industrial Planning Department for the purpose of Industrial
Planning related Activities.

ISIC Classification:

- 3111 Slaughtering, Preparing and Preserving Meat
- 3112 Manufacture of Dairy Products
- 3113 Canning and Preserving of Fruits and Vegetables
- 3114 Canning, Preserving and Processing of Fish
- 3115 Manufacture of Vegetable and Animal Fats
- 3116 Grain Mill products
- 3117 Manufacture of Bakery Products
- 3118 Sugar Factories and Refineries
- 3119 Manufacture of Cocoa, Chocolate and Sugar Confectionery
- 3121 Manufacture of Food Products not elsewhere Classified
- 3122 Manufacture of Prepared Animal Feeds.

Beverage Industries: Consist of:-

- 3131 Distilling, Rectifying and Blending Spirits
- 3132 Wine Industries
- 3133 Malt Liquors and Malts
- 3134 Soft Drinks and Carbonated Waters Industries
- 3140 Tobacco Manufacture
- 3211 Spinning, Weaving and Finishing of Textiles
- 3212 Manufacture of Made up Textile Goods except Wearing Apparel
- 3213 Knitting Mills
- 3214 Manufacture of Carpets and Rugs
- 3215 Cordage, Rope and Twine Industries
- 3219 Manufacture of Textiles not elsewhere classified
- 3220 Manufacture of Wearing Apparel except Footwear
- 3231 Tanneries and Leather Finishing
- 3232 Fur Dressing and Dyeing Industries
- 3233 Manufacture of Products of Leather and Leather Substitutes
except Footwear and Wearing Apparel
- 3240 Manufacture of Footwear except Vulcanised or Moulded Rubber or
Plastic Footwear
- 3311 Saw Mills, Planning and other Wood Mills
- 3312 Manufacture of Wooden and Cane Containers and small Cane Ware

- 3319 Manufacture of Wood and Cork Products not elsewhere classified
- 3320 Manufacture of Furniture and Fixtures except primarily of Metal
- 3411 Manufacture of Pulp, Paper and Paper Board
- 4312 Manufacture of Containers and Boxes of Paper and Paper Board
- 3419 Manufacture of Pulp Paper and Paper Board Articles not elsewhere classified.
- 3420 Printing, Publishing and Allied Industries

Section I has 35 groups of industries to cover in planning, in identifying new investment opportunities and other industrial planning related activities.

ANNEX II

Sub-groups of Industries under the Jurisdiction of Section II
in the Industrial Planning Department for the purpose of
Industrial Related Activities.

- 3511 Manufacture of Basic Industrial Chemicals except Fertilizers
- 3512 Manufacture of Fertilizers and Pesticides
- 3513 Manufacture of Synthetic Resins, Plastic Materials and Man-Made Fibres.
- 3521 Manufacture of Paints, Varnishes and Lacquers
- 3522 Manufacture of Drugs and Medicines
- 3523 Manufacture of Soap and Cleaning preparations, perfumes, Cosmetics and other Toilet Preparations.
- 3529 Manufacture of Chemical Products not elsewhere classified
- 3551 Tyre and Tube Industries
- 3559 Manufacture of Rubber Products not elsewhere classified
- 3560 Manufacture of Plastic Products not elsewhere classified
- 3610 Manufacture of Pottery, China and Earthenware
- 3620 Manufacture of Glass and Glass Products
- 3691 Manufacture of structural Clay Products
- 3692 Manufacture of Cement, Lime and Plaster
- 3699 Manufacture of Non-metallic Mineral Products not elsewhere classified.
- 3710 Iron and Steel Basic Industries
- 3720 Non-ferrous Metal Basic Industries
- 3811 Manufacture of Cutlery, hand tools and general hardware
- 3812 Manufacture of Furniture and Fixtures primarily of Metal
- 3813 Manufacture of Structural Metal Products
- 3819 Manufacture of Fabricated Metal Products except Machinery and Equipment not elsewhere classified.
- 3821 Manufacture of Engines and Turbines
- 3822 Manufacture of Agricultural Machinery and Equipment

- 3823 Manufacture of Metal and Wood-working Machinery
- 3824 Manufacture of Special Industrial Machinery and Equipment
except Metal and Wood-working Machinery
- 3825 Manufacture of Office, Computing and Accounting Machinery
- 3829 Machinery and Equipment except Electrical not elsewhere classified
- 3831 Manufacture of Electrical Industrial Machinery and Apparatus
- 3832 Manufacture of Radio, Television and Communication Equipment
and Apparatus
- 3833 Manufacture of Electrical Appliances and Housewares
- 3839 Manufacture of Electrical Apparatus and supplies not elsewhere
classified
- 3841 Boat (Ship) Building and repairing
- 3842 Manufacture of Rail/Road Equipment
- 3843 Manufacture of Motor Vehicles
- 3844 Manufacture of Motor Cycles and Bicycles
- 3845 Manufacture, Assembly, Rebuilding, Alteration and Repair of
Aeroplanes, Gliders, Aircraft parts, etc.
- 3849 Manufacture of transport equipment not elsewhere classified
such as Animal-drawn Wagons Carts, Hand-drawn push Carts, Wheel-
barrows, etc.
- 3851 Manufacture of professional and scientific, measuring and control-
ling equipment, not elsewhere classified
- 3852 Manufacture of Photographic and Optical goods
- 3853 Manufacture of Watches and Clocks
- 3901 Manufacture of Jewelry and related articles
- 3902 Manufacture of Musical Instruments
- 3903 Manufacture of Sporting and Athletic goods
- 3909 Manufacture of Industries elsewhere classified such as toys, pens,
pencils, other office and artists materials, umbrellas, canes,
buttons, brooms and brushes, lamp shades, identification plates, etc.

ANNEX III

PROPOSED PLACEMENT OF OFFICERS

INDUSTRIAL PLANNING DEPARTMENT

Designations	Total Proposed	Proposed Placement In			
		1988	1989	1990	1991
Chief Economist	1	1			
Principal Economists	2	1	1		
Senior Economists	4	2	1	1	
Senior Statisticians	1	1			
Senior Information Officers	1	1			
Economists	9	4	2	3	
Statisticians	2	2			
Scientific Officer	-	-	-	-	
Computer Programmer	1	1	-	-	
Librarian	1	1	-	-	
Statistical Assistants	4	4	-	-	
Total Planning Department	26	18	4	4	

INDUSTRIAL OPERATIONS DEPARTMENT

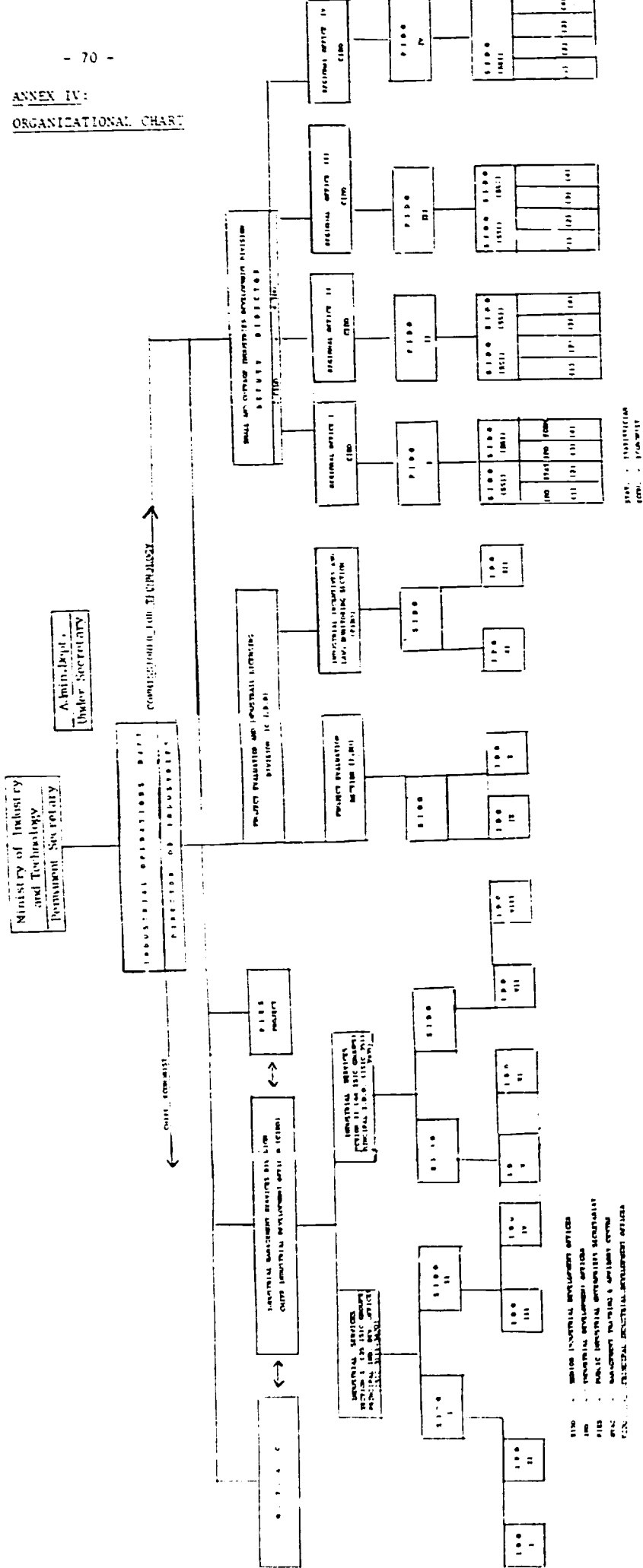
Designation	Total	Proposed Placements In			
		1988	1989	1990	1991
<u>Director of Industries</u> <u>Industrial Management</u> <u>Services Division</u>	1	1	-	-	-
Chief Ind. Dev. Officer (C.I.D.O)	1	1			
Principal Ind. Dev. Officer (PIDO)	2	1	1		
Senior Ind. Dev. Officer (SIDO)	4	2	2		
Industrial Development Officers (IDO)	8	4	4		
	16	9	7		
<u>Project Evaluation</u> <u>Industrial Licensing</u> <u>Division</u>					
Chief Industrial Development Officer (CIDO)	1	1			
(PIDO)	2	1	1		
SIDO	2	1	1		
IDO	4	2	2		
	9	5	4		

Designations	Total Proposed Posts	Proposed Placements In			
		1988	1989	1990	1991
<u>Small and Cottage Industrial Development Division</u>					
Deputy Director	1	1			
CIDO	4	2	2		
PIDO	4	2	2		
SIDO	10	6	4		
IDO	12	8	4		
Statisticians	4	2	2		
Economists	4	2	2		
	39	23	16		
Total Industrial Operations Department	64	37	27		

PROPOSED PLACEMENT OF OFFICERS
INDUSTRIAL TECHNOLOGY DEPARTMENT

	Total Posts Proposed			
		Year I (1988)	Year II (1989)	Year III (1990)
<u>INDUSTRIAL TECHNOLOGY</u>				
<u>DEPARTMENT</u>				
1. Commissioner For Technology	1	1	-	-
<u>(a) SCIENTIFIC D N</u>				
2. Chief Scientific Officer	1	1	-	-
3. Principal Scientific Officer	2	1	-	1
4. Senior Scientific Officer	4	1	1	2
5. Scientific Officers	8	2	2	4
	16	6	3	7
<u>(b) TECHNICAL OPERATIONS</u>				
<u>DN</u>				
6. Chief Engineering & Technology Officer	1	1	-	-
7. Principal Engineering & Technology Officer	2	1	-	1
8. Senior Engineering & Technology Officer	4	1	1	2
9. Engineering & Tech. Officers	8	2	2	4
	15	5	3	7
Total Ind. Technology Department	31	11	6	14
Professional Staff for Ministry of Industry and Technology TOTAL	121	66	37	18

ANNEX IV:
ORGANIZATIONAL CHART



1100 - INDUSTRIAL DEVELOPMENT OFFICER
 1200 - INDUSTRIAL DEVELOPMENT OFFICER
 1300 - PUBLIC INDUSTRIAL DEVELOPMENT SECRETARIAT
 1400 - MANAGEMENT TRAINING & DEVELOPMENT CENTRE
 1500 - TECHNICAL INDUSTRIAL DEVELOPMENT OFFICER

1600 - STATISTICIAN
 1700 - ACCOUNTANT

