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INDUSTRIAL INFORMATION CENTRE
PHASE II

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NIGERIA

Technical report: Further development of industrial
information services, computerized databases, training
in industrial information and co-operative activities*

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

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EXPLANATORY NOTES
(Acronyms and other short names used)*

Short form	Full form
* AID	Answered Inquiries Data
* CAPSTAN	Colorants, Additives and Preservatives Standards
* CASE	Current Awareness Service on the Economy
CD/ROM	Compact Disk/Read Only Memory
CDS/ISIS	Designation of an application oriented software package for the generation and use of bibliographic and other textual databases (the origin of the designation was an acronym, but the full form is not used any more)
* COMPRESS	Company Profiles for Extension and Similar Services
* DANTE	Data on Available Nigerian Technologies
FIIRO	Federal Institute of Industrial Research, Oshodi
FSTA	Food Science and Technology Abstracts
IIA	Industrial Information Adviser
INDAB	Industrial Information Abstracts
INDICES	Industrial Information Centre and Extension Services (at FIIRO; the names are used together as FIIRO/INDICES)
INTIB	Industrial and Technological Information Bank (established at UNIDO)
* ITEM	International Technology Market
* MAIL	Mailing Addresses' Internal List
NIPSS	National Institute for Policies and Strategic Studies
NITEL	Nigerian Telecommunications Ltd.
PADIS	Pan-African Information and Documentation System

* Items marked by an asterisk are acronyms and full names of databases established and/or used at FIIRO/INDICES

EXPLANATORY NOTES
(continued)

Short form

F u l l f o r m

* PAIR	Patent Information Retrieval
* PIPE	Product and Industry Profiles Extracts
* RADIO	Research and Development Information On-line
SDI	Selective Dissemination of Information
* STEP	Scientific, Technical and Economic Publications
TDSC	Technology Supply Database Club
TIBI	Technical Information Bulletin for Industry

ABSTRACT

Report on activities accomplished and progress achieved during the third mission of the industrial information adviser (1988-04-12/06-30). Covers: the development of current industrial information services (including publications, other current awareness services, selective dissemination of information services), information retrieval (technical inquiry) services, document procurement and industrial extension services; establishment of a computerized databank: installation of computer hardware and software, further design and improvement of databases, preparation of procedures for data collection, input, retrieval and display for information services, preparation of the local and remote use of foreign/international databases; training on industrial information: pilot courses for users of information and information officers, preparation of teaching materials, guidance on the conducting of further courses; establishment of contacts with the users of information, including publicity actions, building further cooperative links, to national, foreign national and international information sources, development of manpower and of the organization of work.

I N T R O D U C T I O N

The principal content of this report covers activities of and findings made by the IIA (the industrial information adviser, head of the international project team working on behalf of UNIDO) during his third mission, between 1988-04-12 and 1988-07-30. In addition the report also contains information on the development achieved by the national staff with the support of the UNIDO computer expert between the second and third missions. At the end of the second mission (in July, 1987) a Project Performance Evaluation Report has been prepared by the IIA. During the present mission, the IIA prepared a Memorandum for the Tripartite Review Meeting which in took place at the end of May, 1988. This Memorandum contains an overview of the project development and is, therefore, attached to the present report (Annex 1.).

Training activities and activities concerning the installation, development and use of computer facilities are included into the report but not as detailed as other project activities. In this context, reference is made to the technical reports to be prepared by Mr. J. H. Petric, training expert and Mr. A. S. Yeiser, computer expert, respectively.

The objectives of the reported activities were identical to the immediate project objectives. For the list of project objectives, outputs and activities, reference is made to the work plan to the project (Annex 2. to the technical report of the IIA on his first mission in 1986), as well as to the Project Performance Evaluation Report, which are referred to in the list of references.

Within this framework, the main aim of the present mission was to assist FIIRO/INDICES (Industrial Information Centre and Extension Services at the Federal Institute of Industrial Research, Oshodi) in starting the regular use of the databases and the provision of industrial information services, as well as in the establishment of regular training activities. These

objectives were attained, although further significant work has to be done by the team of INDICES as well as the international experts. Oral and written advice was given to help this development and some final tasks will be accomplished together, during the last mission of the IIA, what is planned for November and December 1988, overlapping with the last phase of the present mission of the computer expert. This fourth mission was not planned in advance, but became necessary to finalize the work. Because of this, the present mission was shorter than it was planned in the work plan. The shorter time available, as well as some delays in the delivery of equipment have caused difficulties, but this did not influence the final results.

The activities and findings are described in detail in the substantive chapters. To simplify the evaluation, reference is made to the relevant project objectives and activities (at the beginning of the individual chapters).

The Tripartite Review Meeting analyzed the progress of the report in depth. The preparations for this meeting made it possible and also necessary to consider the follow-up of the activities and services developed during this project. On the basis of our experiences, some assistance has been given to the national counterpart in the development of appropriate proposals. Their content will be mentioned in Chapter VI.: Conclusions.

R E C O M M E N D A T I O N S

Introductory remark: The recommendations are going in details to help further development between June and November, 1988. They are numbered consecutively, but arranged by subject, rather than in descending order of priority, because this arrangement makes it possible to keep related recommendations together. Priority order is marked by numerals (following the designation: Pr:) whereas the highest priority is marked by 3 and the lowest by 1. The arrangement by subject follows that of the substantial chapters (i.e. it is comparable to project objectives and activities). The addressees of the recommendations (A:) are marked by I - management and staff of FIRO/INDICES and/or C - the computer expert of UNIDO. Acronyms are used for the designation of most services and databases. For their developed forms see the Explanatory Notes (pp. 3-4.) and the relevant substantial chapters.

1) At least four issues of the Industrial Information Abstracts (INDAB) should be published in 1988. The layout and editing of INDAB should be modified according to oral agreement and written guidelines. The preparation of the computerized selection and - as far as possible - of the computerized production of the camera-ready manuscript should go on. Pr: 2. A: I, C.

2) The computer-assisted selection of additional material to TiBI and its inclusion into the relevant issues should be started. Pr: 1, A: I, C.

3) The collection of subscriptions and users' profiles for the SDI services should be started as specified in detailed guidelines. Local (standard and tailored profile) and imported services should be started if appropriate. Experimental searches should be made and the procedures of the service

should be specified, taking into account some principles as specified in the procedures for CASE. Pr: 2, A: I, C.

4) Computer printouts of the current awareness service: CASE should be provided regularly and should strictly follow the written procedures. Pr: 2, A: I.

5) The use of the local databases of FIIRO/INDICES and of the databases on CD-ROM for the Technical Inquiry Service should be started and developed gradually. The searches should be made by the substantial officers. Therefore, as well as for other reasons the decentralization of computers and the training of substantial officers on the use of the databases and the relevant software (CDS/ISIS and search softwares of the databases on CD-ROM) should be accelerated. Pr: 3, A: I, C.

6) A plan for the visits of extension officers to companies should be prepared, taking also into account the tasks visits related to publicity matters and to collection of information. Pr: 1, A: I.

7) The installation of the missing computer hardware and software, which will be probably delivered within a few weeks, should be made in co-operation with the vendor. All qualitative and quantitative observations should be discussed, and the whole local area network should be brought operational. If some deficiencies could not be eliminated, the appropriate documentation for administrative and legal follow-up measures should be prepared. Pr: 3, A: C, I.

8) Spare parts and accessories to computers and audio-visual equipment should be ordered and/or requisitioned as agreed upon and/or as it becomes necessary. Pr: 3, A: C.

9) The corrections of the field definition tables, field select tables (indexing techniques), worksheets and display-

formats of the DANTE, COMPRESS and STEP databases should be finalized. The input of references and abstracts, descriptions of technologies and company profiles into the above mentioned databases as well as the input of industry profiles' data into the PIPE database should be accelerated and made regular. Pr: 3, A: I, C.

10) Procedures for the scanning of secondary sources of patent information and for the selection of items for input into the PAIR database should be prepared. Pr: 1, A: I.

11) Further efforts should be done for the collection of Nigerian, foreign and international standards and other normative documents on food preservatives, colorants and other additives for the CAPSTAN database. Pr: 2, A: I.

12) The distribution of questionnaires on ongoing research and development projects should be continued. The replies should be registered thoroughly using the registry facilities of the MAIL database. After two months from the dispatch of the questionnaires, those addressees, who did not sent replies should be urged. The filled questionnaires should be checked and corrected if necessary. After correction the data should be prepared for input to the RADIO database, including subject indexing by marking relevant terms in the free text, by assigning keywords (descriptors) from the INDICES vocabulary and assigning notations of the International Standard Industrial Classification (if appropriate). Pr: 3, A: I.

13) The field definition tables, field select tables (indexing techniques, worksheets and display formats of the PAIR, CAPSTAN and Radio databases should be designed following the principles of the existing databases. Pr. 2, A: I, C.

14) The collection and processing of data on technologies, available in Nigeria should be accelerated. The processed data

should be inputted into the DANTE database (see recommendation No. 9)). This data should be completed by data on requested technologies and on joint venture proposals and should be recorded for UNIDO/INTIB Technology Supply Database Club (OFFR, VENT and QUEST databases), using the INTIB software. The first 50 records should be delivered before end July and further records should be sent as soon as possible. Pr: 2, A: I, C.

15) The use of the INTIB/OFFR database (called ITEM in its downloaded version within the INDICES environment) should be started for answering technological inquiries. Pr:1, A: I, C.

16) Efforts to access international databases via telecommunication networks should be continued. The database hosts: STN and Dialog should be asked to extend the validity of the free password for experiments. Nigerian Telecommunications Ltd. (NITEL) should be urged to establish the requested low-noise connection between FIIRO and the international exchange and to assure the access to the international data networks. Experimental remote searches should be made, if possible. Possibilities of the regular access to the database hosts and to the pilot electronic mail system of UNIDO should be investigated. Pr: 3, A: I, C.

17) Databases on CD-ROM and their regular updates should be ordered and/or requisitioned as agreed upon and taking into account further information on CD-ROM-based databases. Pr: 3, A: I.

18) The monthly updates to the FSTA (Food Science and Technology Abstracts) databases should be ordered and their use should be started if they will be available on floppy disks. Pr: 2, A: I, C.

19) Further training courses should be prepared. The available teaching notes, the audio-visual teaching materials

and the experiences of the pilot courses should be used to train the staff of INDICES and, possibly, other lecturers on the conduct of similar courses. Further courses in 1988 or 1989 should be prepared. Pr: 3, A: I.

20) A one and a half or two day long course on industrial information and on activities and services of FIIRO/INDICES should be organized for future INDICES representatives at the Industrial Development Centres in the state capitals as well as of representatives of Associations of Small Scale Industries, Chambers of Commerce and Industry, etc. The course should be free of charge for the invited participants. If the number of applicants would be too high, the course should be repeated for a second group. Pr. 2, A: I.

21) The MAIL database (computerized mailing list) should be improved and continuously developed. The development and use of this database should follow the recommended procedures. Pr: 3, A: I.

22) Publicity materials and questionnaires on company profiles and available technologies should be sent to all companies, research centres, governmental bodies and others, who are included in the mailing list. Replies should be registered and special publicity materials should be sent to those, who expressed their interest in various publications of INDICES. TV, broadcast and newspapers should also be used for further publicizing of FIIRO/INDICES. Pr: 3, A: I.

23) The co-operation with the National Institute for Policy and Strategic studies should be realized in practice. A written agreement should be prepared. It should specify the fields of co-operation, e.g. in the mutual use and back-up of databases, in the establishment of bilateral computer-to-computer communication and access to foreign databases via

telecommunication channels. Practical co-operation and regular consultation should be started. Pr: 2, A: I.

24) Co-operation with other national bodies, first of all with appointed nodes of the national databank-system should be initiated by written proposals on practical co-operative actions and by discussing the proposal of FIIRO/INDICES on a national networking project. Pr: 2, A: 1

25) The development of a computer-readable Union List of Serials in research institutes should be undertaken by FIIRO/INDICES. Pr: 2, A: I.

26) The contacts with the Pan African Documentation and Information System (PADIS) and with industrial information centres and related institutions in developing countries should be established. Urging letters should be sent to PADIS Headquarters and to those centres, which have been addressed on the occasion of their meeting in Moscow, May 1988. Pr: 1, A: I.

27) The organizational structure and the division of labour within FIIRO/INDICES should be improved. Responsibilities of groups (teams) should be specified and further working procedures should be established. The decentralized and centralized use of computers should be thoroughly planned and the tasks of computer personnel as well as of the users of computers should be specified. Further completion of the computer personnel is also recommended, taking into account the increasing programming tasks, the indispensable hardware maintenance and the presumable development of word processing. Pr:3, A: I, C.

I. DEVELOPMENT OF INFORMATION SERVICES

Re: Project objectives 1/, 2/ and 3/; project activities 2), 3), 7), 8).

A. Publications and other current services

Publications

The current publications of FIIRO/INDICES are Industrial Information Abstracts (INDAB), and the Technical Information Bulletin for Industry (TIBI). In addition the FIIRO Newsletters are also considered as an INDICES publication but it is edited by other units of FIIRO. These publications were existing before the present project, but their regular issuing, as well as their substantial and technological improvement has been planned within the new scheme of information services.

The publication of INDAB was re-started after a longer pause. The new issue was already based on the scanning of abstracting and indexing journals, rather than on the work-consuming, and slow scanning and abstracting of primary journals, covered by abstracting and indexing services. In addition those journals, which are not covered by abstracting and indexing services are now scanned and abstracted on regularly. Other items than journal articles will be also selected from secondary and some primary sources for inclusion to INDAB. Procedures of the scanning and abstracting of primary and secondary sources were prepared by the IIA and the tasks of the scanning/abstracting team were discussed. The memorandum on the scanning and abstracting procedures is attached as an example of working procedures, prepared by the IIA (Annex 2.).

The content, editing and layout of INDAB will be further improved. The scanning and selection of items for input into the relevant database (Scientific, Technical and Economic Publications -- STEP) has been combined with the selection for INDAB. The preparation of the computerized editing of INDAB has

been started. Further efforts are necessary to assure the regular bimonthly publications of INDAB. All issues will be sent free of charge for sustaining members of FIIRO/INDICES and a call for subscription will be sent to those companies and other bodies which express their interest in the publication through a questionnaire on general interest or other way.

TIBI contains "ready-to-use" descriptions of technologies developed by FIIRO. The establishment of local databases makes it possible to select and include into TIBI references to, or abstracts of other informative material on the same subject. The relevant procedures were drafted and discussed. The distribution policies of TIBI will be further developed, because of the heterogeneous subject of the individual issues, what makes individual distribution more justified than a subscription system.

Selective dissemination of information (SDI)

SDI services will be, after their full development, the most important current information services of FIIRO/INDICES. This kind of services means regular selection and provision of information (references to, or abstracts of documents, data of projects or technologies etc.) on the basis of the individual subject profiles (profiles of interests, current inquiries) of subscribing users. Three types of SDI services have been planned:

- local SDI services
- "imported" SDI services and
- "world-wide" SDI services.

The local SDI services will be based on the local databases. Updates to the relevant databases will be regularly scanned (in the case of broader, so called "standard" profiles already during the input operations, manually, whereas in the case of more special, so called "tailored" profiles by com-

puterized searches). The results (computer printouts containing the selected, relevant information) will be regularly sent to the customers. This service can be started after the collection of the users' profiles and when the input to the relevant local data-bases will be fully operational and regular.

"Imported" SDI services are similar to the local services, but they will be based on regular computerized searches in imported updates to foreign (international) databases. Only customers' "tailored" profiles will be served by this service. The regular updates of the Food Science and Technology Abstracts (FSTA) on magnetic tapes have been planned as the basis of this service, but because of technical reasons the IIA proposed the conversion of the database updates from magnetic tapes to floppy disks (diskettes) by UNIDO or by the publisher of FSTA (the International Food Information Service). This conversion would also be useful for industrial information services in other developing countries. Because of the difficulties of the remote access to international and foreign databases the import of other databases on compact disks (CD-ROM) has been initiated (see also Section B. of this chapter). Databases on CD-ROM are meant first of all for retrospective searches. However, their regularly updated versions can and will also be used for "imported" SDI services. The "imported" SDI services can be started, when the conversion of FSTA updates and/or the delivery of databases on CD-ROM will be regular.

"World-wide" SDI services are planned for such special subject profiles, which indicate the use of special databases, not imported to Nigeria and being significant only for a limited group of information users. SDI services for such profiles can be based on computerized remote (online) searches in databases at the large online hosts (vendors, systems). Because of various financial and technical difficulties (see Section C. of Chapter III.) this kind of SDI services can only be started at a later date.

Further actions for the preparation and starting of SDI services were specified.

The Current Awareness Service on the Economy (CASE) is a broad standard-profile SDI service, which provides information on articles, published in Nigerian newspapers. The service is computerized and is based on the regular input to the CASE database. CASE is operational and fairly successful. Detailed guidelines were prepared for the development of the service.

B. Retrieval services

Industrial (technical) inquiry services are traditional services of FIIRO/INDICES. These services were based first of all on the collection and catalogues of the library and on some other manual retrieval tools. The establishment of the computerized databank (databases) and the use of imported and remote databases will essentially change this service. Retrieval services are also used by the industrial extension services for solving of problems at their customers.

The main contribution of the project to the development of retrieval services is the establishment of local databases and the starting of computerized information retrieval from imported and remote databases. Chapter III. deals in detail with this development. However, it should be mentioned here that a major change of the planned development became necessary: the use of databases on CD-ROM was not planned initially and had to be included into the objectives.

The invention and rapid development of CD-ROM as a technical tool and of the databases on CD-ROM has offered the possibility of their use, what turned in a necessity because of the difficulties in remote online searching. Therefore the collection of information on databases, available on CD-ROM, the testing of samples and of the necessary equipment, the training of FIIRO staff members on the retrieval of information from such databases and the acquisition of selected databases have been considered as high priorities.

The essential changes in the retrieval services will follow the filling of the local databases and the regular use of

databases on CD-ROM. The preparation for these changes has been accomplished in the current phase of the project, by the installation of computer hardware and software, by the creation of most local databases, by the pilot use of databases on CD-ROM and by training the FIIRO/INDICES personnel on retrieval techniques.

Both retrieval and current services will be based on big databases. These database contain references to sources which are not available at FIIRO/INDICES and therefore the document procurement service will face difficulties. The development of co-operation among libraries of research centres and universities, the establishment of union lists of serials and the regular use of international lending/copying services should compensate these difficulties.

C. Industrial extension services

One of the main achievements of the project is the successful starting of extension services. The extension officers of FIIRO/INDICES were trained abroad, in the framework of fellowships. There are two extension officers available. Both have a degree in technology and sciences respectively. One of them was moved to INDICES, when the staff of INDICES was completed, following the recommendations made by the IIA.

The extension officers started visiting Nigerian industrial companies and providing assistance in problem-solving by information. Guidelines for the extension services were prepared, based on relevant experience of foreign extension services. The IIA assisted the extension officers in the drafting of the guidelines. The visited companies and the Association of Small Scale Industries received gladly the starting of the services.

A leaflet was prepared for publicizing the extension services. Presumably, at a later stage the extension

officers will pay visits first of all to companies, inviting them to assist in solving their technological, economical, organizational or other similar problems. In the beginning, however, visits are initiated by the extension services.

Visits of extension officers are also used to publicize FIIRO/INDICES and its other regular services. In addition, the extension officers are taking advantage of the opportunity to collect information for these databases of INDICES, which are based on data provided by industrial companies (available technologies, company data, profiles of interest etc.)

A further important task of the extension officers is the advisory activity on and the promotion of the establishment of in-house information facilities at industrial companies.

The main problems of the extension services are due to the limited manpower and the large dimension of the country. Communication difficulties also impede this activity. These problems can be solved to a certain extent by inviting the Industrial Development Centres in the state capitals to take part in these activities as intermediaries.

II. SETTING UP COMPUTER FACILITIES AND DEVELOPMENT OF DATABASES AND THEIR USE

Re: Project objective 3/; project activities 4), 5).

A. Installation of computing facilities

A local area network consisting of microcomputers has been designed by the computer expert to the project. The configuration provides for a high reliability of the system. The use of the same hardware and system software can be extended in the future, to accomplish new tasks in the processing and provision of industrial information.

Due to some problems in the final specification of the system, as well as because of US export regulations, there was

(and is) some delay in the delivery of hardware and software. However, the equipment and software, which has been delivered so far can be used successfully for the development and use of databases at the present stage. Unfortunately, some qualitative deficiencies have also occurred, but these can be eliminated later on. In spite of all these, the difficulties are time-consuming and they caused some problems of demonstrating the computers during training courses.

The application oriented software has also been installed. The CDS/ISIS software package of Unesco will be used primarily for the databases, but further application oriented software has also been purchased for special data processing and database management tasks, e.g. for word processing and desktop-publishing and for numerical databases.

The final physical distribution of the computers and the preparation of detailed working procedures can be accomplished after the delivery and installation of missing equipment and software.

B. Development of in-house databases

The composition of the databank of FIRO/INDICES, as well as the development stage of the individual databases is shown in Annex 4. In the present section their main characteristics will be introduced and some practical problems will be mentioned. Surely further databases will be developed by INDICES if the needs of information users will make it necessary. E.g. the establishment of a database on Nigerian industrial legislation can be considered.

The general principle of the establishment of local databases was to avoid unnecessary duplication, but to establish all databases, which are necessary for the industrial information services if their data content is not available in, or not accessible from other databases.

Five databases contain references to and/or abstracts of documents. These are the following (in order of priority):

- STEP (Scientific, Technical and Economic Publications), contains references to and abstracts of articles, reports, conference proceedings and other published documents. They are selected mainly from secondary sources. Only those items are included which are of specific importance for the Nigerian industry.
- PIPE (Product and Industry Profile Extracts) contains references to industry profiles in the collections of FIIRO/INDICES and is used to provide subject access to these documents, published by UNIDO, the National Technical Information Service (NTIS, USA) and other bodies.
- CAPSTAN (Colorants, Additives, Preservatives Standards) contains references and provides specific subject access to standards and other normative documents on food additives.
- PAIR (Patent Information Retrieval) contains references to and abstracts of patents. Sources and selection criteria are similar to those for STEP.
- CASE (see also Chapter I., Section A.) contains references to Nigerian newspaper articles on subjects of interest for industries.

The second group of databases contains data, which have to be collected from Nigerian companies and other bodies. The only exception is ITEM, what is the designation of a database, which will be downloaded from a database of UNIDO. However, the availability of this database also depends on the collection and supply of data on available Nigerian technologies. The databases are the following:

- DANTE (Data on Available Nigerian Technologies) is based on a questionnaire, sent to research and development centres, industrial companies etc. to collect data on offered technologies.

- ITEM (International Technology Market) is the internal name of the database, which will be downloaded from the UNIDO/INTIB database on technologies, offered by various countries.
- COMPRESS (Company Data for Extension and Similar Services) is based on a questionnaire and contains data on the products of and raw materials, equipments used by industrial companies. It also contains the description of the general subject interests of the company and of their interest in various services of FIIRO/INDICES.
- RADIO (Research and Development Information Online) is based on a questionnaire and contains data on ongoing research and development projects in Nigeria, in subject fields related to industry.

The collection of data for the databases listed above is a difficult task. Replies on questionnaire have to be urged and also the help of extension officers is necessary. However, a relative small amount of data is already useful for the users of the databases.

The databases belonging to the following, last group are meant first of all for internal use by FIIRO/INDICES. However they can also serve as direct or intermediate sources for answering inquiries:

- AID (Answered Inquiries Data) will contain data on the information and documents, provided to customers, having made technical inquiries. Its use will prevent the duplication of the same searches and related tasks.
- MAIL (Mailing Addresses Internal List) is a computerized list of addresses of companies, research institutes, universities, polytechnics, governmental bodies and others (including persons) who can be considered as potential customers and/or data sources of FIIRO/INDICES.

The development of the databases can be considered as being satisfactory, but still big efforts should be done, to improve their structure and the quality of data and to achieve such size of the files, what makes their use really useful.

C. Access to and use of foreign/international databases

There are two possibilities for the use of the foreign and international databases: remote access to databases offered by commercial vendors (hosts) of databases and the import of the databases in machine-readable form. The use of both possibilities has been planned for FIIRO/INDICES.

The remote access to databases is essential, because FIIRO cannot afford the import of all databases, which can be relevant for some current or retrospective inquiries. The import of databases is anyway only justified by a relative high frequency of their use. Final decision should always take into consideration the prices of import or remote access and the frequency of use.

The remote, online access to international networks depends first of all on the availability of appropriate telecommunication lines. According to statements of NITEL, the international data networks can be accessed from Nigeria (although the details, including the availability of package switched lines is still not clarified). The main problem of the present time, however, is the low-noise connection from FIIRO to the international exchange. We negotiated a lot with the representatives of NITEL and many letters were written to them. In spite of all these efforts we still have to wait.

The regular access to international networks and foreign databases was not envisaged by the project document. However, at least the creation of the technical possibilities and the experimental access seems to be essential. Therefore we asked the most important hosts to send documentation and to provide FIIRO/INDICES with a free password for experimental use. Some

tunately, it was not possible to demonstrate the remote information retrieval at the training courses. We hope that the first experiments can be made in the near future.

For the import of databases on CD-ROM and floppy disks see also Section B. and C. of Chapter I. Nothing has to be added to the import of the FSTA updates on floppy disks. As far as CD-ROM-s are concerned, efforts has been done to get sample and test CD-ROM-s for demonstration and experiments.

With the help of UNIDO, some producers and vendors of CD-ROMs and the British Council in Nigeria we succeeded to get some databases on CD-ROM and we used them successfully for training and demonstration purposes. A tentative plan for the purchase of databases on CD-ROM has been prepared but needs some amendments on the basis of further information on available databases.

III. TRAINING OF USERS OF INFORMATION AND INFORMATION OFFICERS

Re: Project objectives 4/, 5/; project activities 6), 7), 8).

A. Pilot courses

Three successful training courses were held during the second and third weeks of June. The subject of the first two courses was information resource management. The first, one and a half day long course was meant and advertised for top managers (decision makers) of industrial companies and related bodies. The second, three days long course was held for research and development personnel and other higher professional staff. Finally, the subject of the last course was the organization of corporate information systems. This course was held for information officers, librarians and related personnel.

The average number of participants was slightly over twenty, what seems to be the optimal number for courses, where audio-visual training equipment is used and the use of com-

puters for industrial information is demonstrated. The lecturers were the international experts (Mr. John Howard Petrie, training expert, organizer and director of the courses, Mr. Andrew S. Yeiser, computer expert and the IIA), as well as Mr. Razaq O. Sodipe, Head of FIIRO/INDICES. The courses were opened by Dr. O. A. Koleoso, Director of Research of FIIRO. The staff of FIIRO/INDICES was in charge of the use of audio-visual equipment and computers at the demonstrations, as well as of administration and various organizational tasks.

The IIA presented 11 lectures and took part in some demonstrations and in the open forum discussions.

The reaction of participants was rather positive. An additional result of the courses was the training of the staff of FIIRO/INDICES on the organization and conduct of courses, as well as on the substantive matters. The latter has a double significance: the staff of FIIRO/INDICES has to do in practice what has been taught at the courses and has been trained as future lecturing staff.

The courses served also as advice for the establishment of in-house information facilities.

B. Preparation of teaching material and guidance on further training activities

In addition to the teaching materials, purchased according to the plans of the training expert, various teaching materials (programmes of courses, teaching notes, handouts, overhead transparencies, guidelines for demonstration) were prepared.

The IIA prepared 6 written teaching notes and 77 overhead transparencies. These were used together with transparencies prepared by the training expert. A sample is attached as Annex 8. to the report.

The most important guidance on the organization and conduct of training courses was the organization and conduct of the pilot courses (see Section A.). In addition oral guidance was given by the international experts (first of all by the

was given by the international experts (first of all by the training expert, but on various subject matters by the other experts, too) and recommendations have been prepared.

For further details on training see the technical report of the training expert to be prepared next week.

IV. FIIRO/INDICES' CONTACTS

Re: Project objective 6/, project activities 8), 9).

A. Publicity and contacts with users

A publicity package has been prepared which consists of a covering letter, of the brochure "Introducing FIIRO/INDICES" of a call for sustaining membership, of questionnaires on available technologies and company data, as well as of information on CASE. This package was distributed by post as well as by personal contacts and through the Industrial Development Centres. Further actions seem to be necessary and will be accomplished continuously following new inputs to the mailing list. Guidance was given on the methods and contents of further publicity actions.

An important contribution to FIIRO/INDICES' publicity was the organization of the launching of FIIRO/INDICES and opening of the computer centre by the honorable Minister of Science and Technology. Top managers of important companies and other institutions were present at the ceremony. For details see Annex 10. Not only the ceremony itself but also the wide TV, radio and newspaper publicity of the occasion was useful for INDICES. The publicity through mass media will also be maintained in the future, as far as possible.

Finally, the training courses contributed to publicity, but also to the assessment of users' information needs and to the evaluation of the information services, provided by FIIRO/INDICES.

B. Co-operation with other relevant institutions on national, regional and international levels

The co-operation with information centres and centres promoting industrial development is the vulnerable point of the project. There are some important achievements: co-operation with UNIDO/INTIB in the field of inquiry services, exchange of databases and, hopefully, within the pilot electronic mail system; principal agreement with the National Institute of Policies and Strategic Studies (NIPPS) on co-operation in the fields of the use and back-up of databases and data transfer via telecommunication channels; preliminary agreement with the National Raw Materials Research and Development Council, on work sharing in the establishment and use of databases; the positive reaction of most Industrial Development Centres on the co-operative proposals of FIIRO/INDICES, a preliminary decision of the preparation of a computer-readable Union List of Serials in the holdings of research institutes, what should be executed by FIIRO/INDICES etc. However, the most important proposals on the co-operation of the nodes of the planned national databank-network did not achieve significant results.

The improvement of the national information infrastructure and first of all of the industrial information infrastructure is of vital importance. At the present stage, the compatibility of computer systems, the physical networking via telecommunication channels and the work-sharing in the establishment of databases can be considered as the highest priorities. Relevant proposals have been prepared and will be prepared if necessary (see also the Introduction and the Conclusions).

The regional co-operation depends, to a great extent, on the contacts of FIIRO/INDICES to the Pan-African Documentation and Information System (PADIS). Unfortunately PADIS did not reply to the letters written by FIIRO/INDICES on co-operative matters. The efforts will be continued.

On international level a further initiative was taken by FIIRO/INDICES: letters to industrial information centres and related institutions have been distributed on the occasion of a UNIDO-organized meeting. The letter contains concrete proposals on co-operation and will, hopefully lead to practical results.

V. ORGANIZATIONAL ASPECTS

A. The development of manpower

The manpower of FIIRO/INDICES was developed rapidly and effectively. The management of FIIRO reacted speedily to the proposals of the international project team and transferred four professionals from other areas of work to INDICES. Their selection was based on thorough examination of their capabilities. The international project took part in the selection of candidates. Further measures are under way to extend the staff of the computing centre by an operator for word processing, by a systems' analyst and by a maintenance technician.

Most of the planned fellowships have been finalized successfully. The fellows reported on their experiences in addition to their written reports by oral presentations within the framework of staff seminars. Further training of computer personal and of the audio-visual technician would be useful.

B. The organization of work, working procedures

The smooth running of INDICES needs high level management and organized work. Written procedures were prepared and will be prepared by the IIA and other members of the international project team, to help the management in achieving the above mentioned aims and to encourage it to prepare similar procedures.

The various working procedures have been studied by the staff members concerned and discussed with the international experts.

The organization of work was improved and will be further improved by the specification of individual tasks and responsibilities.

The organizational scheme will be influenced by the installation of the local area network of computers. Therefore a part of the organizational measures, taken till now has a temporary character.

VI. CONCLUSIONS

Most conclusions have been drawn earlier and included into the substantive chapters or into the recommendations. Only a few major conclusions will be summarized in this chapter.

1) The general progress of the project is satisfactory, as it was also pointed out by the participants of the Tripartite Review Meeting. However the fact, that a major part of the computer network will be installed after the preparation of this report means that hard work must be done by the international and national project teams to achieve all objectives of the project.

2) The successful training courses justified the approach of the project team: the regular organization of training courses on a high quality level and their adjustment to the needs of the countries' information users and officers can be achieved without the establishment of a separate unit for training in industrial information. The establishment of a training unit of FIIRO and the use of its facilities by the professionals of FIIRO/INDICES seems to be the right way .

3) A major part of services and their continuity depends, on the continuation of the project activities by the national

staff and, to a great extent, on the availability of the information sources (import of databases, access to remote databases, purchase of up-to-date publications, updating of local databases). This means that the follow-up should be assured by FIRO and the competent national bodies.

4) Further development in industrial information needs networking and co-ordination within the country. The establishment of a network of computerized information sources, based on the use of reliable telecommunication channels seems to be the next major step, what should be done. The effective use of national information sources, whether planned or operational, as well as the rational use of the international sources can be achieved only through an organized national network.

MEMORANDUM

SUBJECT: Further progress of the project DP/NIR/83/021; extension notes to the Project Performance Evaluation Report, prepared for the Tripartite Review Meeting, May, 1988.

At the midtime of the project execution, in July, 1987, a Project Progress Report was prepared and submitted to the Resident Representative of UNDP in Lagos, as well as to UNIDO. A revised version of this report (using the forms for project performance evaluation reports) was prepared and submitted in November, 1987. In addition the technical reports of Erik I. Vajda, Industrial Information Adviser (December, 1986), John Howard Petrie, Training Expert (July, 1987) and Andrew S. Yeiser, Computer Expert (November, 1987) are available. These notes are being prepared to inform the participants of the Tripartite Review Meeting on further project development, on problems which have occurred, on future tasks for the international and national project team, as well as on possible follow-ups to the project. The notes are arranged in the sequence of the work-plan, i.e. in that of the project activities. They reflect the common opinion of the members of the international project team.

1. Establishment of contacts with the current and potential users of information through personal visits for assessing their information needs.

Personal visits to industrial companies were continued by industrial extension officers of FIIRO/INDICES.

Publicity-packages were sent to nearly 400 addressees. This package included the brochure "Introducing FIIRO/INDICES", a circular proposing sustaining membership of FIIRO/INDICES (hereinafter: INDICES) as well as some questionnaires (see also later). This action will be continued after further extension of the computerized mailing list.

The Kano branch of FIIRO and the majority of industrial development centres were informed about present and planned activities of INDICES but no formal focal points have been estab-

lished. The compilation of a report on the assessment of information needs in the Kano area, the preparations of guidelines for focal points as well as the organization of a meeting for branch- and focal point-officers should be accomplished later on.

The registration of information needs (general subject interests and interests in the services of INDICES) was started by inputting the collected relevant data to the COMPRESS database (Company Registration Data for Extension and Similar Services).

2. Organization of information services, i.e. current awareness service, literature search service, document procurement service, technical inquiry service.

Some further specifications on the preparation, presentation and distribution of computer-aided as well as manual information services were prepared. The current situation of the services was analyzed and meetings have been held to instruct INDICES personnel on present tasks.

The current awareness service on Nigerian newspapers (CASE: Current Awareness Service on the Economy) is operational both for professionals in FIIRO, for users at industrial companies and other customers requesting the provision of this service. Literature searches were already made within the information services started during the first phase of the project, the use of computerized databases for this reason is in a starting phase and needs more input to the established databases. The publishing of Industrial Information Abstracts has been re-started by the publication of a single new issue at the end of 1987. Its regular publication in a modified form, as well as its computerized compilation and desk-top publishing should be accomplished in the forthcoming months. Standard profile SDI service has not yet been organized; it needs more regular input to the databases as well as a more advanced gathering and registration of general subject interests of companies and other customers.

There are still many obstacles, which cause delays in the organization of information services based on foreign databases. As far as remote access to databases is concerned the problem of finding and using appropriate telecommunication lines is still not solved. The establishment of a microwave connection between FIIRO and the international telephone exchange seems not to be feasible within the project, partly because the national expert in charge of planning it was not able to prepare practicable recommendations, partly because the equipment component of the budget does not provide for the purchase of this type of telecommunication equipment, and the costs of computer equipment did not make it possible to save funds for this purpose. However the international part of the communication chain was declared as being operational and support has been promised by Nigerian Telecommunications Ltd. (NITEL) to establish a leased line between FIIRO

and the international telephone exchange. There is still good chance to establish at least experimental connections to major database-vendors in the course of the project but the regular use of foreign databases needs follow-up steps, e.g.

- the use of a leased international data-line by interested Nigerian institutions on a cost-sharing basis;
- the establishment of a national fund of foreign exchange to cover the costs of the use of international databases and its location to a national node, or its distribution among the most important information centres and end users;
- education and training of the users of foreign databases on the selection of hosts and databases. and on effective remote information retrieval;
- the setting up of a national online centre with intermediary and methodological functions;
- the establishment of a national data/information network, for the mutual use of local and imported databases. as well as for the rational use of the international data networks.

The accomplishment of the above mentioned development needs effective and well-considered governmental co-ordination and financing as well as organizational and technological support on behalf of the United Nations Development Programme.

The use of foreign databases by importing them made some progress but is still not operational. The use of the Food Science and Technology Abstracts (FSTA) database-updates on magnetic tapes for regular selective dissemination of information services is still planned but the equipment for tape/floppy disk conversion is very expensive and its purchase for this single reason would not be justified. Therefore we made a proposal for the International Food Information Service (publisher of FSTA) and for UNIDO/INTIB on the regular tape/floppy disk conversion of FSTA updates on behalf of UNIDO for information centres in developing countries using microcomputers. In addition experiments have been started on the use of databases on CD-ROM disks and the purchase of some databases on CD-ROM is under preparation.

3. Establishment of regular contacts with industries through assessment of their operational problems and provision of advice and relevant information for solving the problems

Industrial extension services have been started successfully. Guidelines on conducting them were prepared by the INDICES personnel in charge and edited by the Industrial Information Adviser. It became clear that the extension services cannot and should not be separated from other activities of INDICES. Therefore the extension officers are also responsible for the development, updating and use of the computerized mailing list of INDICES as well as for public relations. Visits to companies and other customers are used to find out their current information

needs, to collect data on their subject interests and on their products, equipment, raw materials used etc. by filling together the questionnaires of INDICES. The collected data are inputted to the relevant INDICES database. The regular planning of extension services (visits) can be started only later on because, for the time being the heavy workload caused by other preparatory tasks, as well as the absence of the head of the relevant group for fellowship-training allow only the most urgent visits to be made. Extension services (as well as other services of INDICES) will be popularized also during the training courses planned for top nagers, industrial/engineering personnel and information officers.

4. Design and development of a computerized industrial information data bank taking into account the best ways and means for providing proper maintenance services to the computers and other equipments

Almost all tasks included into this chapter of the work plan were accomplished. Some programming tasks to cope with specific needs as well as the application of purchased application oriented software to the actual needs and last but not least the organization of regular input and searches are the tasks for the rest of the project.

The computer equipment requested seems to be appropriate to cope with the tasks of the next years in providing industrial information. The capacity of the equipment as well as the establishment of the local area network assure the continuity of work also if some components of the configuration would break down and the maintenance would take more time than desirable. However we agreed with the national counterpart that the personnel of the Computing Centre will be completed by some new posts and one of these will be filled by a hardware specialist or at least by somebody whose background makes it possible to train him as hardware engineer or technician. Spare parts will be requisitioned after the completion of the implementation of the equipment and further testing.

A part of the computer equipment was not delivered to date. This fact and a considerable number of deficiencies in the computers already delivered are slowing down the progress of the project, primarily not as far as the establishment and use of databases are concerned but the use of computers for training purposes and the installation of the local area network.

In spite of all deficiencies and delays the computer network at FIIRO as well as its application will be able to serve the project objectives but also to serve as a national model and a national node for further tasks.

5. Establishment of a permanent machinery for collection and processing of locally available information/data for feeding into the computer on a continuous basis.

The planning of databases forming the industrial information data bank of FIIRO has been finalized. Eleven databases were planned for establishment, regular input and use. Ten of them are based on local collection and input of data, the remaining one will be established by the downloading of the UNIDO/INTIB database "OFFR" on available technologies. Eight databases are planned as "public" databases, i.e. they will be used for information searches, answering technical inquiries, preparing selective dissemination of information services as well as other services and publications. The three remaining databases: AID (Answered Inquiries' Data), MAIL (Mailing Addresses Internal List and COMPRESS (see Chapter 1.) should be used first of all for the management of INDICES but this does not also prevent their use for external customers, in particular that of COMPRESS some data contents of which will be used as a "Who makes what?" directory of equipment and other products.

Individual databases are at different stages in their development:

CASE (see Chapter 2.) is fully operational, both input to and use of it is regular.

COMPRESS, DANTE (Data on Available Nigerian Technologies), MAIL, PIPE (Product and Industry Profile Extracts) and STEP (Scientific, Technical and Economic Publications) were established and are serviceable but the size of files in most of them is not enough for regular use and the format and/or the indexing techniques used need improvement.

CAPSTAN (Colourants, Additives and Preservatives Standards), PAIR (Patent Information Retrieval) and RADIO (Research and Development Information Online) have been planned and collection of data for input has been started. The format for AID has been prepared but needs some corrections. ITEM (International Technology Market) will be downloaded from UNIDO/OFFR and extended if necessary and possible. However this needs previous input of at least 100 records describing available Nigerian technologies.

Specifications on the structure, contents, data collection, input and use were prepared for some of the databases. The preparation of others should be accomplished later on. On-the-job training was given on the various tasks concerning all operational databases.

6. Organization of regular training programmes for industrial information/documentation personnel throughout the country

The feasibility of setting up a permanent training unit within INDICES was studied and the regular organization of courses for information personnel using the facilities of an overall training unit of FIIRO rather than the setting up of a special training unit within INDICES was proposed.

Training equipment and media (including books for both training and information) were selected and requisitioned. Most of them arrived and, excluding some exceptions, do not show significant deficiencies.

Structure and content of regular training courses has been planned. A considerable part of teaching material (teaching packages) has been prepared, the preparation of others is under-way.

Three pilot courses have been planned and applications from participants were requested. The first, one and a half-day course for top managers on information resource management will be held immediately following the inauguration of FIIRO/INDICES and its computing centre. This course will be followed by a three-day course for research, development and technical management personnel in industries on the same topic as the first one. Finally a third four-day pilot course will be organized for information and library personnel in industrial companies and other institutions involved in industrial development on the topic: Operating Corporate Information Services. These courses are considered as being important not only for those taking part as students, but similarly for INDICES personnel in preparation to conduct further regular courses and to teach industrial information personnel via extension services on the establishment and running of in-house information services.

7. Assistance to industries in organizing their in-house information facilities and providing on-the-job training for their personnel

This activity is covered by various sub-activities referred to in Chapters 3. and 6. of these notes.

8. Identification and establishment of links with national, regional and international information centres for using their information resources

Unfortunately the efforts made to establish links with national bodies preparing and providing information services did not result in organized co-operation. The general agreement on co-operation of FIIRO and the Federal Institute for Policy Planning and Strategies (mutual use of databases, back-up service,

common efforts to access international databases) and the initial steps of the establishment of a Union List of Serials in Nigerian Research Institutes are the rare exceptions. In other cases either the low development level of data collection and processing or the lack of national co-ordination, as well as the unclear identification of the scope of planned databanks, prevented the establishment of co-operative links. However further efforts will be made and our earlier proposal on setting up a national data/information network needs the co-ordination of related activities.

Similarly the building of links to the Pan-African Documentation and Documentation System (PADIS) was not successful to date because we could not identify the Nigerian national member of PADIS. We tried to establish direct contacts and are waiting reply to our letter on this matter.

Letters have been written to heads of industrial information centres and other institutions providing industrial information in developing countries. Activities of INDICES were described and concrete forms of co-operation offered. These letters will be initially distributed at the UNIDO-organized meeting of heads of such centres to be held in Moscow in May/June 1988.

On the downloading of UNIDO databases and on the access to foreign databases see Chapters 5 and 2 respectively.

9. Identification of national and international, public and private sector institutions or organizations, concerned with the promotion of industrial production, with a view of developing active linkages with such bodies

Industrial development centres, chambers of commerce and industries, as well as other national institutions, have been informed on the establishment and the activities of INDICES and were requested to act as intermediaries in publicizing industrial information facilities.

The letter to industrial information centres in developing countries has been addressed also to institutions dealing with the promotion of industry. However further measures should be taken to identify such bodies all over the world and to include information on their existence and activities in the information services offered to Nigerian industries.

10. Training of FIRO information/documentation officers in the use of industrial information through fellowship combined with study tours in countries with well functioning linkages between industrial information services and the information end-users

The planning of fellowships and study tours had to take into consideration that there was a significant shortage of manpower at INDICES and therefore new staff members have been appointed with good industrial/technological knowledge but not skilled in information techniques. Therefore the fellowships/study tours were planned first of all to help them in obtaining the necessary knowledge as soon as possible. This means also that study tours in countries with well functioning linkages between industrial information services and the information services could be planned only combined with fellowships for the above mentioned reasons. The majority of fellowships and study tours has been accomplished; the fellowship-training of the senior industrial extension officer is under way and the study tour of the head of INDICES is planned for September/October this year.

Based on proposals of the UNIDO Training Expert, a series of regular seminars has been started within INDICES.

Progress was made in the distribution of tasks among INDICES personnel and in the definition of responsibilities. However further work should be done in this field, combined with the evaluation of the development of skills and of the performance.

Further personnel is needed to assure the smooth and continuous work of the computer network.

SUBJECT: Scanning and selecting literature for the STEP database, for IIA, TIBI and SDI services

The scanning of primary and secondary sources is aimed at the building of a database, called STEP (Scientific, Technical and Economic Publications). STEP should be used for the preparation of different information services (Industrial Information Abstracts, Standard Profile and Tailored Profile Selective Dissemination of Information - SDI services, Technical Information Bulletin for Industry, Technical Inquiry Service), together with other databases or alone. The preparation of these services will be described in individual guidelines, but a part of them must be mentioned already here, because they have an influence on scanning and selection, as well as on activities directly linked to them. The preparation of records for the database and the input procedures will be described in other guidelines.

1. Background and general rules

FIIRO/INDICES does not aim at a comprehensive coverage of the world's scientific, technical and economic literature in its own databases. The STEP database should contain selected literature. Selection should be made on the basis of the subject of the scanned literature, taking into account that only publications of special interest for the Nigerian industry should be included.

The subjects being of special interest to Nigeria should be defined on the basis of the structure and of major current problems of the Nigerian industry, as known by the information officers who are scanning the literature, as well as on the basis of expressed needs of industries (general profiles of interest, the registry of SDI-profiles, to be set up at a later stage, technical inquiries, etc.). Guidance on preferred subjects will also be given by the editors of Industrial Information Abstracts (IIA), who will prepare an annotated table of contents of IIA, as well as by the editors of the Technical Information Bulletin for Industry who will define the subject of the next issues.

The other major principle, what should be taken into account is, that the building of the STEP database should be based as far as possible on secondary literature, i.e. abstracting and indexing, (A & I) services. The reason for this is, that the primary literature in the holdings of FIIRO covers only a very small part of the world literature and therefore the limitation of scanning to these publications would lead to heavy losses also in the subject fields of primary interest to Nigeria. It has been also considered that the repetition of the work of A & I agencies in the preparation of bibliographic descriptions and abstracts would mean a duplication of efforts on a probably lower level of quality.

2. Sources

The following sources should be scanned regularly:

a) Abstracting and indexing services. Only those A & I services (journals) should be scanned, which may contain information on publications of special interest to Nigerian industries. These A & I journals should be registered, distributed among the members of the group in charge of scanning and selection, and regularly scanned after their arrival and primary registration (kardex). The main type of publications included into the A & I services are articles from periodicals (journals etc.). Their selection for input to STEP should be based on the general principles as described in part 1. above. Articles which have been published in periodicals subscribed to by FIIRO should have a priority under equal subject circumstances.

A & I services also contain references to and abstracts of kinds of publications other than articles. Such items can also be selected for input, provided they meet the subject requirements specified above. Abstracts of or references to patent documents can be selected but for input to the PAIR database rather than to STEP.

The members of the staff assigned for the task of scanning a given A & I journal must scan every issue of that journal in a reasonable time (three weeks after arrival, the latest). If this would not be possible because of any reason, they have to report to the management.

b) Primary journals not covered by A & I services. The periodicals (journals and other scientific, technical and economic periodicals, but not the newspapers) subscribed to by FIIRO and not abstracted/indexed by the scanned A & I services, should be distributed among the members of the scanning staff and regularly scanned by them. Rules for their distribution (immediately after their Kardex-registration), the selection criteria and techniques, as well as deadlines and reporting duties are identical with

those of the scanning of A & I services.

c) Other new acquisitions to the FIIRO Library. The monographic documents (i.e. books containing a single work, reference works, research and development reports, standards, patent documents etc.) should not be scanned for input to STEP, if they are catalogued by subject or if any other appropriate reference tool (e.g. the PIPE database for industry profiles) can be used for their subject retrieval. Such publications, however, which include more than one work (e.g. conference proceedings, collections of articles, studies or reviews) should be scanned for the selection of individual works for inputting to STEP. Similarly, monographic items, which are not included in the library catalogues or other appropriate reference tools can be selected for input to STEP or PAIR (patents).

In principle, any other source can be used for STEP, e.g. it can be merged with the PULIS database, which contains descriptions of research reports and other publications of the FIIRO staff. Subject bibliographies or lists of references can also be scanned for input. However, these sources should be listed in an appendix to this memorandum and the uniformity of the database should be preserved and the basic principles as described above should be applied.

3. Marking of selected items

All items (records; bibliographic descriptions, abstracts, articles etc.), which have been selected for their inclusion into STEP should be marked. Marking should be normally done by putting the scanning officer's personal sign to the head of the article (abstract) by placing a marking strip of card to the relevant page, and by writing the page number on the cover of the source document. Exceptions are books and similar "monographic" sources, containing a single work. These should be marked on their title pages and a single marking strip should be placed between the cover (if any) and the title page or following the title page.

The scanning officer can select those items which should be inputted into case with the text of an abstract or annotation (taken from the source or to be written by the scanning officer). Such items should be marked by upper case A letter, next to the personal sign of the scanning officer.

A list of the valid SDI inquiries (see also the memo on the SDI services) should be at the disposal of the scanning officers. SDI inquiries (profiles) will be marked by alphanumeric codes and their contents will be taken into account when selecting the input to STEP (see Part 1.). All items, which have been selected for input should be marked by the

relevant SDI code if the subject of the item is within the subject field of the given SDI profile. The code should be written next to the place of marking for abstracts (A-code).

4. Further selection and marking (IIA, TIBI).

All source documents containing items, which have been selected for input to STEP should be passed to the branch for extension services and publications (editors of Industrial Information Abstracts - IIA and Technical information Bulletin for Industry - TIBI) immediately after marking. The editors will have a look on the marked items and do a further selection for IIA and TIBI, respectively. They should mark all items which they want to include into future issues of IIA and/or TIBI. They should also define, whether an abstract or annotation of the marked item should be included into IIA and/or TIBI. If an abstract will be necessary and the item has not been marked yet for abstracting, the editors of IIA or TIBI will do the relevant marking (using the code A).

The marking for IIA and TIBI should be done by the symbols of the given publication, followed (after a slash) by the volume and issue number of IIA or the issue number of TIBI (e.g. IIA/02.6 or TIB/28). These marking should follow the marking for SDI or its place. The markings can have finally the following structure:

PP A SSS IIA/VV.I. TIBI/II

where

- P - personal sign of the scanning officer
- A - marking for the preparation (copying) of an abstract
- S - SDI-code
- IIA - symbol of selection for Industrial Information Abstracts
- V - volume number
- I - issue number
- TIB - symbol of selection for Technical Information Bulletin for Industry.

Any part of the marking can be missing, except the personal sign of the scanning officer.

After selection and possible marking by the editors of IIA and TIBI, the source documents should be handed back to the scanning officers. The editors of IIA and TIBI must finalize the selection and hand back the documents as early as possible but in any case within a week's time. If this would not be possible, they have to report to the management.

5. Registration of selected documents

Selected documents must be registered to avoid duplication of input of the same information from various sources to the STEP database. This would be possible because the same primary publication can be abstracted or indexed by more than one scanned A & I journal, or the item (except articles of journals not scanned by any of the scanned A & I services) can be abstracted/indexed by a scanned A & I service and at the meantime it can be present in the holdings (new acquisitions) of the library.

The registration and control of inputted items should be done from a later date by using the database itself. Before inputting an item the content of the database will be checked against the data of the selected item, using the access points as specified below. Until the establishment of the decentralized input to, and handling of the database, the following traditional files should be used:

Journal articles and papers presented at conferences or other meetings, as well as articles from collections of articles in book form should be registered, using the forms (control sheets) established by the management (see Annex 1.) The main data which should be registered fully and exactly are (in the case of journal articles) the volume and/or issue number, the date (if necessary for identification) and, the inclusive pagination of the article, as well as the name of first or only author. In the case of conference proceedings and collections of articles issue number and date is not applicable and volume number should only be applied if the publication consists of more than one volume and the pagination is repeated in every volume.

The control sheets should be stored in the alphabetic order of titles of the journals (periodicals), in the case of conference proceedings in the alphabetical order of the place of the meetings and within this order in the chronological sequence of the date of meetings, finally in the case of collections of articles, in the alphabetical sequence of the titles of the collections (ignoring the meaningless words when filing). Self-evidently scanned abstract journals cannot have control sheets; their data will appear only in the relevant columns of the control sheets of primary journals.

Monographic documents, having been selected for input should be registered on catalogue cards. Only the filing information listed below should be present on the cards:.

- | | |
|-----------|--|
| Books | - 1. Author(compiler, editor), 2. Title, 3. Volume no. |
| Standards | - 1. Alphanumeric code of the standard (symbol of the office + the identification number 2. Year |

Patents (PAIR) of issue
- 1. Country code, 2. Type of
document code 3. Registration
number

Other monographic documents (e.g. research reports, technical memoranda, theses, etc.) should be filed like books. However, if they are published in numbered series a second card can be filed in the sequence of the title of the series and within a series in numerical order of volume (issue) numbers.

6. Other tasks concerning the input to STEP

Bibliographic descriptions and subject access points (keywords, notations of the International Standard Classification of all Industrial Activities defined by indexing the selected documents) should be inputted to the data-base. The procedures of indexing, the rules on the presentation of data elements as well as the input procedures will be described in other guidelines (memoranda).