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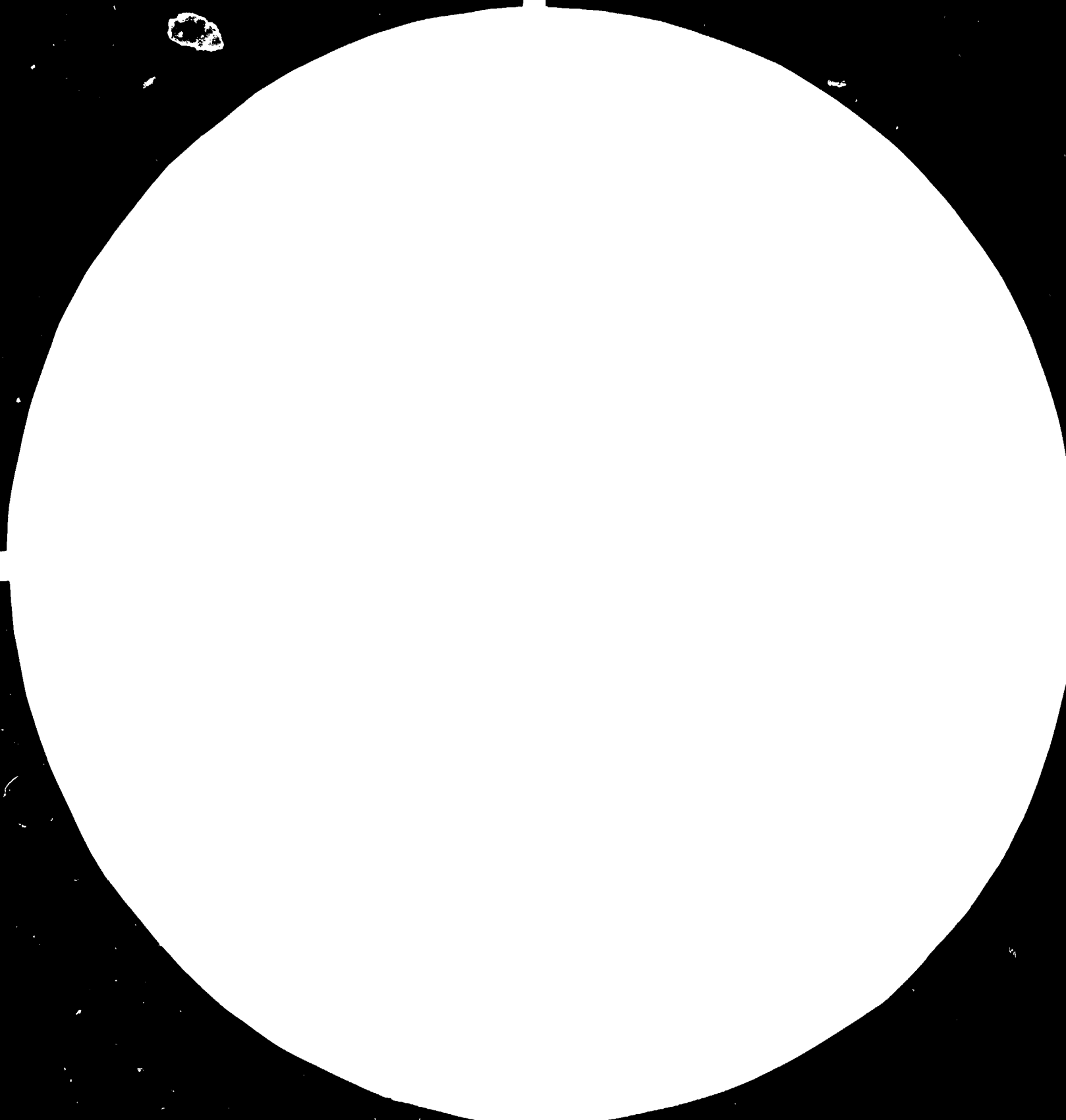

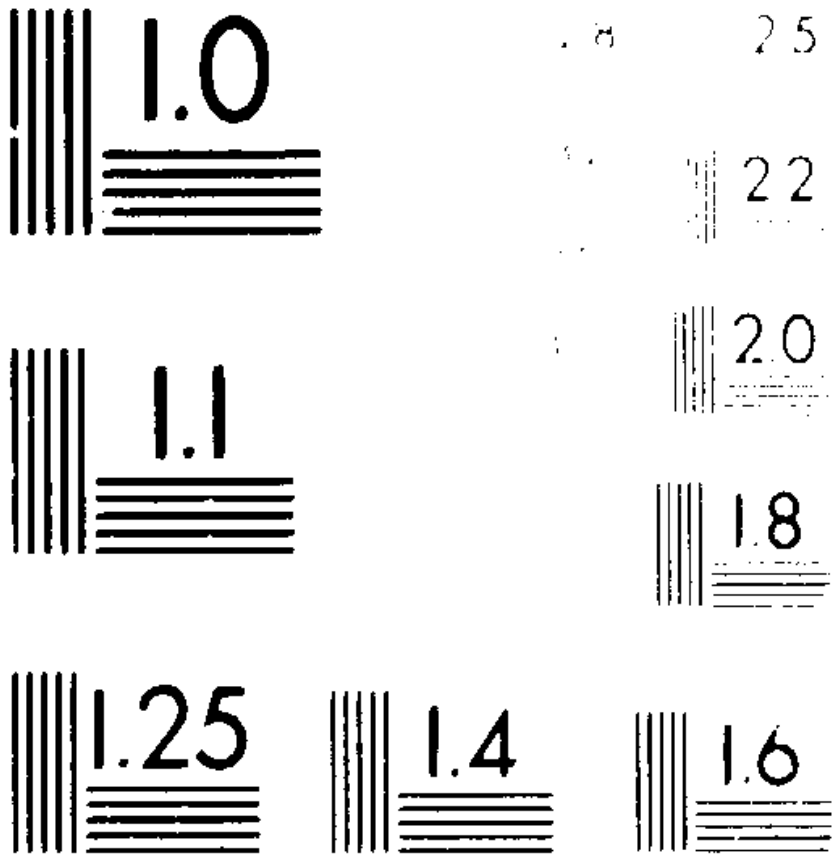
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ASSISTANCE TO THE

TANZANIA INDUSTRIAL RESEARCH AND DEVELOPMENT ORGANIZATION

(TIRDO).

Tanzania.

REPORT

on the

ESTABLISHMENT AND DEVELOPMENT

of the TIRDO

INFORMATION DEPARTMENT.

DP/URT/78/019/11-06/31.3J

Prepared for the Government of the United Republic of Tanzania by the United Nations Industrial Development Organization as executing agency for the United Nations Development Programme.

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Expert in
Industrial Information and Documentation System

C O N T E N T S

S U M M A R Y

Significant steps have been taken in setting up an Industrial Information and Documentation System covering information retrieval, technical inquiry service, selective dissemination of information, R & D registry, extension service and training of national staff to support the development objectives of the Tanzania Industrial Research and Development Organization.

The system as established is now known as the Information Department. It is functional and during the first year of its operation the following services were offered on a limited scale: Technical Inquiry Service: Extension Service; Documentation; Publication of a TIRDO Newsletter; Directory of Information Resources in Tanzania; Current Awareness Services; Training in Industrial Information; and, Organization of Seminars and Workshops.

The ID has three professional staff: one Documentation Officer and two Extension Officers. Temporary administrative support, a Secretary and reprographic assistant have been provided. The gaps in manpower supply for the Information/Documentation have greatly restrained the ID in spreading out its services to a wider population of industrial clients.

At the end of its first phase of operation, a diagnostic evaluation of the various services was undertaken prior to reformulating the programmes and services for the second year and in preparation for the institutionalization of the department. The findings became the major basis for the following general recommendations summarized as follows:

The ID should in the second phase of its operation address itself to strengthening the services with greater emphasis on a more

integrated approach, responding to actual needs that industries in Tanzania have expressed, and promoting an awareness of the value of information to institutions servicing industries and encouraging its production and correct usage.

The government should be fully aware of how crucial industrial information systems and services are for development and should therefore consider their financing with a high degree of priority.

The UNDP/UNIDO should allocate more resources in order to elevate the status of ID into a Technical Information Service Centre in Tanzania, capable of performing with a high level of efficiency.

The above recommendations are detailed in Chapter 7 of this report.

1.0 INTRODUCTION

1.1 The establishment of a documentation and retrieval system early in 1981, aimed to develop, operate and provide industrial information, responses to technical inquiries, R & D registry and extension service to industries in Tanzania, has been a significant contribution to the development of TIRDC. The system as established is now known as the Information Department or ID.

1.2 Provision of the basic facilities and resources for the development of the ID was on-going when this mission arrived on the 30th of November 1981, as commissioned by UNIDO under Project DP/URT/78/019/11-06/31.3J. The mission focused on the development of a system of documentation, retrieval, information services, training of counterpart nationals, cooperative arrangements with domestic and foreign sources of information and collaborating with the Extension Service Experts providing advice on the extension services.

1.3 The work of the mission was carried out for 24 months, from 24 November 1981 to 30 November 1983.

1.4 This report mainly focuses on the Information/Documentation aspect, describes the objectives, activities, achievements, findings,and constraints, and makes recommendations to strengthen the established system. This is also addressed to the government and the executing agencies in order that continuing support will be provided to the department. Further, it is hoped that this will also be useful to the ID staff as a guide in sustaining the established services for consistency and smooth institutionalization of the department.

2.0 OBJECTIVES

2.1 The development objective of the project was to create a capability within Tanzania to undertake industrial research and development activities in support of the country's long term industrial development plan through the establishment of the Tanzania Industrial Research and Development Organization.

2.2 The immediate objective of this mission was the setting up of an Industrial Information System covering information retrieval, inquiry service, SDI, R & D registry and training of counterpart nationals.

2.3 The need to establish within TIRDC an Industrial Information System was recognised from the outset. Based on the report of the preparatory mission fielded by UNIDO in November 1980, the need for TIRDC to take up the role of an access point for industrial users of technological information should be underscored.

2.4 Therefore, the machinery established, developed and implemented with expert assistance of this mission focused primarily on the "on-the-job" training of counterpart national staff, the development of tools for retrieval and information services, and the use of the equipment made available by the project. The rationale for the emphasis on the training was the recognition to develop the right capability to sustain the proper functioning of the department and to develop self reliance when the project assistance phases out.

3.0 PROJECT ACTIVITIES AND OUTPUTS

3.1 The outputs generated from the activites undertaken in Phase I were based on the original work plan which were later revised to suit the programmes laid down by the project in relation to the activities of the other departments of PIRDC. The outputs and activites carried out by the ID are discussed in the following paragraphs.

3.2 WORK PROGRAMME

A documentation and retrieval system work plan integrating the documentation and extension service activities was developed. The activities were structured to provide a framework towards the development of the Information Department.

3.3 ORGANIZATIONAL STRUCTURE

An organizational chart (Appendix I) of the ID has been designed which includes the coordinating mechanism (Appendix II) to be employed.

3.4 TRAINING

The overseas training in industrial information of two counterpart staff initially appointed was reviewed and has substantiated the r cessity to provide them with more intensive on-the-job training focusing primarily on practical application exercises. The course programme was prepared and 50 hours of intensive sessions were initially carried out, after which on-the-job training continued. In addition, monitoring, evaluating and advising on the application of what they have learned into actual practice was emphasized.

3.5 ID POLICIES

Policy statements for the department supplemented with more detailed policies have been submitted to the management for input to the TIRDO Management Manual and for submission to the TIRDO Council.

3.6 MANUAL OF OPERATIONAL PROCEDURES

A Manual of Operational Procedures was prepared for the Information Department. The manual defines in detail the step by step procedures for the conduct of the various activities of the department. Preparation of this document was done in collaboration with the national counterparts as part of their on-the-job training.

3.7 INFORMATION SOURCES AND ACQUISITION PROGRAMME

3.7.1 Visits to various sources of information and selected industries in Tanzania to assess the information resources and needs merited attention. Visits to about 30 information sources[1] and 102 industries were made and results of these visits partly served as an input in the design of the ID's acquisition programme and information services, thereby enabling ID to acquire information which are only actually needed and services which are demanded.

3.7.2 In order to ensure a continual flow of current information to and from TIRDO in the event that more budget constraints occur in the unforeseeable future, a selective documents acquisition policy was adopted. The policy calls for purchasing materials which are urgently needed by users,

[1] Refer to information centres, libraries, individuals (specialists) experts and associations

resource sharing arrangements with libraries and information centres through inter-library loans and exchange of publications, within and outside the country. To date, the ID has established linkage with two (formalized) and 10 (informal) institutions/libraries/information centres in the country and 20 overseas on information exchange basis. The ID has also initiated a cooperative acquisition programme with another documentation centre, the Tanzania Industrial Service Consulting Organization (TISCO). This programme, however requires a continuing liaison with TISCO; because ID has yet to develop its manpower capability on one hand and TISCO had problems with information/documentation manpower turnover on the other, the programme was temporarily shelved. However, it is likely to succeed whenever both organizations will be able to sort out their manpower problems.

3.8 DOCUMENTATION CENTRE COLLECTION

3.8.1 Organization of the documentation centre collection was one of primary concern. A great amount of effort and time was spent in this activity which was pursued in line with the on-the-job practical application training of the counterpart staff. As an output there now exists a Documentation Centre with an organized collection of approximately 500 volumes of reference books and 2,275 reports, of which 1512 are UNIDO reports (1,000 in microfiche and 512 in hard copies), 149 titles of periodicals in hard copies (11 in microfiche), 29 microfilms containing communications, technical and laboratory reports from 1945 to 1976 of the former East African Industrial Research Organization, various manufacturers catalogues and ephemerals, capable of

providing technological information to users. The Documentation Centre has also served as a major source of information to support the extension service function of the department.

3.8.2 An existing classification scheme designed by the Documentation Officer to organize information materials for retrieval was revised in order to achieve compatibility not only with the schemes used by various information centres in Tanzania but also with the acceptable international standard system. Demonstrations and exercises on the use of the scheme were done to ensure that counterpart staff have acquired the knowledge and skills to effectively perform their tasks. As an output the classification scheme now in use is called TIRDO Technological Information Profiling System (TIRDO-TIPS)[2].

3.9 INFORMATION RETRIEVAL

3.9.1 A diagnostic study on the manual system of information retrieval was administered to test the level of efficiency of the system as established. The test results indicated that the system is working and have surfaced certain weakness which provided a basis for strengthening the system. Recommendations in this respect are stated in Chapter 7 of this report.

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[2] Briefly, the scheme works by classifying the documents by types (Handbooks, Reports etc., further classifying and cataloguing them according to the International System of Industrial Classification (ISIC),

3.9.2 An attempt to computerize the existing manual retrieval system was made. However, it is perceived that the personal computer system now in use is appropriate for the company files but apparently because of its limited capacity, there are difficulties in adopting the system for the technical document collection. The computer expert expected to assist TIRDO may have answers to the problems that have so far been identified.

3.10 ID SERVICES

3.10.1 TECHNICAL INQUIRY SERVICE

An information service-oriented approach was developed with emphasis on the Technical Inquiry Service. The mechanism for TIS as implemented was in the form of a semi-active information transfer where technological information packages are developed to meet identified needs or problems specified and required by industries. Inquiries are received by various means, analysed, and appropriate replies sent to the inquirers. Where information packages such as summaries, digests and/or photocopies of articles are sent as replies, a feedback form is attached as a basis for evaluating the usefulness of the information disseminated. From 1981 to October 1983, a total of 125 technical inquiries were received and 118 answered. Seven were not answered because inquiries were beyond the capabilities of TIRDO. Feedback received was 20%. This figure does not include public information inquiries.

3.10.2 EXTENSION SERVICE

A system of Liaison service approach between the industry and TIRDO was started by UNIDO mission DP/URT/78/019/11.04.

Visits to industries in various regions of Tanzania was done. Follow up visits to selected industries was continued after the mission has left. Part of the service was the organization of a Professional Club of Information for and within Industry aimed at providing a channel through which useful ideas and practices on recent technologies can be exchanged problems discussed and processes shared. Five professional club meetings were held. Two industries have hosted the meeting, a clear demonstration of their interest in this activity. Out of 4 technical problems discussed in the meetings 2 were solved.

3.10.3 CURRENT AWARENESS SERVICE

Current Awareness Lists containing abstracts of technological information from selected periodicals dealing with current technologies, processes etc., believed to be appropriate for application to Tanzania, are published to alert research officers of TIRDC and selected industries to the availability of such information in the ID. To supplement these lists, photocopies of the contents of current journals are regularly circulated to TIRDO staff. So far Current Awareness published are in the areas of energy, electronics and instrumentation, soft drinks and other available technologies. The lack of support staff in the department has greatly restrained the regular publication of both.

3.10.4 TIRDO NEWSLETTER

The role of the ID as a communication centre for TIRDO cannot be overemphazied. It is viewed that as such there is much to be desired. However, working under difficult circumstances and in its present limited available resources,

one important activity has been implemented. This is the publication of a TIRDO NEWSLETTER aimed to communicate technological information, expertise, experiences resulting from investigations carried out at TIRDO and other institutions. TIRDO has now published 3 issues and disseminated 90 copies for each issue to industries, 78 to institutions and 98 to others. About 59 foreign institutions are included in the mailing list and provided with copies. Feedback from various industries on their interest in regularly receiving the newsletter was very encouraging.

4.0 ACHIEVEMENT OF IMMEDIATE OBJECTIVES

4.1 The immediate objectives of the establishment of the ID have been, to a certain extent, achieved.

4.2 The operations of the Information Department are now guided by established procedures which are defined in the ID Manual of Operational Procedures. Policies have yet to be approved; meanwhile decisions on issues normally guided by policies are made by the Director General and the project. The operations are, in most cases, constrained by the absence of a head of the department, insufficient support staff and equipment which are not always properly functioning. However, achievements of the immediate objectives are substantiated in the following paragraphs.

4.3 The Information Department is functional. The Documentation Centre as organized has provided document delivery and readers services to TIRDC staff, institutions, 468 titles to individuals are supplied with photocopies of documents in response to their requests. The mechanism for generating feedback on the utilization of the information disseminated is through the use of a feedback form. Of the photocopies disseminated, 29.5% feedback with suggestions on how to improve the operations have been received.

4.4 The method of operating a Technical Inquiry Service is now properly applied although strengthening in the aspect of monitoring the utilization of information disseminated is necessary. (The same mechanism is applied as 4.3). About 118 technical inquiries have been responded to and feedback from the inquirers on the usefulness of the information is

fairly satisfactory.

4.5 The manual retrieval system established is working as expected, enabling the provision of information without much delay. Information not available in the ID are retrieved or drawn from other centres or from foreign sources through the use of the telex (for urgent information requirements), otherise requests are sent by airmail.

4.6 The R & D Registry which was originally planned as a sub-system or separate activity of the Information Department as mandated in the Parliamentary Act establishing TIRDO is now incorporated with the Documentation Centre activities, to avoid if not minimize duplicating the activities of other organizations like TISCO and Tanzania Bureau of Standards, (TBS) where the same mandate appears in their own charters.

4.7 The extension service has visited 102 companies and approximately 30% have utilized the services of TIRDO Information Department. As part of its extension activities a Professional Club Meeting has been organized in Information for and within Industry aimed at providing a forum to exchange experiences, share problems and generate suggested solutions. Of the 5 meetings held, problems in the areas of engineering, industrial advisory techniques, training, financial/ commodity aids, energy conservation and information dissemination techniques, plaster of paris manufacturing and fire bricks, were discussed. Two problems were solved on the subjects of instrumentation training and on design and fabrication of 100 kgs. capacity cupula furnace.

5.0 UTILIZATION OF PROJECT RESULTS

5.1 The immediate objective was to establish within TIRDO an Industrial Information System which shall include information retrieval, technical inquiry service, selective dissemination of information, extension service and R & D registry. The project results were well utilized in the context of achieving a certain level of efficiency in providing information services even under manpower difficulties.

5.2 The ID staff has developed the capability of being trainers and this was demostrated when a UNIDO fellow from the Ministry of Industry and Trade in Malawi was trained on Information Management at TIRDO, for one month.

5.3 Awareness of industries on the existence of TIRDO and its services has increased. Several institutions have also availed of the ID services by using TIRDO as a reference point when technological inquiries are directed to them.

6.0 FINDINGS

6.1 The Information Department was established basically to provide industries in Tanzania with relevant technological information and find the most appropriate medium to transmit them. Its establishment is very crucial especially when practically almost all the industries at this stage are not aware of where to access for required information.

6.2 For two years, the ID has implemented both direct and indirect information service approach to industries in the form of extension service, response to technical inquiries and current awareness services, with great difficulty.

6.3 The first phase of operation focused mainly on the stimulation of innovation to industries in Tanzania through technological information awareness and dissemination. In the process, the following problems as stated in the subsequent paragraphs were identified.

6.4 Most industries have relied heavily on externally generated technology (originating in the developed countries) because that is what is made available partly in terms of information. This has strengthened a deeply rooted belief that technologies generated in advanced economies are far superior to the local ones.

6.5 Some information oriented industries have accepted information as a resource and signified their willingness to pay for services rendered or useful information provided. However, deficiencies exist in the type of information products and services, especially with respect to quality

and applicability. Most often the technological information received by industries from R & D institutions cannot be properly interpreted by them for application.

6.6 Industries in Tanzania are not prepared to accept printed information but are interested in assistance on the application of technological information in their day to day operations.

6.7 As a result of visits to various centres of knowledge in Tanzania, it was found that almost all institutions having to do with industrial development have established library facilities or documentation centres; however, most of them do not have organized collection and trained personnel to perform information functions. The information dissemination mechanism in most centres of knowledge in Tanzania is so weak that most of the technological resources circulate within a few individuals. If a mechanism exists it is not appropriate to satisfy the needs of the industries. This is manifested in the lack of flexibility and lack of a system that favours the best use of information. Analysing the situation, the importance of the role of the ID in the provision of appropriate technological information both directly and indirectly to industries will increase especially when the technological information transfer mechanism as established should have been steadily implemented and resistance to change and self centered attitude of information handlers in the organization should have been overcome.

6.8 For the information oriented industries, there is very limited access for them to sources of information, either that they are not aware of the sources and services they

can afford or there is reluctance to utilize the information services apparently because they have no confidence in them.

6.9 There has been an apparent lack of confidence by development leaders in the services of information centres in the country which makes it a very significant barrier in getting support from them.

6.10 TIRDO is aware of the spectacular technological developments in information processing, storage and dissemination presently occuring all over the world, which is in the field of computer processing and in communcation. The introduction of Apple II Computer in TIRDO is not expected to improve either the gap in manpower supply; the present manual retrieval situation or the technological base for the speedy transfer of information, as it will not reduce dependence upon postal services which account for much of the delay now experienced, due to the computer's very limited capacity. An effective retrieval system is one of the most critical elements for the success of the ID operation. The ID retrieval system as established is by manual method through the use of developed retrieval tools such as keyword indices, abstracts etc. A simple diagnostic retrieval test was administered to the ID staff and the conclusion drawn was that the system works and is simple enough to be used by anybody. However, the tests results did not reach the level of efficiency due to noticeable imprecision of basic terminologies used for information retrieval. This is due to the lack of users guides and the lack of suitable human resources to imput sufficient time in cataloguing/ indexing the documents.

6.11 There has been a disproportionate allocation of manpower to the ID. Since its establishment there has been only one documentation officer assisted by temporary administrative support to perform the information/documentation functions while two extension officers were available to perform the extension service function. However, this problems is not expected to magnify since TIRDC has taken steps to recruit an Assistant Documentation Officer and a Library Assistant which hopefully should be on the job as soon as this mission phases out.

6.12 The extension service of the ID was established to take up the liaison function between the industry and TIRDC, in order to support the organizations goal of contributing greater industrial efficiency and development. However, it is foreseen that the objectives of the service cannot be fully achieved in the near future until such time as the full operation of the other departments should have been realized.

7.0 RECOMMENDATIONS

7.1 The following recommendations are presented based on the analysis and findings of the mission with immense consideration on the recurring difficulties and problems of TIRDO and the total environment.

7.2 One of the major problems commonly identified among industries in Tanzania is the extreme dependence on information and technology originating from developed countries. The establishment of the ID is timely and at the same time crucial. With its present capability, however, it can respond positively to this need by redirecting its efforts to focus on strengthening the technological information acquisition programme of the ID. In so doing, the following steps should be taken:

7.2.1 Redefine the objective of its acquisition programme which should now be: To acquire information on various technologies relevant to the goals of TIRDO and the needs of its clients focusing primarily on indigenous technologies generated, innovated or adopted in Tanzania.

7.2.2 Define precisely the area of TIRDO responsibilities especially as far as relations or links with TISCO, TBS and other institutions, having similar activities as mandated by their own charters are concerned, in order to avoid duplication of efforts and if possible initiate an agreement (formal or informal) with these institutions on the areas where TIRDO shall focus its technical information programme.

7.2.3 Identify the various technologies demanded by industries by means of initiating a regular forum of "Sharing of Technology" through the Professional Club Meetings on technological information for and within industry.

7.2.4 Identify the various sources of the technologies as a result of 7.2.3 and acquire them by either extension visits or the Professional Club Meetings.

7.2.5 Register them and establish criteria for disseminating them.

7.2.6 A strong solid technology service delivery system should be developed by demonstrating the actual application of such technology. Technical assistance of the R & D staff and the generators of the technologies is called for in this activity. Registering them however is not enough; ID should ensure that it is disseminated, accepted and applied. Tanzania alone has generated reasonable quantities of technological information, most of these, although typescript documents, give very valuable information. This approach will greatly minimize the problems of foreign currency to purchase information outside the country.

7.3 ID as the implementing arm of TIRDO information programmes should initiate a users training course in cooperation with professional organizations like MEIDA an association of the Metal Engineering industries and the Institute of Engineers or participate in their meetings to train technological information users on how to access to needed information.

7.4 Linkage with professional organizations should be strengthened as an effective means of disseminating technological information on indigenous technologies.

7.5 For direct services to selected industries, TIRDO should now take the role of a singular access point for selected industrial users in the areas of engineering (including instrument maintenance and repair), energy conservation, chemistry, food and textile technology, by means of a selective dissemination of information mechanism.

7.6 Indirect technological information assistance to industries by the ID will have more impact by strengthening the present data base of technical information sources; following up designed programmes/instruments to increase and facilitate awareness of the staff on their roles as catalysts of technical information transfer and providing them with literatures to upgrade their knowledge in their own field of specialization. It is viewed that if the right and timely information is provided regularly to TIRDO staff, they can perform efficiently their task of applying such knowledge in solving industrial problems.

7.7 The ID should strengthen the established system by demonstrating to development leaders that the first stages of technology transfer are awareness and assimilation of the information before adaptation, innovation and/or application can take place. This can easily be done by reviewing the present document collection and identifying technologies from world researches; exposing the information to specialist in the field; and, motivating them to study the technique by relating it to the specific needs of the

industries. Unless this is done, support to develop information services will always be wanting.

7.8 The present organization structure of the ID has been a significant restraining factor in its development. The ID was established to get across to industries the technological knowledge for application acquired from various sources. This task cannot be performed neither by one person, a group of uncoordinated abilities, nor a computer. Considering that the problem as stated in 6.11 is solved, the absence of a Head of the department is another problem which should be seriously considered. Therefore, priority should be given to the appointment of a Head either on an AdHoc or permanent basis.

The person to head the department should be one with an absorption power in performing his decisional, interpersonal and informational working roles; one who is able to integrate the traditional and modern information management techniques, similarly, the ID as a subsystem of the organization into the environmental developing system. Further, it would be at TIRDO's advantage if selection should be done on a wider scale. It is crucial for TIRDO to choose one who aside from the qualities already stated, posseses a good management ability, management in a general sense, considers the present system as established before making any changes and is objective in every decision he has to make. This recommendation may sound demanding but in brief what TIRDO should look for is a person who has the right attitude to perform his responsibilities guided by the policies of the organization. Therefore, immediate manpower required

are as follows:

7.8.1 Head of the ID with a basic university degree (specialization in science and engineering would be an advantage but should not be a prerequisite); a masters degree or a diploma in Documentation, Information Science and/or librarianship; a minimum of two years experience in technical information work.

7.8.2 Library assistant, with training in the elementary rudiments of library work.

7.8.3 Secretary. The current personnel in this post on detail arrangements with the department from the administrative office should be given a permanent appointment to the ID.

7.8.4 Reprographic assistant with a certificate of training in equipment handling and maintenance specifically photocopying machines, microfiche reader printer and other reproduction machines.

For long term manpower requirement, the following will be an advantage:

7.8.5 Technical Information Officer with a basic university degree and training in computerized retrieval system.

7.8.6 Editor with a basic degree in journalism and one year experience in publications.

7.9 Efforts should be made to allow the incumbent Documentation Officer to acquire a degree or a diploma in documentation, librarianship and/or Information Sciences.

7.10 There is a need to review the current functions of the extension officers in the ID inorder to maximize the utilization of their time and technical abilities. For reasons stated in 6.12, visits to industries within the next two years will be meaningless unless TIRDC is ready to provide immediate assistance to solve their day to day operations. Therefore, the current extension officers can be fully utilized by redirecting their efforts to 7.2.3 and 7.2.4.

7.11 Training of future ID staff overseas should take place after they have earned at least 6 months experience in technical information handling/processing in TIRDC and learned about the nature and information needs of selected client industries. Sending ID staff overseas as immediately as after their appointment has not proven effective.

7.12. Because of financial constraints, cooperative arrangements or resource sharing between TIRDC and similar institutions servicing industries should be encouraged.

7.13 ID is expected in the foreseeable future to develop the capability of exploiting the world data base to locate and retrieve significant industrial information by means of an on-line computer system of retrieval.

7.14 The ID should enhance professionalization of services by being client oriented, by meeting deadlines, by publishing TIRDC NEWSLETTER on time and by being more responsive to environmental changes.

7.15 As the ID matures there is a need to strengthen its publication function in order to generate worthwhile publications which can be used for exchange with publications from other sources as a cost saving device.

7.16 A separate annual budget allocation for the ID should be provided in order to aid in planning activities/services for the year following. The head of the department should be allowed a certain level of flexibility in the allocation of the budget to activities/projects of the ID.

7.17 A reasonable percentage of fees generated from projects and services undertaken by other departments should be allocated to the ID in order to sustain and maintain efficient operations in the provision of needed information. It should be understood that knowledge cannot be monetarily quantified but if information is considered as a resource the ID should not be considered an expense department but should be treated equal with other service earning departments of TIRDO.

7.18 The ID for the next two years should minimize if not avoid embarking on new programmes but should direct all its efforts in strengthening existing services and operations which have demonstrated a certain level of effective contribution to industries in Tanzania.

7.19 The Directory of Technical Information Resources in Tanzania should in the nearest future carry a compilation of various technical expertise available in the country.

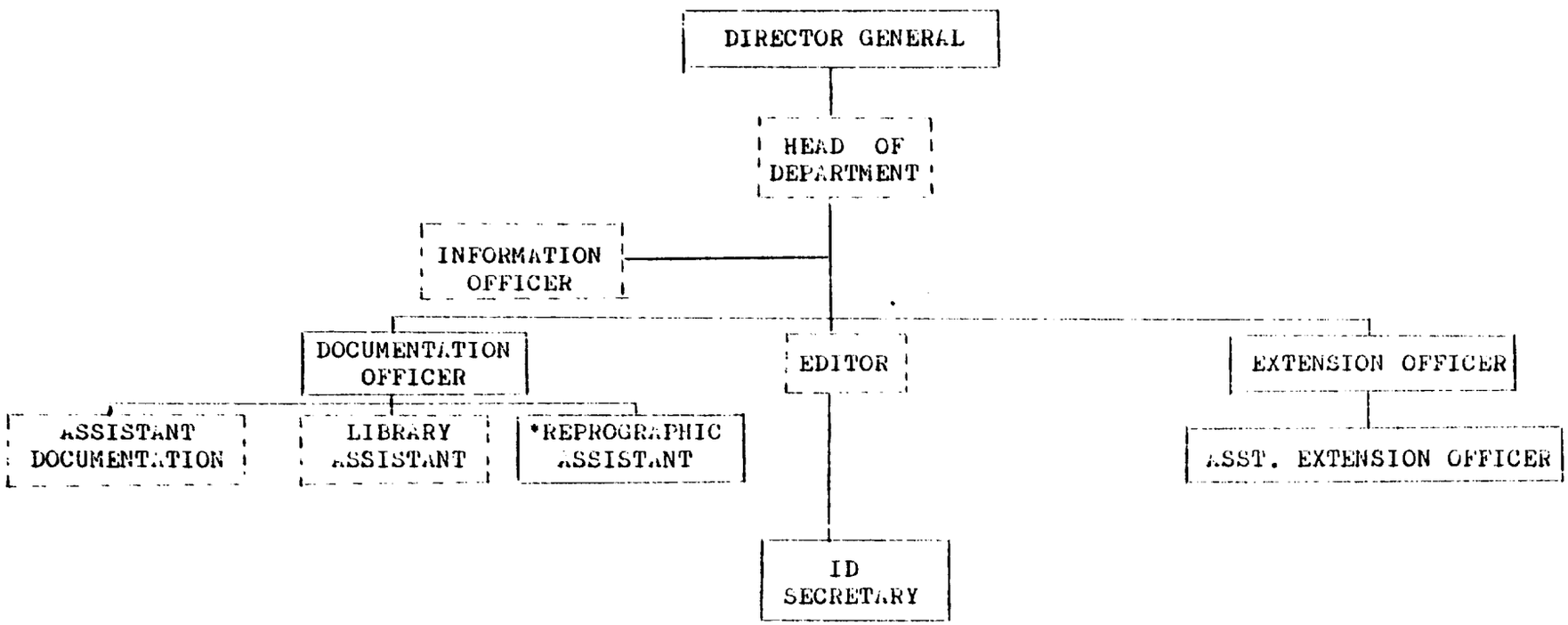
7.20 It should be of benefit to TIRDO if at the end of 1985, an evaluation of the ID should be done by UNIDO/UNDP. Results of the evaluation should be a good basis for future programmes and further development of ID.

- EXISTING

* - EXISTING/STAFF ON DETAIL

- TO BE ESTABLISHED

INFORMATION DEPARTMENT
ORGANIZATIONAL STRUCTURE



APPENDIX I

INFORMATION DEPARTMENT
COORDINATING MECHANISM

1.0 The ID staff shall be guided by the following, in performing their functions:

- 1.1 Defined job responsibilities
- 1.2 Information Department Policies
- 1.3 Manual of Operational Procedures

2.0 Internal and external coordination shall be the major responsibility of the Head of the Department.

3.0 The following communication system shall continue to take effect.

- 3.1 For internal coordination (within ID)
  - 3.1.1 Regular weekly meetings
  - 3.1.2 Memoranda
  - 3.1.3 Informal discussions
  - 3.1.4 Mutual consultations
- 3.2 For inter-departmental coordination (within TIRDO)
  - 3.2.1 Regular discussions with Research Officers i.e. TIS, extension service backstopping activities, etc.
  - 3.2.2 Quarterly professional internal meetings chaired by the Director General.
- 3.3 Inter-agency/industry coordination (outside TIRDO)
  - 3.3.1 Correspondences are drafted by ID staff and signed by the Head of the Department for the Director General; copy furnished the latter for information.
  - 3.3.2 Meetings, seminars, workshops, conferences attended by ID staff concerned.
  - 3.3.3 Professional Club meetings on Technological Information for and within industry.
  - 3.3.4 TIRDO Newsletters, brochures and other qualifications for dissemination and exchange.
  - 3.3.5 Liaison service to industries.

APPENDIX III

ANNOTATED LIST OF DOCUMENTARY OUTPUTS BY THE MISSION

(Full texts are available at the Information Department)

1. COMPLETION REPORT: TIRDO IN-HOUSE TRAINING PROGRAMME ON TECHNOLOGICAL INFORMATION MANAGEMENT FOR INDUSTRY
   27 April - 17 August, 1982 7p. + Annexes
   A report on the course contents, handouts and exercises provided; and, related information on the course provided for counterpart nationals.

2. CURRENT AWARENESS SERVICES: March 1983, 4p.
   Describes the various methods and types of current awareness services appropriate for Tanzania.

3. DIAGNOSTIC STUDY ON THE INDUSTRIAL INFORMATION RETRIEVAL SYSTEM OF THE TIRDO INFORMATION DEPARTMENT: July 1983, 7p.
   A report on the results of a diagnostic study aimed at determining the level of efficiency of the retrieval system established and operated for two years.

4. GENERAL RULES/PROCEDURES IN THE CHARACTERIZATION/PROCESSING OF TIRDO INFORMATION MATERIALS: 1982 4p.
   Provides simplified rules and guidelines, for non-library science graduates in classifying and cataloguing technical documents.

5. INFORMATION: a tool for extension services, May 1983 6p.
   Describes and illustrates how information can be an important tool for a successful extension service.

6. INFORMATION DEPARTMENT: Annual Report for 1982 9p.
   Report covering inputs and outputs, problems and recommendations of the ID covering the period from 1 January to December 1982. It also serves as a model for future reports to be prepared by the counterparts.

7. LIBRARY GUIDELINE: 1981982 6p.
A users guide addressed to TIRDC staff and client industries on the use of the TIRDC Documentation Centre.

8. ON LINE INFORMATION RETRIEVAL, July 1983
A paper directed to the ID staff giving them a general introduction to the nature, value and operation of an on-line information retrieval system.

9. OPERATIONAL GUIDELINES AND PROCEDURES FOR THE INFORMATION DEPARTMENT: July 1983, 23p + Annex
Provides the step by step operation of the TIRDC Information Department. It is intended as a guide to the existing staff and for future staff of ID.

10. POLICIES AND DIRECTIONS OF THE TIRDC INFORMATION DEPARTMENT, June 1983
Gives recommended policies and programmes for implementation, including corrective measures on certain existing policies and programmes to enable ID to fully attain its development objectives.

11. PROBLEMS IN ORGANIZING A TECHNOLOGICAL INFORMATION CENTRE FOR INDUSTRIES, April 1983. 6p.
A brief description of the common problems encountered by developing countries in the process of organizing a technological information centre and suggests possible responses to the problems applicable ito Tanzania.

12. RECORDS AND FILES, 1983 8p.
A guide to the types of records and files in the ID, location and how to properly store them, filing system to be used and index to the contents of each file. This document is directed to the ID staff to provide them a guide on how files should be properly organized.

13. REFORMULATING THE TIRDO INDUSTRIAL INFORMATION SERVICES FOR THE SECOND PHASE OF OPERATION: June 1983
A paper providing a conceptual design of Phase II ID operations.

14. THE ROLE OF AN INFORMATION OFFICER IN INDUSTRY: March 1982, 5p.
A guideline on the roles an information officer can take in order to be able to provide an effective service to industries.

15. STORAGE AND RETRIEVAL SYSTEM: Current practices in developing countries, April 1982, 5p.
An overview of the various methods/practices of storage and retrieval in 9 countries. The paper is aimed at providing the ID staff with the idea of adapting certain practices which may be appropriate to Tanzania.

16. TECHNICAL INQUIRY SERVICE: March 1982, 3p.
Describes the types of technical inquiries and the manner that it should be answered.

17. TECHNOLOGICAL INFORMATION CENTRE PRODUCTS: April 1983, 2p.
A paper briefly describing the various types of information packages that can be generated by ID which is appropriate for TIRDO client industries.

18. THE ALL IMPORTANT LEAD, June 1983, 3p.
A guideline directed to ID staff in order to help them properly write articles for the TRIDC Newsletter.

19. THE CONCEPT OF TECHNOLOGICAL INFORMATION ANALYSIS/ SYNTHESIS: March 1983, 5p.
Defines and elaborates on the meaning of analysis and synthesis in information work.