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15932

Distr.
LIMITED

IPCT.7
24 November 1986

ENGLISH

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Second Meeting of the Advisory Group
of Industrial and Technological Information Bank (INTIB)
Vienna, Austria, 1-3 October 1986

ELEMENTS OF INTIB
MEDIUM-TERM PROGRAMME*

Prepared by the
UNIDO Secretariat

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V.86-62381

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Summary

This background paper starts with a historical review of INTIB activities since it became operational in 1980, after a pilot project during 1977-1978, and up to the present. It describes the various activities undertaken under INTIB and provides statistical data based on a recent review of its activities.

It moves on to delineate the ongoing reorientation of INTIB activities with particular emphasis on networking as its main modus operandi, while maintaining a mix of delivery systems to suit the variety of prevailing conditions in developing countries. It also puts forward some suggestions for new activities that are considered appropriate in consolidating the fulfillment of INTIB's mandate. Together, the reorientation and new activities form the main elements of a medium term programme for INTIB which was called for by the Advisory Group in its first meeting last year.

The second meeting of the Advisory Group is invited to review the elements of the action programme and recommend appropriate elaborations, additions or changes to enhance its effectiveness.

I - Review of Past Activities

1. In March 1975, the Lima Declaration and Plan of Action (Second General Conference of UNIDO) urged the Executive Director of UNIDO to establish the Industrial and Technological Information Bank (INTIB). In December 1975, the UN General Assembly in its Resolution 3507(XXX) reaffirmed the "need to enable developing countries to have access to specific information on advanced and other technologies requested by them, as well as on the new uses of existing technologies, new developments, possibilities of adapting them to local needs, and ... to select technologies which meet their requirements." In this context the Executive Director of UNIDO was requested to establish INTIB.

2. A pilot operation covering four industrial sectors (agricultural machinery and implements, iron and steel, fertilizer industry and agro-industry) lasted for a period of 18 months (July 1977 - December 1978). A review meeting, held in February 1979, recommended continuation of INTIB activities. INTIB became operational in 1980.

3. The main objectives of INTIB are to facilitate and accelerate the flow of relevant information to INTIB users in developing countries for the proper selection of technologies and equipment in 20 selected industrial sectors (see Annex I). For this purpose it seeks, on the one hand, to maintain the flow of such information from a wide variety of in-house and external sources. On the other hand, it seeks to develop linkages and communications with end-users in developing countries, and to enhance their capabilities in the systematic handling of industrial information, based on needs, and to promote its availability and utilisation in decision-making processes in industrial development, of which technology selection forms an important part. Sound selection calls for two pre-requisites, viz. information on technology alternatives, and ability to choose wisely from amongst these alternatives.

INTIB Activities

4. INTIB activities fall under one of two main categories, viz. industrial inquiry services, and positive dissemination of industrial information. The following is a brief review of INTIB recent activities in each category.

A - Industrial Inquiry Services

5. The number of substantive inquiries received during the period 1982-1985 averaged about 1,300 per year. In answering these inquiries, information came from in-house sources as well as 300 network correspondents and on-line databases. The results of an analysis of these inquiries for 1985 are summarised in Annex 2.

B - Positive Dissemination of Information (*)

6. This has taken a variety of forms, viz.:

(a) Technology Information Profiles: these provide industrial and technological information on technological alternatives in priority sectors as indicated by inquiries from developing countries. Three such profiles have been prepared during 1985 and one more is currently under preparation.

(b) Information Packages: Five such packages have been prepared during 1985 and one more is currently under preparation.

(c) Technical Memoranda: These are joint publications with ILO on technology choices addressed specifically to helping small and medium industries in the choice of the most appropriate technologies. Five memoranda have been published and one is under preparation.

(d) "How to Start Manufacturing Industries" Series: These are 2-4 page profiles giving brief descriptions of manufacturing processes, machinery and equipment as well as labour, investment and production costs. They are intended to stimulate project promoters and sponsors in developing countries and to help them identify suitable products for local manufacture. 400 profiles were published in 1985 and a similar number is in the pipeline.

(*) Samples of the publications mentioned hereunder are available in the conference room.

(e) Development and Transfer of Technology (DTT) Series: These are publications dealing with technology issues such as technology policy, strengthening national technological capabilities, technology acquisition, surveys of the state of the art in specific industrial technologies. A total of 22 have been published so far. This has proved to be a very popular series.

(f) Monitors of Technological Advances: These are periodicals addressed to specialists as well as policy-makers keeping them abreast of the quick pace of development in microelectronics, genetic engineering and biotechnology, and materials technology. The activity started in 1982 with the Microelectronics Monitor. The monitors are currently very much in demand.

(g) TIES Newsletter: This has now become the accepted venue for exchanging experiences and news amongst members of the Technology Information Exchange system (TIES), as well as many others, on matters relating to technology acquisition.

(h) Industrial Development Abstracts: This data base now includes over 15,000 entries, most of which have been published and widely distributed. Some 12,000 requests for approximately 150,000 documents and publications have been processed in 1985 alone.

(i) Directories: Seven such directories have been published during the period covering industrial and technological research institutions and information services and systems in specific fields. Some 2,000 - 3,000 copies have been distributed. Five new volumes are under preparation.

(j) UNIDO Newsletter: This is a monthly publication sent to more than 36,000 addresses. Although this is a general news bulletin of UNIDO as a whole, it has a regular section providing information on resources sought by developing countries and resources available to them from industrial enterprises worldwide. Most of these relate to technology acquisition.

(k) Calendar of Meetings, Fairs, Exhibitions and Conferences: A tri-yearly bulletin informing entrepreneurs, investors, industrialists, planners and technical personnel in developing countries of opportunities to obtain information on equipment and technologies not readily available elsewhere.

C - Capability Building in Developing Countries

7. INTIB has been keenly aware of the need to establish or enhance national industrial information centres and services, as a decisive factor in fulfilling its objectives. Its activities in this area has taken several forms, viz:

(a) Advisory Missions: by staff members and consultants. These have covered Latin America, Eastern Europe, South East Asia, and Africa in response to requests from member states seeking advice on strengthening their industrial information handling capabilities.

(b) Guidelines: Three sets of guidelines have been published, two on the formulation of national industrial information policies, and the third on the establishment or redesign/strengthening of industrial-technological information centres, including the selection of EDP hard and software.

(c) Training: This has taken a variety of forms ranging from short visits to INTIB in Vienna, to longer training opportunities in-house, abroad or in the member states themselves. One regular programme that has been going on for the last 16 years is that organised by VINITI in Moscow for industrial information officers. Individual training on the use of INTIB data bases has been provided upon request, to TIRDO (Tanzania) and AIDO (Arab States). An official of the Ministry of Industry of the Republic of Korea spent six months familiarising himself with INTIB operations and its different computer databases. Ten African states participated in an Industrial Development Decade for Africa (IDDA) project (see paras. 22, 23). A joint INTIB/TIES training workshop was held at the ARCT (Dakar) on the use of PC's and communication with INTIB. Specialists from the DPRK were trained in on-line satellite communication with INTIB via VINITI.

(d) Technical Assistance: The INTIB concept is now incorporated in UNIDO technical assistance projects, as a means of establishing/strengthening INTIB linkages with information centres/systems in developing countries and ensuring continuous interaction.

Delivery Systems

8. So far INTIB has used three means of responding to inquiries and requests for information and publications. Letters with enclosures and printed matter of up to 2 kilos are sent by airmail. Other material up to 17 kilos is pouched by air, either directly or via UN headquarters in New York. Time of delivery by pouch is reported to range between 7-10 days. Heavier consignments are divided into parcels, each of 5 kilos and sent by surface mail. Surface mail is reported to take 2-3 weeks in the case of Egypt and the Gulf Region and up to 5-7 weeks for delivery to India, Brazil, Tanzania and Colombia. This raises a number of issues related to the proper balance between speed of delivery and cost in a variety of situations as regards the nature and purpose of the inquiry, its content and the type of inquirer and his needs.

Resources (*)

9. Manpower resources for the INTIB unit itself consist of a Chief of Section, 4 Professionals and 5 Research Assistants (Information Clerks) handling inquiries by subject. INTIB activities are supported by work carried out by one professional and one information clerk for computerisation activities, a similar number for abstracting, indexing and processing of the "Industrial Development Abstracts". Two more Professionals and five Research Assistants work on a part-time basis on UNIDO Newsletter and other publications, while 3 others work on the "Monitors".

10. As regards EDP hardware INTIB now has four unintelligent terminals connected to the IBM mainframe in the house. INTIB can also access foreign databases in the passive mode. The mainframe applications currently in use are the Industrial Development Abstracts (IDA), and the Online Information Key (LINK).

(*) These resources may be compared with the significantly higher resources available for information activities in other UN organisations, e.g. UNESCO, FAO, ILO, IAEA.

Review and Planning Activities

11. The setting up of an INTIB Advisory Group now provides a continuing mechanism for reviewing past experiences and proposed new qualitative and quantitative developments of its operation. Its meetings are presented with statistical information and end-user reactions for review of the results of the periodic evaluation of INTIB operations which is presently a built-in mechanism in the system (see annexes). In fact, the recommendations of the first group meeting held last year have provided the main guidelines for reorientation and development of INTIB activities over the last year.

12. Furthermore, UNIDO commissioned the preparation of an overall review of its industrial information activities and the drafting of a medium term programme to enable INTIB to make an orderly transition to more effective operations that would keep in step with developments in information technology and meet the needs of developing countries for the next five years. The report (*) reviewed INTIB's current procedures and operations and recommended specific measures for improvement, including linkages with other data bases in UNIDO headquarters.

13. Another development since the conclusion of the first Advisory Group Meeting is the formation of an in-house task force to study, plan, and monitor INTIB operations, reorientation and development projects, and to prepare periodic evaluation reports.

(*) Adam Wysocki: UNIDO Industrial Information: Medium Term Programme, Vienna, January 1986.

II - Reorientation of INTIB Activities

Nodes

14. Two new developments have changed the information scene over the last few years almost beyond recognition. These are the so-called information "explosion" and the dramatic developments in information handling and communication technologies. Interaction between INTIB unit in Vienna and its end-users in real time is now feasible technically and economically. Furthermore, UNIDO's Industrial Information Section cannot hope to cover fully the ever-increasing flows of information and demands for information from developing countries. To this extent networking and the formation of national or specialized nodes become a necessity. While formal national focal points (as in the case of INIS or AGRIS) will be useful in collecting information from countries and supplying it to UNIDO, these cannot be established in all countries, because national institutions with adequate capabilities do not exist everywhere. Since UNIDO has to cover both those countries with a strong information infrastructure, and equally, many others without an adequate information base, INTIB will have to resort, at least in the medium-term, to a combination of delivery mechanisms, such as national focal points, designated by agreement with national governments; nodes cooperating on an informal basis; and direct supply of information to developing countries. Within this combination of *modi operandi* more and more emphasis needs to be given to identification and strengthening of national information institutions which can process inquiries and help INTIB do the job, particularly as demand on its services increases in the future.

15. Since 1985, efforts have been made for reorienting the Industrial Inquiry Service away from a single mode of a conventional one-way service system, directly receiving inquiries from inquirers and providing them with answers directly, to a de-centralized system involving "centres of excellence" that can provide a supplementary reply to an inquirer in addition to INTIB's direct reply. In order to expand INTIB's network and identify "centres of excellence" that could be potential INTIB national nodes/focal points, INTIB sent out in 1984, 1,500 questionnaires to Industrial and Technological Information Service Organizations, Chambers of Commerce, Federations of Industry, National Productivity Centres, Research and Development Institutions, Engineering and Consulting Firms, Development Banks, Technology Transfer Centres, Technology Promotion Agencies, etc. So far, 750 replies

have been received. On the basis of an analysis of these replies, 400 had been selected to be actively engaged in supporting the Industrial Inquiry Service at a national or regional level. INTIB proposed to them an "Industrial Inquiry Exchange System" to be operated for a trial period of one year. UNIDO would redirect some industrial inquiries received from inquirers to the INTIB national nodes/focal points, specialized in the field, for a supplementary reply to the inquirer directly with a copy to Vienna. At the same time, INTIB nodes will continue to send to INTIB headquarters inquiries they are unable to answer due to lack of information, expertise, or capabilities. INTIB will reply to the inquirers without financial implications. As far as they act as INTIB correspondents, the national nodes/focal points are remunerated for the inquiries they process.

16. So far, out of the 400 selected organisations, replies have been received from 130, in 60 countries indicating their agreement with the proposals. The industrial inquiry exchange system with INTIB nodes has been in operation since September 1985. (Annex 3 gives an analysis of operations over the last year)

17. The following general considerations are considered as relevant in elaborating the form and content of the activities of the nodes:

- (a) The nodes could be specialized nodes in particular sectors, or nodes at the country level dealing with technological information or technology in general. They could serve one or more of the following functions:
 - (i) as a national focal point;
 - (ii) as a referral point;
 - (iii) as a source of information or correspondent for INTIB;
 - (iv) it may eventually have on-line connections with INTIB.

- (b) On the basis of experience gained in a pilot operation, the general working of INTIB-nodes-relationship and the effectiveness of individual nodes will be assessed and the results of the evaluation made available to the next INTIB Advisory Group Meeting. Suggestions by the Advisory Group on the methods of data collection on performances and methods of evaluation are invited.

- (c) Based on the assessment, a short paper on INTIB-nodes-relationship and the "rights and duties" of both parties will be prepared and made available for dissemination. The Advisory Group is invited to indicate what they consider as the main elements of a model agreement with the

(d) A directory of INTIB nodes should be prepared for reference purposes and for promoting interaction between the nodes themselves.

18. Preliminary analysis of performance of the nodes (Annex 4) shows that out of a total of 350 inquiries sent to INTIB nodes, 210 replies were received. These replies represent 16% of the average total number of inquiries received per annum. More in-depth analysis will be carried out to address such relevant issues as the time of response (positive or negative), the quality of replies, the strong and weak points of each member of the network. It is clearly understood that the nodes cannot do more than provide a measure of support and a broader base to INTIB activities. INTIB will always remain responsible for responding in good time, and for maintaining the quality of information received by INTIB end-users.

19. It should be emphasised that networking and the cooperation with national nodes/focal points, under formal or informal relations, does not mean the termination of direct delivery to certain countries that have not yet developed the capabilities to set up and operate national units that qualify for operation as focal points/nodes.

Strengthening National Activities

20. Consequently, support to national institutions becomes a matter of high importance in making the services of INTIB more effective. Such support must not be confined to traditional technical assistance for creating or strengthening information institutions. It should now include stimulation of the development of national industrial information policies; the training of industrial information specialists, both in bibliographic and extension-oriented information dissemination; and generally in the promotion of increased use of industrial information in national activities and particularly in forging stronger links with decision-making processes.

21. Advisory services will continue to be provided to developing country institutions and policy makers on technological information in order to make INTIB services more effective. This will be an activity distinct from, and complementary to, technical assistance as provided by the Department of Industrial Operations, in the sense that institutions which no longer receive technical assistance would still be guided by UNIDO and substantive contacts

kept with them. Such contacts could also generate new requests for technical assistance. Training workshops for INTIB focal points/nodes will also be considered. Model systems for information management at the enterprise level will also be developed and disseminated.

22. One specific exercise in networking was carried out through the first phase of the IDDA project. In 1985, INTIB established a sub-regional network in Africa consisting of 10 countries, viz. Egypt, Kenya, Nigeria, Tanzania, Zambia, Algeria, Cameroon, Ivory Coast, Senegal, and Tunisia. Prior to formation of the sub-network, a national expert carried out a survey of the national scene in order to advise on strengthening national information systems and services for his country by providing answers to these questions:

- . what are the existing and potential national information systems, services and networks?
- . who are the existing and potential users of industrial information?
- . what is the nature of information needs and services required by INTIB users?
- . what are the man-power requirements and training needs for the national information systems?

Next the national experts, together with a UNIDO field mission team, recommended 67 national nodes in the 10 countries, viz. 5 in Algeria, 6 in Cameroon, 4 in Egypt, 6 in Ivory Coast, 12 in Kenya, 6 in Nigeria, 5 in Senegal, 10 in Tanzania, 4 in Tunisia, 9 in Zambia.

23. INTIB sub-network in Africa consists of those national nodes through which the secretariat already started network activities. Since a strong plea was received by the member states through INTIB's field mission for the use of micro-computers compatible with IBM PC hardware and for application of ISIS the African sub-network software package for micro-computers, INTIB is planning, within a second phase of IDDA project in 1986/1987, to supply ten IBM compatible PC's; one for each country together with the same mini-micro CDS/ISIS software, same data diskettes of INTIB/IDA and LINK (two of UNIDO's data bases) so as to be compatible with the system in INTIB Headquarters, while demonstrating at the same time INTIB information processing capabilities to the users. Also the heads of the sub-network focal points will be trained on how to utilize the network system, and how to handle information using a PC and its software.

Utilisation of Modern Methods of Information Processing

24. The adoption of up-to-date methods of information processing has obviously become a vital necessity. Some countries have adopted such methods at national levels and would like to have on-line connections with INTIB. At the other end of the spectrum, there are countries which do not have institutional infrastructures or financial or man-power resources to adopt such methods. In between there are countries which could in future have, within their national information institutions, some data storing and processing capability through a personal computer which can be connected on-line to UNIDO. The medium-term programme has therefore to give attention to widespread adoption of EDP methods in INTIB and also to the development of systems which can ensure on-line access to developing countries.

25. Electronic data processing falls within four modules of activities:

- (a) Linkage with sources of information on-line so that access should be available from INTIB (as distinct from the Library) to data bases on technologies available in the public domain as well as to commercially-available technologies. Currently, INTIB is examining different types of on-line services which will facilitate search and also enable access to more than just bibliographic information.
- (b) The second module of activity relates to the information to be stored and, if so, what type of INTIB data bases should be created, e.g. IDA, LINK and the data base on technology suppliers.
- (c) The third module relates to providing on-line access to users in developing countries. A beginning could be made based on the request of certain countries in Africa. On-line connection will be established between selected African countries and INTIB under the IDDA project currently under implementation. (para. 23) The infrastructure in INTIB will have to be strengthened suitably for this purpose.
- (d) The fourth module relates to the preliminary elaboration of possible interconnection between data bases in UNIDO.

26. A feasibility study on the application of modern information technologies in INTIB is presently being finalised, detailing all work requirements for improving the effectiveness of INTIB databases. This is based on an integrated approach to the computerisation requirements for INTIB. It suggests that the best solution for meeting current and medium term requirements is the use of microcomputer technology as a complement to the continued use of the mainframe. Each of the two hardware alternatives will be used for the purposes it best serves, based on the following guidelines:

- (a) Stabilise the cost of mainframe utilisation by limiting it to the storage of large volume INTIB databases, and the production of large volume printouts.
- (b) Use the services of EDPS for back-up and recovery of INTIB databases.
- (c) Handle all department-dependent processing locally through a network of microcomputers.
- (d) Integrate word processing and data processing.
- (e) Resort to electronic means to expedite internal and external communication.
- (f) Expand on-line access to international databases.

Enhancing Ongoing Activities

27. Publication of the technology profiles will be continued, but on a selective basis, concentrating in particular on technologies of particular interest to developing countries and on newly-developed technologies. In other words, no attempt will be made to cover the whole range of technological options, but those which need to be highlighted for the attention of the developing countries will be selected.

28. Activities relating to publication of information packages will be continued since they have proved their usefulness. However, the following points will be kept in mind:

- (i) standardization of format;
- (ii) sharper focus;
- (iii) provision for up-dating;
- (iv) subcontracting work to nodes if this proves to be cost effective without jeopardising quality.

III - Proposed New Activities Proposed

Information on Available Technologies and Suppliers

29. A new activity concerning information on technologies available and their suppliers (TNC's, Small and Medium Industries, East, West, South - etc.) will be initiated. Enterprises in developed and developing countries will be invited to provide information in a standard format on technologies they could supply. Inclusion, or provision, of information on a specific item will not imply a recommendation by UNIDO, nor an evaluation by it. All the information will be computerized and disseminated in the form of tapes, or in the form of specific written information, if so requested. A system for this purpose is being developed. Technology supplying enterprises may be asked to pay for joining this service. Special provision will have to be made for incorporating technologies from developing countries, including information which is being compiled under the Industrial Technological Information Exchange Mechanism (ITIEEM) programme. Special emphasis may also be placed on technologies for small scale industry. This database will fill an obvious gap in information on available technologies, since no other service is available at present with the coverage envisaged. It is hoped that something like 50,000 technologies will be included. A proposed format is presented to the Advisory Group for review and comment, as well as on such other relevant issues as how to obtain this information, on classification, methods of access, etc.

Sectoral Dossiers

30. A pilot dossier in loose leaf form has been prepared on technological developments in the iron and steel industry. In the next biennium, at least 10 other sectors should be covered. Typically, a dossier will contain:

- (a) sources of information
- (b) hard information, including information on the impact of new technologies.

The draft dossier is presented to the Advisory Group for review and comment. The dossiers may be computerized and tapes/diskettes made available on request. INTIB activity on "Guide to Sources of Information" will then be phased out.

Small Scale Industry Information System

31. An information system relating specifically to the development of small industry could be built up as a distinct part of INTIB. It would pull together the multitude of information available from, and needed by, development financing institutions in matters relating to technology choices and linkages with industrial financing institutions. This could start as a pilot operation of the Technological Information Exchange Network (TIEN) proposed and discussed in the Preparatory Meeting of Directors of Industrial Development Finance Institutions (IFDI) held for this purpose. The views of the Advisory Group on the distinguishing features of such a specialised system are invited.

Energy Information System

32. UNIDO has been paying particular attention for some time now to the issues relating to energy for industry, and industries for energy. It has also been cooperating with UNESCO in this field. A UNIDO "Energy Information System" has been established in the past for the systematic handling of the sizable information made available, particularly on energy conservation in industry. It is felt that maintaining and updating this system and coordinating such activities in UNIDO will be of considerable help in answering several inquiries on energy-related matters in industrial development.

INTIB Bulletin

33. This is essentially a vehicle for exchanging information and experiences amongst members of INTIB network. It should strengthen its activities and keep the members informed of new sources of the information sought by entrepreneurs in developing countries. The first issue is presented to the Advisory Group for review and comment.

Utilisation of Inexpensive Communication Systems

34. For further improvement of the Industrial Inquiry Service in the near future, INTIB intends to experiment with information delivery system using the packet satellite (PACSAT) project, which is aiming at improving quality and speed, while reducing the cost of information transfer to end-users. This will be carried out in close co-operation with the Vienna International Amateur Radio Club (VIARC) and the Volunteers in Technical Assistance (VITA).

35. PACSAT is a digital communications mode in amateur radio. It utilises, as an experiment, UoSat-2 satellite which has been in orbit since March 1984 and carries a PACSAT message system prototype, allowing storage and retrieval of up to 120,000 characters of information. It permits a single frequency to be shared by several simultaneous conversations; allows for routine information among stations; uses single frequency, single antenna, single transceiver; allows computers to speak directly to each other; and provides non-real time communications. PACSAT is fast and many users can share the same channel.

Some Related Issues

36. As regards charging a fee for the services rendered, it is felt that the balance of advantage would lie in not charging a fee, considering the complexity involved in administering such a system, including the charging of differential fees, obtaining agreement of the user to pay the fee, receipt and accounting of fees in different currencies and, not least, the nature of INTIB clientele in developing countries.

37. As regards evaluation, the present system of inviting replies to questionnaires sent along with the supply of information should be continued. Other elements will be built into the system so that the usefulness of the services provided by INTIB can be reviewed on a continuous basis.

Annex 1

Twenty Industrial Sectors to be Dealt with by INTIB

Food processing with special emphasis on vegetable oils and fats
Fertilizer
Leather and leather products
Capital goods with special emphasis on energy related equipment and
technology
Petrochemicals
Building materials
Fishery industry
Industrial manpower training
Agricultural machinery
Non-ferrous metals
Iron and steel
Pharmaceuticals
Industrial financing
Wood and wood products
Textile and wearing apparel
Electronics
Agro-industry
Low-cost transport
Pulp and paper
Energy: New and renewable sources of energy;
Non-conventional sources of energy;
Energy for rural requirements.

Annex 2

Analysis of Industrial Inquiries 1985

(a) Users

- Small and medium industrial enterprises (36%)
- Government decision-makers (16%)
- International organizations (10%)
- R&D institutions (10%)
- Information service centres (7%)
- Engineering and consulting firms (7%)
- Development banks (6%)
- Universities (4%)
- Others (4%)

(b) Industrial Sectors (ISIC)

- Industrial Chemicals/Petrochemicals/Pharmaceuticals (22%)
- Agro-industries/Food processing (22%)
- Capital goods/Fabricated metal products (16%)
- Non-metallic minerals (7%)
- Textile/Leather products (5%)
- Pulp and paper (4%)
- Others (24%)

(c) Type of Inquiry

- Manufacturing processes and know-how (42%)
- Equipment/Machinery suppliers (39%)
- R&D activities (10%)
- Others (9%)

(d) Region

- Asia and Pacific (35%)
- Africa (28%)
- The Americas (17%)
- Arab States (11%)
- Europe (9%)

Annex 3

INTIB National Nodes

INTIB national nodes now consist of Research and Development Institutions (30%), Professional Organizations (20%), Technology Transfer Promoters (20%), Industrial and Technical Information Service Centres (12%), Universities (7%), Engineering Consulting firms (5%), Development Banks (2%), International Organizations (2%). By subject, 23% of national nodes are specialized in agro-industries and food processing, 21% in capital goods and fabricated metal products, 14% in industrial chemicals/petrochemicals/ pharmaceuticals, 10% in textile and leather goods, 9% in pulp and paper, while 14% are multi-sectoral.

Annex 4

Performance of INTIB National Nodes (1985-1986)

Sectorally, the results were as follows:

<u>Sector</u>	<u>No. of Inquiries Referred to Nodes</u>	<u>No. of Replies</u>	<u>No. of Replies/ Total INTIB Inquiries (%)</u>
Chemicals/Petrochemicals/ Pharmaceuticals	61	30	10.0%
Agro-industries/ Food processing	80	50	17.5%
Capital goods/ Fabricated Metal products	69	45	21.6%
Non-metallic minerals	14	10	11.0%
Textile and leather goods	30	23	35.4%
Pulp and paper	21	10	19.2%
Others	83	42	13.5%

Regionally, 110 replies to 166 inquiries came from Asia and the Pacific, 10 out of 18 from Africa, 33 out of 50 from the Americas, 40 out of 78 from Europe, 13 out of 19 from Arab States. Replies from Asia and the Pacific amounted to 52% of the total number of replies received.