



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

19407

EP

**EVALUATION
OF THE REFERRAL SYSTEM
DEVELOPED BY UNIDO/INTIB**

DECEMBER 1991

Jean MICHEL *Consultant*
26, rue Edouard Vaillant
93170 BAGNOLET
(France)

Revised off the carrier
Special service agreement for an individual consultant
Division IPCT/TP/INF
Agreement N° CLT 91/269
Account N° RB-G-04102-041-0
M.O.D. 21/1/01268

CONTENT

1 - AN EVALUATION OF THE INTIB REFERRAL SYSTEM

2 - PRESENTATION OF THE REFERRAL SYSTEM

- 2-1. The context: the INTIB policy for the diffusion of information
 - 2-1-1. *The general UNIDO/INTIB policy for gathering industrial information*
 - 2-1-2. *The definition of a new UNIDO/INTIB policy*

- 2-2. The description of the Referral System
 - 2-2-1. *The Referral System, a new decentralized information approach*
 - 2-2-2. *The publication of national Directories*
 - 2-2-3. *The development of a new data base*
 - 2-2-4. *The answering process*

- 2-3. The French pilot experiment of the Referral System
 - 2-3-1. *A French experiment*
 - 2-3-2. *The French Directory*

3 - SOME REMARKS ON THE REFERRAL SYSTEM

- 3-1. Why to develop such a Referral System?
 - 3-1-1. *The main reasons*
 - 3-1-2. *Some dysfunctionings and difficulties*

- 3-2. Who can use the Referral System? Who will benefit from it?
 - 3-2-1. *The final users*
 - 3-2-2. *The intermediary users*

- 3-3. What should be the functions of the Referral System?
 - 3-3-1. *The main or principal function*
 - 3-3-2. *The secondary functions*

- 3-4. What's about the cost of the Referral System?
 - 3-4-1. *For the management of the Referral System*
 - 3-4-2. *For the production and the diffusion of the Directories*
 - 3-4-3. *For addressing and answering the queries*

4 - TO IMPROVE THE REFERRAL SYSTEM

- 4-1. The implication of the Governments in the production of Directories
- 4-2. The implication of the INTIB Focal Points
- 4-3. The selection of the information sources
- 4-4. The presentation of the information and the style of the Directories
- 4-5. The development of the System and the diffusion of sub-products
- 4-6. The dissemination of the Directories and the promotion of the System
- 4-7. To market the information, the services, the Directories and the System
- 4-8. To get a feed-back
- 4-9. The monitoring of the System

1 - AN EVALUATION OF THE INTIB REFERRAL SYSTEM

The work assignment for the present evaluation consisted in "Using value analysis method applied to information and documentation services to perform a study evaluating a System for efficiently addressing queries received by INTIB to a wide range of well targeted sources of industrial and technological information"

The Referral System developed by INTIB and considered as a testimony of the new policy of UNIDO, was evaluated in November and December 1991. It is necessary for UNIDO and INTIB to analyze the efficiency of the System and to study if it will be well implemented, used and integrated. The decided evaluation was envisaged through a Value Analysis approach. This means that one has examined how much the System is able to meet the needs of the potential users as well as the needs of INTIB responsables.

A functional analysis allows to evaluate the functional performance specifications and the characteristics expected for the various functions of the System. This value analysis of the Referral System was done through meetings with different groups of people, integrating different informations, comments and viewpoints.

The evaluation concerns the conception and presentation of the Directories which constitute a major tool of the Referral System, as well as their diffusion or the resulting data base. It points out the marketing of the System, the implication of the Focal Points and of the Governments of Member States in the supply of information and the publication of national Directories. The evaluation tries to consider the possibility of getting a good feed-back from the System, the management and the monitoring of the System and the long term development of the project. A special attention is given to the estimated costs of the System and to the planning of the development of the project.

The evaluation aims also at collecting suggestions and ideas for a better implementation and a positive development of the System. Alternative solutions to some specific problems are proposed.

It is important to mention here, that such an evaluation of a project concerning a new information policy, cannot be compared with what can be done when one assesses existing products or services. The present work must be considered as a first step of an evaluation process which should be developed in the future when the Referral System will be largely produced, used and marketed. Thus, for instance, it would have been easier for the evaluation of users reactions to dispose of more produced Directories (5 or 6).

A last general remark concerns the philosophy of the evaluation which consists in avoiding critics that do not help for the improvement of the System. A dynamic approach of the evaluation is preferred, based on a good understanding of what people want to do, of how they imagine to improve their project and based also on the stimulation of creativity.

2 - PRESENTATION OF THE REFERRAL SYSTEM

2-1.The context: the INTIB policy for the diffusion of information

2-1-1.The general UNIDO/INTIB policy for gathering industrial information

UNIDO supplies, since long time, technological and industrial information services through INTIB (Industrial and Technological Information Bank). The Bank facilitates direct or indirect access to industrial and technological information. This access to technological and business information is provided through the INTIB own international data bases and through different appropriate services and products: IDA (Industrial Development Abstracts), Question and Answers Service, Micro-Metadex data base package, UNIDO publications, etc...

For the diffusion of this industrial and technological information, UNIDO is helped by an information network of national and regional Focal Points: in 1991, there were 4 regional and 71 national INTIB Focal Points, that constitute INTIB NET. These Focal Points are aimed to promote the diffusion of industrial and technological information and to supply rapid answers to inquiries from companies in a given country or from other Member States. The Focal Points have direct contacts with the Industrial Inquiry and Advisory Service (INTIB) in Vienna Office.

Generally speaking, there is a free access to information provided by INTIB, but one now considers to market some INTIB services.

2-1-2.The definition of a new UNIDO/INTIB policy

At the United Nations General Assembly, a draft resolution has been introduced by BOLIVIA on behalf of the Group of 77 which calls upon UNIDO to prepare Directories on information sources. This resolution must be understood as a demand or a need of UNIDO Member States to have fluid access to several categories of information, collected and diffused by INTIB.

At the same time, the reorganization of UNIDO and the definition of a new policy put emphasis on the new role of the Bank. INTIB should be no longer restricted to centralized services (issuing publications, answering industrial inquiries, maintaining data bases) but should also be more and more a network operator and a promoter of new types of co-operations. INTIB should develop new investment and technical co-operation projects.

For instance, UNIDO and INTIB should help or facilitate the equipment of national and regional Focal Points for international computerized information exchanges. They also should invent new mechanisms for such information exchanges, using the UNIDO mainframe facilities to process, store and provide access to information on various sectors, and also using a unified, standardized format for entering and retrieving the data.

Another aim consists in making INTIB services marketable. INTIB should be more active and present within technological fairs. For instance, UNIDO planned the participation of INTIB in technological transfer events such as TECH-EX 90 (Science and Technology World Fair in Vienna in 1990) or TECHMART'91 in BEIJING (a forum for promoting contacts between technology seekers and suppliers).

In other words, information activities should be considered as an integrated process. This is typically the aim and the case of the new INTIB Referral System.

2-2.The description of the Referral System

2-2-1.The Referral System. a new decentralized information approach

The Referral System is aimed to address queries received by INTIB to a wide range of well targeted sources of industrial and technological information.

Industrial and technological information is considered as a key resource for companies as well as for countries and its diffusion and its access are often a very complex process which needs appropriate methods and tools. UNIDO, through its Industrial and Technological Bank -INTIB-, tries, since a long time, to solve this difficult problem of the dissemination of ad-hoc information allowing better transfer of technology. In the past, UNIDO gave priority to the development of centralized tools and products, developing internal sources of information and experience, using in-house mainframes and offering direct services to clients.

Today, and for many reasons, a new approach seems to be needed, which tries to decentralize the diffusion of industrial information and to optimize the INTIB limited resources through new kinds of co-operation or partnership with Member States and INTIB national and regional Focal Points.

The new INTIB Referral System can be described as an innovative method of targeted information gathering and as a model for a new type of INTIB service. Considering the ever increasing demand for industrial and technological information there is an obligation to invent and develop new means which can decentralize the supply of information. This objective can be obtained through a better use of the Focal Points network. Thus, UNIDO/INTIB should provide the Focal Points with practical autonomous information tools, which allow them to reply to the needs of companies within the shortest possible time. In other words, the answer to the companies' inquiries should be first envisaged at the local or decentralized level, with appropriated orientation to the specialized information sources.

However, the Referral System concerns only the access to external sources of information: internal UNIDO/INTIB sources should continue to be used and developed. But most of the queries from the local industrialists should be answered through more direct links with potential information sources, thanks to the Referral System.

To simplify the presentation of the project, one could analyze the new Referral System as a mix of concepts, tools, products and processes:

- a basic philosophy: the decentralization of information gathering;
- a good use and stimulation of an information network, with national nodes called INTIB Focal Points;
- the production and dissemination of appropriate Directories and related information sub-products;
- the development of the INTIB database with new data concerning national information sources and related to different types of requests;
- a general marketing approach, with consideration put on four concepts: product, price, place and promotion.

In other words, the Referral System concerns all activities related to the collection and the dissemination of industrial information, through a network of institutions (and later, a network of people) and a decentralized gathering of information.

2-2-2 .The publication of national Directories

The main tool for such a decentralized approach consists in ad-hoc Directories. UNIDO/INTIB will supply a new type of service, helping the creation, the publication and the diffusion, in collaboration with the Governments of Member States, of standardized Directories of national sources of industrial and technological information. These Directories (produced at low cost) enable INTIB clients to make direct well targeted inquiries and to get a useful information on (and from) appropriate sources, with indications on the types of packaged information services provided by these sources.

For the creation of the national Directories, Governments do not need to involve INTIB in the production of publications. They will publish directly their own national Directories, respecting only the standard form of presentation prepared by INTIB.

Frequent updating is not needed due to the fact that the organizations participating to the Referral System are chosen for their long experience of technological information gathering and for their efficient relations with United Nations agencies.

Such national Directories can be used either by final users (industrialists) or by intermediaries such as Focal Points staff, information services or brokers, INTIB staff,... Inquiries can be addressed through the Directories, either by domains, subjects, types of answers,...

2-2-3.The development of a new data base

Copies of the Directories will be diffused to the INTIB regional and national Focal Points and through these Directories, clients will have easy access to the right sources. But the collected information will be also stored in a new computerized data base with all details concerning the information sources. This data base will be a useful tool for UNIDO clients from Member States, but will also be very convenient for INTIB staff.

With the whole set of national Directories and with the related data base, this new Referral System is viewed as an excellent way to optimize the INTIB' limited resources and as a very valuable answer to information needs.

2-2-4.The answering process

Traditionally, queries are sent to INTIB staff and answered from UNIDO head-quarters in Vienna, by using INTIB sources and data bases. Generally, it takes a lot of time to provide the right information, due to the fact that INTIB staff have to find themselves the right sources, to contact them and to wait for their answers.

With the new Referral System, it is suggested to solve the problem through more direct links between industrialists and information sources. The System will address the queries received by INTIB (either in Vienna, or in the national Focal Points) to a wide range of well targeted sources of industrial and technological information. A letter including an information request will, for example, be sent by fax to some 20 or 30 appropriate information sources, which will directly answer (the fax will mention the list of the contacted sources in order to stimulate the competition between technology suppliers). In some cases, INTIB staff will also prepare information packages, using on the one

hand the INTIB internal sources, and on the other hand up-dated and ad-hoc information provided by sources mentioned within the Directories.

In other words, the Referral System seems to allow many channels for answering the queries:

- by INTIB staff (the traditional way), by using the internal sources as well as the Referral System for external sources;
- indirectly by Focal Points, if they have access to the Referral System and its products (they have then to address the queries to the targeted sources);
- directly by the information sources themselves, if they are mentioned within the Directories and if they received copy of the queries.

2-3.The French pilot experiment of the Referral System

2-3-1.A French experiment

In order to make sense to the project, it was decided to start with a first Directory and to learn through a first co-operative experience (i.e. to study the process of the collection and the design of the ad-hoc information, as well as the type of the required information).

A pilot project or experiment was developed in 1990 in France. A Directory on **FRENCH SOURCES OF INDUSTRIAL AND TECHNOLOGICAL INFORMATION** has been prepared and published, in co-operation between the French Government (and the French Focal Point) and INTIB (UNIDO Industrial Inquiry Service).

It required only 2 months and was realized at a very modest cost (around US\$ 35,000 for the whole cost).

A national committee was set up with representatives of 3 Ministries (Industry, Agriculture and International Trade) and of the Centre Français du Commerce Extérieur. In France more than 3.000 organizations are potential suppliers of industrial information but only 54 have been chosen for a presentation within the Referral Directory. These 54 organizations have been chosen by the national committee.

A French consultant was appointed for establishing the chart presenting the collected information and for editing the Directory. The monitoring of the project was done by the French Ministry of Foreign Affairs.

The printing was under the responsibility of UNIDO: 1,500 copies were published. There were partly (300 copies) disseminated by the French partners (3 copies sent to each French embassies and several copies to the mentioned information sources or centres) and partly by UNIDO/INTIB (to Focal Points).

This bilingual Directory (French and English) is disseminated free of charge. A Russian translation is envisaged.

2-3-2.The French Directory

Through its 127 pages, this Directory allows rapid identification of French organizations capable of replying to a precise enquiry whether it concerns a raw material, a manufacturing process, a machine, an equipment, a manufactured product, a technology or an engineering service.

The 54 selected organizations are presented in the form of a chart (in French and in English) and listed in alphabetical order, with an appropriated

index (industrial sectors). A given organization may be listed in several different sectors. The acronyms of the selected organizations are printed at the beginning of the Directory.

Each chart (one page) includes a classic descriptive section and a table summing up the capability of the given organization to reply in a rapid and concrete way to requests for information (with the contact names, the method of reply, for instance, lists of suppliers, etc...).

The first part of the chart identifies the source (organization): name, contact persons, telecommunications numbers, addresses.

Then follows a brief description (3 to 5 lines) of the activity of the organization: number of members, types and sectors of activity, offices abroad.

And lastly, a check list structure in form of a table which presents multidimensional information such as:

- the type of query processed (in lines): raw material, manufacturing processes, machinery, equipment, manufactured products, technologies, engineering, methods and services, and also seminars, training, trade fairs;

- the type of reply provided (in columns): list of companies or organizations, lists of experts, lists of transferable technologies, states of art and publications, customized research, commercial literature, bibliographies, proposals and estimates for research and study, company matching, schedule, detailed programme;

- and a letter P (payable services), F or G (free services or gratuits), PF or PG (mixed) indicates whether the service is free or must be paid for; the letter appears at the crossing between lines and columns.

3 - SOME REMARKS ON THE REFERRAL SYSTEM

3-1. Why to develop such a Referral System?

What are the main reasons which can explain the need for the preparation and the development of a new Referral System? Are there some difficulties or problems that INTIB responsables and experts have to solve? Are there some dysfunctionings in the process of disseminating the information related to technology transfer?

3-1-1. The main reasons

For UNIDO and INTIB, the design and the development of the Referral System are necessary for the following reasons:

- one ascertains a stagnation and perhaps a certain decrease of the number of queries addressed to UNIDO/INTIB headquarters: new approaches, new services should be envisaged in order to better satisfy the final users and to justify the role of INTIB staff;

- several representatives of national Governments asked UNIDO to find new ways for the dissemination of information, especially by creating and marketing Directories on industrial information sources;

- a better communication or a better dialog between final users and information sources and intermediaries is needed in order to reduce the chain in the transfer of information;

- the decentralization of the responsibilities is also an important reason which is considered as a key factor for the development of the societies; this reason can also be coupled with another one which concerns the final user of information systems who wants more and more to be free in his or her information process (freedom for use, flexibility, multiple ways,...);

- consequently, there is an urgent need to reinforce the INTIB Focal Points and the INTIB network; there many problems, for instance for the choice of the Focal Points (how to designate the right organization?), for the development of a real activity of these Focal Points and for the promotion of these intermediaries within their own countries;

- more and more often, to answer queries needs a clear and concise information and of a selected number of information sources (a better targeted information);

- at last, there are true limits to the access to information by UNIDO/INTIB staff members: people in the countries know often better than UNIDO information specialists the right national or regional sources of information; the actual databases are not perfect and are not able to integrate any detailed information which is available on technology transfer. Due to the lack of time and the lack of money, but due also to the development of new information and communication tools, the centralized approach to information management is less and less able to solve complex problems of information.

3-1-2. Some dysfunctionings and difficulties

Several points must be evoked, which can be considered as difficulties or dysfunctionings of the traditional approach to answer queries of information on technology transfer. Thus:

- for requests of a given country, one needs to contact UNIDO/INTIB headquarters in Vienna in order to find the appropriate answer, which should generally be proposed by local or regional firms or institutions;

- industrialists have difficulties to find the right technology because they have first many serious problems to know the right sources of information: there is a lack of tools which could oriente the industrial specialists towards the appropriate sources (but, one must avoid the publication of general catalogs of data bases which are not useful for these final users and avoid also to refer to other Referral Systems) ;

- answers given by INTIB experts are sometimes not satisfactory due to the lack of detailed or precised information or due to the misunderstanding of the queries and of its context; there are also difficulties for UNIDO/INTIB to update the information on technology transfer;

- several weeks and sometimes months are needed for answering the queries due to the fact that INTIB specialists must often contact information sources in different countries and wait for their answers: for an industrialist, this wasted time is not acceptable.

3-2. Who can use the Referral System? Who will benefit from it?

It seems to be very important to examine who will be the users of the Referral System and to evaluate the benefits that they will have to use it. This point of the evaluation is difficult, due to the fact that the System does not really exist and indirect uses will certainly be more important than direct ones.

3-2-1. The final users

One can imagine two kinds of final users of the System: the companies or specialists who seek technology transfer (and who need to know where to get the right information) on the one hand, the firms, centres or specialists who offer technology or related information, on the other hand. In both cases, the problem that people have to solve is how to find the right channel for the exchange of information: how to identify the right sources of information, how to get in touch with the sources, how to obtain, from the sources, the needed information for a specific transfer of technology. In both cases, the criterias for a successful exchange of information are the following: the rapidity of the information process, a direct contact with a given partner as soon as possible, the pertinence of the supplied information.

It is, of course, difficult to estimate the total number of enterprises or specialists who could be directly concerned by the Referral System. One could hope that 10,000 to 30,000 firms or individuals should have at least one contact per year with a product or a component of the Referral System. One also could estimate that 2,000 to 5,000 copies of each national, regional or thematic Directories should be diffused, depending the implication of the countries or the interest of the themes.

a) For those who seek technology transfer (enterprises, consultancy firms), the Referral System seems to be a good answer to their information problem, if some conditions are respected:

- the Directories and the related tools must cover enough countries or regions, for maximizing the chances of the firms or specialists to have choices (and better offers); in other words, UNIDO should define the appropriate scale

or size of such a Referral System (how many countries, which kind of countries,...?);

- the queries management must be redefined in order to reduce the time needed for the answers: to whom the queries should be first sent (UNIDO headquarters, INTIB Focal Points or other informations brokers)? What kind of communication tools should be used in order to better address the queries to the right information sources? Should these information sources, when they are mentioned within the Referral System, be integrated as members of a network (with interconnected tools for the transfer of information)?

- the Referral System, as such, must be promoted and better known from direct final users; this promotion should put emphasis on the advantages of the System. on its aims and functions and on the multiple ways to use it.

- why not to prepare and market also information Directories or packages which could be bought by some companies working on a given domain?

b) For those who offer or sell technology, the Referral System has less direct benefits. The chances to let know a given technology through the Referral System are very slight, due to the fact that this is not the aims of the Referral System.

It could be useful to examine under which conditions direct technology suppliers could be interested by the Referral System: advertisement, related data bases, new tools (CD-ROM or Hypertext) linked with the basic orientation tools,...

3-2-2. The intermediary users

Many intermediary users of the Referral System can be envisaged: the INTIB information officers, the UNIDO experts (as well as other specialists from other United Nations organizations) when they have to provide consultancy advices, the INTIB Focal Points, the libraries and other information centres or services, the national representatives (trade organizations, professional institutions, embassies,...), etc...

It seems that an important effort should be done in order to promote the Referral System towards these targeted intermediary users. They certainly will be the right nodes for the exchange of information and they also will usefully contribute to the up-dating of the System.

For some of these intermediaries (INTIB Focal Points for instance), one should define a complete set of sub-products: regional or thematic Directories, micro-bases, ...

At last, lists of the intermediaries which are directly linked with INTIB and its Referral System should be prepared and largely diffused. Thus, could it become possible to constitute an international information network, whose nodes could have most of the necessary tools provided by UNIDO/INTIB, especially the Directories and others information packages.

Around 1,000 information intermediaries should be selected and considered as INTIB Referral System partners and should receiving most of the INTIB information products. Around 1,000 to 2,000 national embassies and trade organizations should to be added (but the Governments of the concerned countries should provide copies of the national Directories).

3-3.What should be the functions of the Referral System?

Considering the causes or reasons of the creation of a new Referral System, considering the many problems of the traditional INTIB approach of answering information queries and taking into account the various and potential users, could we precise now what should be the functions of the Referral System (ideally).

3-3-1.The main or principal function

It should be the following: *to facilitate the contact between seekers and suppliers in the field of technology transfer information, by addressing precised queries to well targeted sources or by helping the direct consultation of appropriate sources.*

For this function, one has to consider some criterias such as the reduction of the time needed for the answer, the pertinence of the given information and as much as possible, the direct contact between seekers and sources.

3-3-2.The secondary functions

Behind the Referral System and its principal function, other aims or functions should be taken into account such as:

- to avoid that too many general questions be addressed to UNIDO/INTIB headquarters and especially or consequently, to avoid to answer too general questions which should be re-orientated to local or regional sources;
- to help and develop the INTIB Focal Points as necessary intermediaries of the Referral System and to improve and promote their image in the given countries;
- to promote the national industrial and technological information sources and to develop better knowledge of the national or regional possibilities;
- to be a window (or a door) on UNIDO/INTIB activities; the Referral System should stimulate the use of internal information and data bases;
- to help UNIDO/INTIB information officers to prepare subject oriented information packages, with the best access to appropriate sources and thus, to re-inforce the role of UNIDO experts (to avoid unprofitable competition);
- to develop and market appropriate autonomous tools for information orientation, as well as information packages, offering free and multiple possibilities to use the System (with less constraints and much flexibility);
- to help the industrial specialists who need technology and related information to formulate precisely their queries (pedagogical view);
- to allow a good knowledge of the clients inquiries and of the clients profiles and to provide statistics on the use of the System;
- at last, to provide royalties to UNIDO/INTIB in order to invest in the design and development of new products and tools related to the Referral System (self-financing).

3-4. What's about the cost of the Referral System?

This is also a difficult question when one is considering a project and not an existing product. Nevertheless, it can be possible to estimate some components of the cost of such a project.

3-4-1. For the management of the Referral System

This is not an important component of the total cost of the project but one does not forget that the Referral System must be managed. It means a lot of negotiations with different bodies in different countries in order to prepare Directories. It means also, for the first years, the setting up of rules, procedures, etc... for the functioning of the whole System. It means, lastly, that a promotion of System should be imagined and developed, with the creation of ad-hoc material and the participation to different events (TECHMART,...).

In other words, UNIDO/INTIB should invest, at least during two or three years, a certain amount of time and money for ensuring the success of the System. A permanent and full-time staff member seems to be necessary and a minimum of US\$ 30,000 to US\$ 50,000 per year should be devoted, during the first years, to the promotion of the System (including the negotiations and advices for the creation of the Directories).

One has also to budget the cost of the creation and diffusion of sub-products and the cost of the development of a related data base. But, in short term, it seems difficult to estimate these costs, due to the fact that there are not enough Directories which could be used for the creation of these products.

3-4-2. For the production and diffusion of the Directories

Concerning the Directories, a better estimation of the cost could be approached through the experience of the publication of the French Directory.

This French Directory totally costed around US\$ 35,000 (including all expenses) for a publication in 1,500 copies. This cost includes:

- US\$ 20,000 for the consultant who collected the necessary information and who prepared and designed the document;
- US\$ 10,000 for the printing (around US\$ 3 per copy) and for the diffusion of the copies of the Directory (by UNIDO and by the French Ministry of Foreign Affairs);
- and around US\$ 5,000 representing the cost of the work done by permanent staff members (French Minister of Foreign Affairs and other Ministries, UNIDO/INTIB).

Of course, only US\$ 24,000 have been paid to sub-contractors (consultant, printer), the remainder being directly taken into account by UNIDO and the French Ministries. But for the creation of other Directories, it could happen that the total cost should be paid.

It is interesting to notice that, with the publication of 1,500 copies, the average cost is around around US\$ 23 per copy. That means that if UNIDO/INTIB wants to sell such documents, a good price could be around US\$ 40 or US\$ 50.

If one considers now the number of sources included within the Directory (54 for the French document), around US\$ 600 are paid for the presentation and promotion of each individual information source. That means a few money for a large promotion of the concerned source (with diffusion in many countries).

One could imagine, in the future, to ask the sources to financially contribute to the creation, development and improvement of the Directories.

3-4-3. For addressing and answering the queries

This last part of the cost is also difficult to estimate, at the present time. In the current situation, three staff members are needed for answering the queries. They certainly will continue to answer to some inquiries, especially if better and more precised queries are addressed directly to UNIDO/INTIB headquarters. But, it seems also that a part of this staff should be more and more concerned by the functioning of the System and the new treatment of the queries. For instance, much more emphasis should be put in the process of addressing the queries to the targeted sources: it means a better knowledge of the sources, a good communication network and a good feed-back from the sources and from the users.

In other words, it appears that there is no need for increasing the number of staff members, but some re-deployment of the human resources should be envisaged.

4 - TO IMPROVE THE REFERRAL SYSTEM

The Referral System exists, in principle, but it is more a project than a real thing. It has to be improved, it has to include new ideas and to eliminate some defects or deficiencies. The evaluation process helps to imagine new or complementary solutions to some problems.

4-1. The implication of the Governments in the production of Directories

First of all, the development of the Referral System needs a lot of negotiations with different Governments and national bodies. The Referral System will only be a successful tool, when it will include many national Directories. Consequently, the implication of the Governments of Member States in the development of the System is a key factor due to the fact that Governments are responsible for the supply of the useful information, for the quality of the information provided and for the necessary updating of the Directories. They also have the duty to publish the Directories.

UNIDO/INTIB is planning to prepare and diffuse 10 Directories in 1992, 1993 for the following countries: Austria, Belgium, Canada, UK, Brazil, Costa-Rica, the Netherlands and perhaps India (with a Directory on appropriate technology).

Nevertheless, if one considers that the Referral System should be completely established around 1995, it means that a rate of 20 new Directories per year should be envisaged. A large promotion of the principles of the Referral System should be done, in short term, towards the national representatives. UNIDO/INTIB should clearly include this project in its annual programmes and argue the Referral System more politically than technically.

A general schedule of publication of Directories should be prepared and largely announced: this should incite the countries to compete and to put money and to devote time in such a work.

With the most advanced countries, flexibility should be an important key-word and the responsibilities should be very variable: this should be well explained to the Governments of these Member States.

The case of developing countries should be studied separately and certainly UNIDO should pay for the creation of national or regional Directories, devoted or not on specific subjects.

4-2. The implication of the INTIB Focal Points

Another condition of success of the Referral System lies in the fact that the INTIB network of Focal Points should remain the cornerstone of UNIDO activities and services. These Focal Points should be prepared to use the Directories as key resources for their clients inquiries. They also should be very implicated in the development of the Referral System and in the production of the national Directories. They could be at least concerned by the up-dating of the data or information of the Referral System.

This needs a change of attitude of the Focal Points. Meetings and seminars should be rapidly organized in order to improve the capability of the Focal Points to be appropriate partners of UNIDO/INTIB in the development and the use of the System. Some local experiments should be supported by UNIDO, which could aim at equipping the Focal Points with the best tools and procedures and enabling them to perfectly answer the queries of the national clients (or to address the queries to the targeted sources).

Exchange of information between the various Focal Points should also be systematically organized.

4-3. The selection of the information sources

Many questions, asked during the evaluation process and related to the Directories, concern the selection of the sources. How to select the information sources? Is it necessary to select the sources? Who must select them?

In the French case, only 54 information sources have been selected among around 3.000 potential information suppliers. The French committee decided such a strict limitation of the number of sources in order to publish a very useful and light Directory, easily communicable. The criterias for the selection were:

- the representativeness of the institutions (information centres of professional organizations, very well known bodies for specific subjects);
- the capabilities of the sources to provide rapidly information packages;
- a good custom to work in the field of technology transfer and to disseminate information to developing countries;
- and lastly, a long or good experience of work with UNIDO and other United Nations organizations.

To the question of the selection of the sources (freedom or control?) it is important to answer that it is the entire responsibility of the national committees to define the appropriate way to select the sources. One has to be very flexible and to decide case by case. Nevertheless, a minimum of harmonization should be imposed by UNIDO in order to avoid too big divergences between the various national Directories.

Also, it is very important to explain that priorities should be given as independently as possible, without any political influence.

4-4. The presentation of the information and the style of the Directories

Concerning the presentation of the information and the formal aspect of the Directories, it is generally admitted that the French Directory is a good example of what could be done. However some improvements should be introduced.

It seems necessary, for instance, to simplify the chart on which the information of each source is presented. For some people, the presentation in matrix is not easy to understand. One also could envisage to avoid blank matrixes and un-used lines and columns in the presentation, for a better legibility of the useful information (one could also use light-grey lines and black letters).

There is also a problem of terminology, which must be re-examined in order to reduce potential mis-understandings: this concerns particularly the types of services offered by the sources and the format of the queries. Among the various possibilities of services offered by the sources, it has been suggested to add the supply of bibliographical thematic lists.

The "environment" perspective should also be introduced in the Directories.

The presentation of the information in two languages is well appreciated. But in some cases, it could be necessary to translate into another language. This is for instance the case of the French Directory whose

information is now being translated into Russian, for a better diffusion of the Directory in Russia.

At last, a minimum of standardization of the presentation of the Directories should be imposed by UNIDO (the chart, the INTIB logo, etc...). It should be obvious that the various published Directories are connected with the general INTIB Referral System.

4.5. The development of the System and the diffusion of sub-products

Concerning the development of the System and the preparation and diffusion of sub-products, it appeared a general need for the availability of various documents and sub-products, organized by subjects (and not only by countries) and allowing to answer general thematic requests.

Regional approaches (and not only national) should be well appreciated. It is proposed to elaborate regional Directories for groups of countries (oriented or not towards specific themes). A Directory on appropriate technology from and for developing countries should be considered as a priority.

But Directories are only one tools among many others. It is recommended that INTIB information specialists prepare information packages from the Directories.

Also, the development of a related data-base, with the useful information presented within the Directories should be rapidly envisaged and proposed to Focal Points and other information services: computerized Directories, information packages on CD-ROM...

4.6. The dissemination of the Directories and the promotion of System

It seems very important and urgent to establish a plan and to explore different possibilities for the promotion and the dissemination of the Directories and the System.

The first question to be answered concerns the diffusion of the present and future Directories. It appeared, during the evaluation, that it was impossible to know exactly who received the French Directory, how many copies were sent to different types of intermediaries? And, of course, it was impossible to estimate how many firms or specialists used it? Thus, it should be necessary to better define the diffusion plan in order to increase the value and the usefulness of the Directories. An appropriate mailing list should be established by UNIDO/INTIB in cooperation with the national committees.

Another aspect of the promotion and dissemination problem is related to the development of a better communication with the countries. The Focal Points should play a new role and especially ensure the diffusion of UNIDO/INTIB products. But it is important also to let know the Referral System and the Directories within the national or regional information services and centres.

Other kinds of promotion should be systematically explored: promotion in different technical or industrial journals, participation to different events such TECHMART and fairs, preparation of propaganda materials and leaflets. It seems essential to promote the Referral System as such, considered as a global approach to disseminate appropriate information and as a useful process to directly answer individual queries.

The last point concerning the promotion of the Referral System is linked with the choice of the name "Referral System" itself.

The present name is not very clear and not easily understandable . UNIDO/INTIB should find and use another vocable more directly associated with the aims of the System and with a new marketing policy of UNIDO/INTIB.

4-7. To market the information, the services, the Directories and the System

The main questions asked by many people during the evaluation process are: to sell or not to sell? What to sell and/or what to charge?

If UNIDO wants to market the Referral System, it has to examine the four components of the marketing plan: the product, the price, the place and the. But is there a market? "The world is full of non-used Directories and other information products", it has been said. What could be the right or best product to be marketed: the information on sources, the Directories as final products, the search of the needed information, the rights to reproduce the INTIB products, the services offered by the nodes (the Focal Points should certainly charge the services they provide), the services offered by INTIB Vienna?

The general view on this problem is that it is necessary to market the given information when it is an answer to precised queries.

But how much people will pay for getting the appropriate information? How to define the right prices for all these services and products? Is it possible, after a query, to charge US\$1 per given name (but US\$ 0 for Focal points and perhaps US\$ 10 or 20 for "non-serious" clients, i.e. clients with non well targeted information)? How should prices take into account the size of the firms and of the nature of the countries?

But whatever the pricing, UNIDO/INTIB should ensure first the quality of the provided information.

4-8. To get a feed-back

The feed-back from the use (or on the use) of the System, is an important aspect that UNIDO/INTIB has to look at very seriously. Is the System well-used? What kind of inquiries are addressed to the System? Who are the final users? What is the role of the intermediaries?

It seems first necessary to include a return coupon with each diffused Directory, which could provide a trace of the diffusion and of the use of the documents.

A letter should be prepared and sent to the Focal Points in order to know how they use the Directories and what kind of utility they have in different countries and for different final users. Such a feed-back should also be obtained during the meetings of Focal Points representatives or through the use of electronic mail and fax.

Case stories should be collected and published.

At last, the System should include its own feed-back and allow its own evaluation (statistical tools, number of queries,...).

4-9. The monitoring of the System

It seems essential to repeat that the Referral System has to be managed. A team work within INTIB is necessary for monitoring the development and the use of the System. It also appears that INTIB staff members should be regularly trained in order to introduce the new philosophy of the referral System in their practices.