

**International Network for Development
Information Exchange**

**Réseau international d'information
sur le développement**

**Report of the Third General Meeting of
the International Network for
Development Information Exchange
(INDIX)**



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**Report of the Third General Meeting of
the International Network for
Development Information Exchange
(INDIX)**

Hosted by Danish International Development Assistance (Danida)
at the Conference Centre of the Danish Ministry of Foreign Affairs,
Copenhagen, 13-15 September, 1995



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Acronyms used in this report

ACCIS	United Nations Advisory Committee for the Coordination of Information Systems
CEFDA	Common Exchange Format for Development Activity Information
DAC	Development Assistance Committee of the OECD
DAI	Development Activity Information
DANIDA	Danish International Development Assistance
EADI	European Association of Development Research and Training Institutes
FID	International Federation for Documentation and Information
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
ICCD	Inter-regional Coordinating Committee of Development Associations
IDRC	International Development Research Centre, Ottawa
ILO	International Labour Organization, Geneva
INDIX	International Network for Development Information Exchange
ISCC	Information Systems Coordinating Committee of the UN
NGO	Non governmental organization
OECD	Organisation for Economic Cooperation and Development, Paris
UNDP	United Nations Development Programme, New York
USAID	United States Agency for International Development, Washington DC
WHO	World Health Organization, Geneva

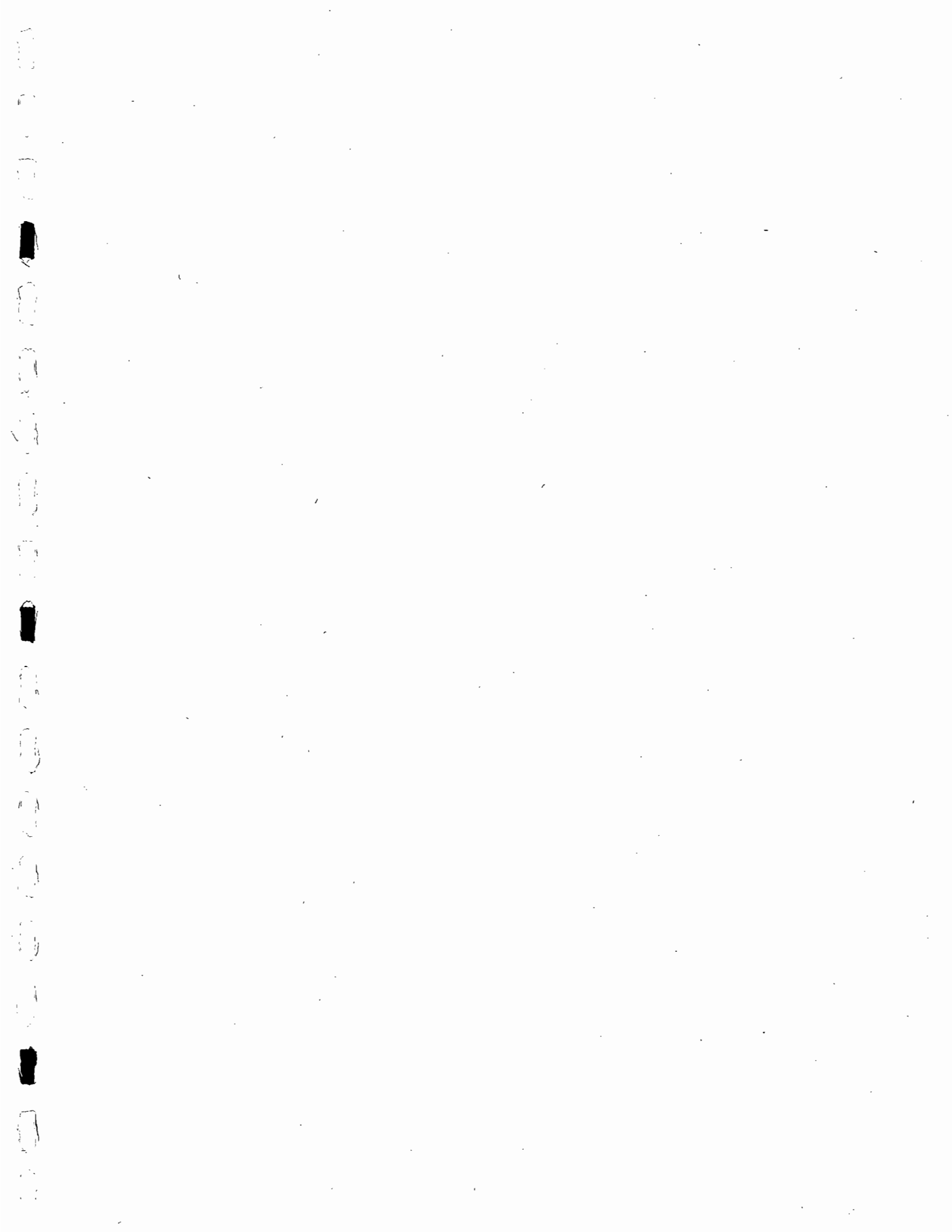
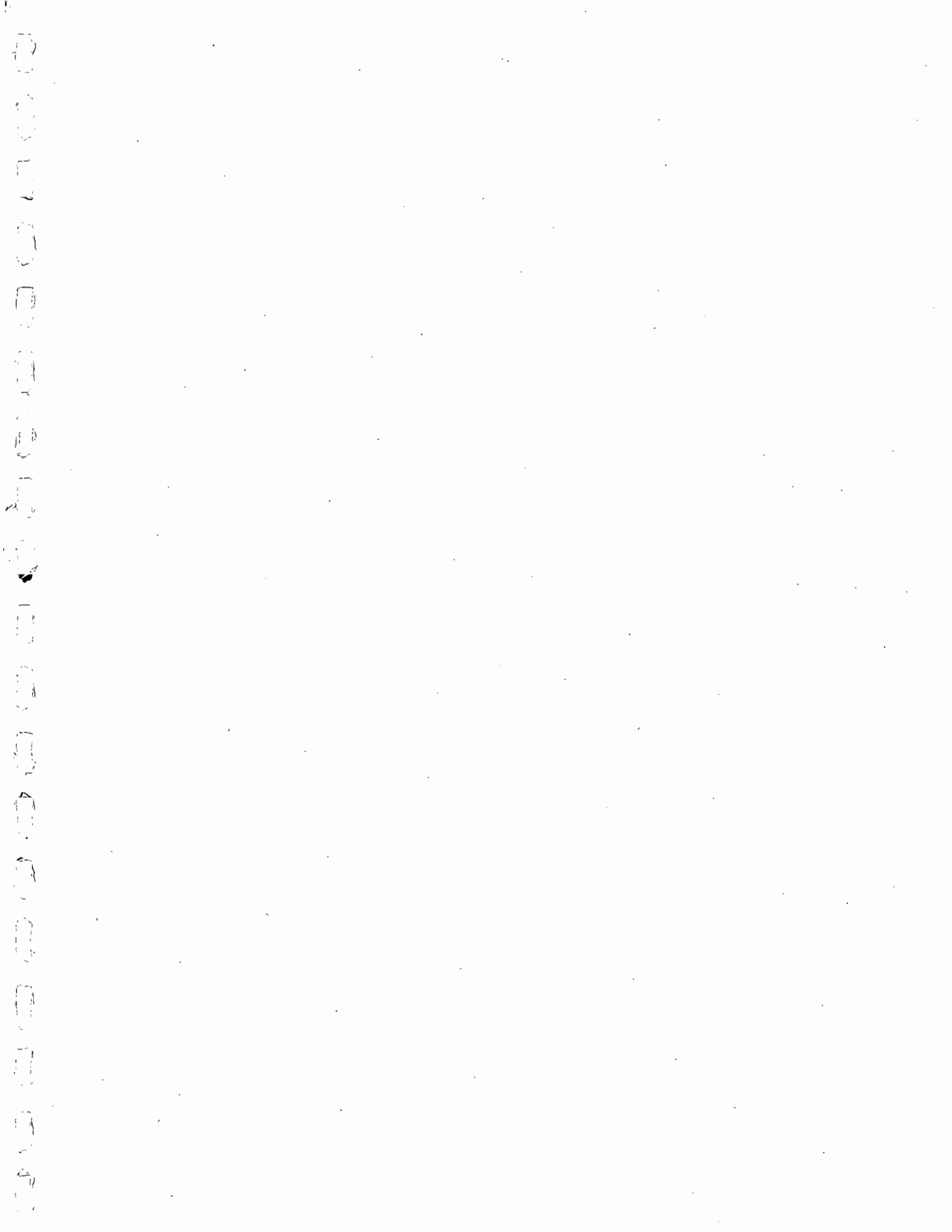


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**Report of the third general meeting of
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Copenhagen, 13-15 September 1995**

EXECUTIVE SUMMARY

1. INDIX

Members of INDIX are development assistance organizations that promote the rational use of scarce development resources through the sharing of information about their activities (who is doing what, where).

The work of INDIX is guided by a Steering Committee with members from IDRC, ILO, OECD Development Centre, Oxfam UK, UNDP, USAID, WHO and the World Bank¹. The Coordinating Unit for INDIX is hosted by IDRC.

INDIX has developed a common exchange format for development activity information (CEFDA). Members use this format to contribute data about their development activities to a common database, which is updated twice a year and made available both on the Internet and on the DAI CD-ROM. Five CD-ROMS have been produced and the database contains descriptions of some 135,000 development projects.² Data concerning UN development activities had been provided by ACCIS, but since the abolition of ACCIS many UN agencies will contribute data directly..

Support for the initiative comes from subscriptions to the DAI CD-ROM and contributions from interested organizations.

2. Third General Meeting

The third general meeting was hosted by Danida at the Conference Centre of the Danish Ministry of Foreign Affairs, Copenhagen, and chaired by Mr. Maury Brown, Director of the USAID Office of Development Information. About 40 representatives of intergovernmental, governmental, non-governmental and research organizations attended.

The participants were welcomed by Mr. Peter Bruckner, Acting State Secretary and Under Secretary of Multilateral Affairs for Danida, who declared his belief that Third World development is the most important challenge faced by humanity, that its success or failure will determine what sort of world we inherit and that information handling is the key to any further Third World development.

3. Keynote speaker

The keynote speaker was Ms. Irene Wormell, Head of the Department of Design and Implementation of Specialized Information Services at the Danish Royal School of Librarianship, Chairman of FID/ET Committee, and Director of FID/ET International

¹ At September 1995. The current membership of the Steering Committee is comprised of representatives of USAID, IDRC, ILO, UNDP, OECD Development Centre, World Bank, Danida, GTZ and UN Climate Change Convention Secretariat.

² At September 1995. To date, seven CD-ROMs have been produced and the database contains over 158,000 records.

Clearinghouse and Newsletter, who spoke of professionalism in information handling. She stated that information is a serious resource that has to be handled like other resources, but information also has special characteristics that make it different from other resources, the most striking of which is that the more information is shared the more value it gains.

4. Themes of the meeting

The purpose of the meeting was to evaluate progress so far and to determine future activities. Papers, working groups and discussions centred around the following themes:

- new technologies and the electronic sharing of information;
- sharing forward planning (or "pipeline") information and evaluative (or "development experience") information;
- the improvement of the quality of shared data;
- the further promotion of information sharing among development assistance agencies;
- the financing of the future activities of INDIX.

The working groups drew up recommendations for future action in these areas. As IDRC will cease to finance the Coordinating Unit after April 1977, one priority will be the drawing up of a business plan for INDIX.

It was recognized that the work of INDIX is still not well enough known and participants undertook to use all possible means to raise awareness of development information sharing in their own organizations and networks.

Conclusions

In his closing remarks the Chairman saw the following shape for the future:

- there will be increased electronic communication among the members of INDIX;
- regional workshops will be held to raise awareness of INDIX. The first such workshop will probably be in Southeast Asia. Similar workshops could be held in Africa, Latin America and the Caribbean;
- there will be more linkages with partners in NGO and Foundations networks;
- more data will be added to the database, and the CD-ROM will be made more effective with the addition of pipeline and evaluative information. If the member states agree, it is hoped to add data from the DAC evaluation database.

He concluded by saying that, by taking a small step at a time, INDIX has reached further than it expected to. If just one programme has been improved because of the sharing of information, the effort put into INDIX will have been worthwhile.

**REPORT OF THE THIRD GENERAL MEETING OF THE
INTERNATIONAL NETWORK FOR DEVELOPMENT INFORMATION
EXCHANGE (INDIX)**

Copenhagen, 13-15 September 1995

The third general meeting of INDIX brought together people from development assistance organizations to evaluate progress and determine further concrete steps towards the rational use of resources by improving the sharing of development activity information.

The meeting was hosted by Danida at the Conference Centre of the Danish Ministry of Foreign Affairs, Copenhagen³, and chaired by Mr. Maury Brown, Director of the USAID Office of Development Information. About 40 representatives of intergovernmental, governmental, non-governmental and research organizations attended. The list of participants is attached in Annex B.

The work of INDIX is guided by a Steering Committee, chaired by Maury Brown of USAID, whose members include Terry Gavin and Mary Campbell of IDRC, Lee White of USAID, Linda Schieber of UNDP, Ingvar Ahman of WHO (who was not able to attend), Giulio Fossi of the OECD Development Centre (represented at this meeting by Alice Watson), Eleanor Frierson of ILO, Anna Flavia da Fonseca of the World Bank, and Simon White of Oxfam UK.⁴

The participants were welcomed by Mr. Peter Bruckner, Acting State Secretary and Under Secretary of Multilateral Affairs for Danida, who declared his belief that Third World development is the most important challenge faced by humanity, that its success or failure will determine what sort of world we inherit and that information handling is the key to any further Third World development. He also announced that Danida will be inputting data to the DAI CD-ROM in the near future.

Brief history

The Chairman welcomed old and new faces and stressed the informality of the group. He outlined the history of INDIX which began as an informal group of representatives of several organizations who found they had common problems in trying to satisfy requests from other organizations for data in machine-readable form. The first concern of the group was to develop a minimum set of data fields that could be used as a common format for the bilateral

³ Denmark is the country that per capita contributes most assistance to developing countries. Danish development assistance amounted in total to DKK 8.5 billion in 1993, equivalent to 1.02 percent of GNP. Denmark's national development assistance is administrated by the South Group of the Ministry of Foreign Affairs, of which Danida is an integral part. The name Danida is an abbreviation for Danish International Development Assistance.

⁴ At September 1995. The Committee is now comprised of Maury Brown (USAID), Mary Campbell (IDRC), Ana Flavia da Fonseca (the World Bank), Eleanor Frierson (ILO), Giulio Fossi (OECD Development Centre), Terry Gavin (IDRC), Anja Møller Rasmussen (Danida), Janos Pasztor (UN Climate Change Convention Secretariat), Lee White (USAID) and Reinhard Woytek (GTZ).

exchange of development activity information. This led to the creation of the CEFDA, which was presented at the first general meeting of the Informal Study Group on Exchange of Development Information (as INDIX was then called) held in Paris in 1991. At this meeting, several organizations, including the OECD, with its DAC system, and ACCIS, with its Register of Development Activities in the United Nations System, agreed to contribute data in CEFDA format to a common database on CD-ROM. At the second general meeting of the group in 1993, ways to refine the CEFDA were discussed, as well as ways to encourage the participation of more organizations, particularly NGOs.

Five CD-ROMS have been produced and currently the database contains descriptions of some 135,000 development projects.⁵ A considerable percentage of the data had been provided by ACCIS, but since ACCIS was abolished by the UN last year the UN agencies have been approached directly for data.

Support for the initiative has come from contributions and subscriptions from interested organizations and since 1991 IDRC has hosted the Coordinating Unit for INDIX.

Originally interest in the work of the group came mostly from bilateral and intergovernmental organizations but now interest is also being shown by NGOs and research organizations. Some organizations that were represented at these meetings in the past are absent this year due to budgetary problems. They are, however, continuing to commit resources and provide data.

Keynote speech

The keynote speaker was Irene Wormell, Head of the Department of Design and Implementation of Specialized Information Services at the Danish Royal School of Librarianship, Chairman of FID/ET Committee, Director of FID/ET International Clearinghouse and Newsletter, Chief Editor of Libri - International Library Review, and member of the Aslib Council.

Ms. Wormell brought offerings from the academic world that she felt should be interesting for INDIX.

She began by quoting Stephane Hessel, Ambassador of France, who said, in his keynote address given to the first general meeting of INDIX in 1991, "Development issues are going to require, on the part of all concerned, true professionalism in the new area. True professionalism means serious information and serious information must be shared information." These two issues - professionalism and shared information - remain valid for the present meeting.

In exploring the issue of professionalism in information resource management, Ms Wormell stated that information is a serious resource that has to be handled like other resources -

⁵ At September 1995. To date, seven CD-ROMs have been published and the database contains over 158,000 records.

financial, human and material. But information also has special characteristics that make it different from other resources, the most striking of which is that it does not lose its value if it is shared. In fact, the more information is shared the more value it gains.

Information resource management means management both of the content of the information and of how it is delivered - the surrounding technology and tools. There is a tendency to put emphasis on the technology and tools, neglecting information content.

Information professionals add value to information by transforming it to make it accessible to users and by training users to become more "information literate", i.e. ensuring users have the skills to use the information. In this connection, she drew the attention of the participants to an article by Lee Welch in the journal Libri (vol 45, 1995, p. 2-10) describing a survey of field staff working in humanitarian relief and development aid agencies in Africa. The results indicated that, contrary to their perception that they suffered from lack of information support, staff did not lack information supply but they lacked information skills to use it. Ensuring that users have the skills to make use of information is a key factor in efforts to promote information sharing.

Ms Wormell concluded by speaking of the work of FID, stressing the contribution of FID to the science of knowledge transfer. She suggested that links could be created between INDIX and some of FID's special interest groups, particularly those concerned with the sharing of information among NGOs.

Report from the Coordinating Unit for INDIX

Mary Campbell of the Coordinating Unit opened her remarks by thanking the Danish Ministry of Foreign Affairs and Danida for hosting the meeting and for providing such an excellent facility, and Anja Møller Rasmussen, Head of Danida's Documentation Division, and her staff for their efficient organization of the meeting.

The report from the Coordinating Unit to the INDIX general meetings is a report on how the Coordinating Unit has carried out the directives given to it by the delegates to the previous general meeting.

Ms. Campbell began her report with a brief review of the directives given to the Coordinating Unit by the delegates to the 1993 INDIX meeting. Those given the highest priority were: to continue to produce the DAI CD-ROM; to actively promote the DAI CD-ROM; and to find ways to promote NGO participation in DAI exchange. Other activities suggested for the work plan of the Coordinating Unit included: exploring other means of disseminating the data on the DAI CD-ROM; improving the search software of the DAI CD-ROM; and identifying key institutions in developing countries as focal points for training and distribution of the DAI data.

One other issue of importance to INDIX came out of the last general meeting, relating to the Advisory Committee on the Co-ordination of Information Systems (ACCIS), a coordinating body which collected and published information from the United Nations and its specialised

agencies. ACCIS was one of the founding members of INDIX and the data that was collected by ACCIS was a valuable component of the DAI database. The INDIX members were sad to hear at the 1993 meeting that ACCIS would shortly be discontinued. The goal of the Coordinating Unit became, in the absence of ACCIS, to work with the United Nations to find a way to collect this very valuable information directly from the UN agencies for inclusion in DAI.

Production and improvement of the DAI CD-ROM: The report continued with a brief history of the DAI CD-ROM. In 1991, the INDIX founding members invited representatives of the development assistance community to meet in Paris and discuss ideas for the facilitation of information exchange. The CEFDA format was presented to this meeting for the first time. Out of this meeting came the recommendation that the Coordinating Unit should collect data from the development aid community, in the CEFDA format, and publish it on CD-ROM. Two trial editions of the CD-ROM were published in 1992 and 1993. At the second general INDIX meeting in 1993, the Coordinating Unit was asked to continue to enhance the CD-ROM and to explore ways of marketing this product.

The first four editions of the CD-ROM featured a software called ROMWARE. The Coordinating Unit was very fortunate in having the assistance of USAID in the production of these editions; as their contribution to INDIX, USAID allowed the Coordinating Unit to use their license for the Romware software and donated the services of their consultants to author the data and put it on the CD-ROM. However, DAI users indicated that ROMWARE possibly was not the most satisfactory software for this type of data; to quote one user: "I think the software lets the data down". So, following the directive of the delegates to the 1993 meeting, the Coordinating Unit looked for another publishing option. After investigating many options -- including commercial vendors -- the Coordinating Unit entered into a partnership with an organization called Dataware Technologies Inc. to use their software CD-Answer as a search engine for the CD-ROM. CD-Answer has several features which will be attractive to CD-ROM users. It runs on both DOS and Windows, in both single-user and multi-user environments, and contains a number of search and output options which will make it easy to use. A prototype of the next edition, the 5th DAI CD-ROM, will be demonstrated during the meeting.

At present, 25 organizations contribute data to the CD-ROM, some of these on behalf of other organizations. These latter include the SPAAR Secretariat; the OECD's Development Assistance Committee whose Creditor Reporting System represents the activities of bilateral organizations; and IDRC which collects data from like-minded agencies that engage in funding research projects, in its IDRIS database. One agency which contributed data to INDIX on behalf of other agencies, and can no longer do so because it no longer exists, is ACCIS. When it was discontinued as of December 1994 another committee, the Information Systems Coordinating Committee, was established by the UN. At this time, there is no indication that the ISCC will have the mandate to continue all of the functions of the ACCIS. Therefore, with the support of the Chairman of the ISCC, the Coordinating Unit approached the United Nations Secretariat and the UN specialised agencies directly, soliciting their data for the DAI database. The response has been very positive; there is a definite interest in this community to continue to provide UN data in a collected and harmonised format. On the fifth edition, the UN contributors include the World Food Programme, International Fund for Agriculture (IFAD),

World Health Organization (WHO), World Meteorological Organization, the UN Fund for Population Activities (UNFPA) and the UN Centre for Human Settlement (Habitat). The largest contribution to date has been from the UN Development Programme (UNDP) which gave to the DAI database almost 40,000 records of activities over the past 20 years, a very generous contribution. International Labour Organization (ILO), Unesco and UNICEF will contribute their data to the 6th edition of the DAI CD-ROM, and other UN agencies have expressed interest in becoming part of this initiative.

Other new contributors to the DAI database are the Association of Universities and Colleges in Canada; Australian Centre for International Agricultural Research (ACIAR); and Centre de coopération internationale en recherche agronomique pour le développement (CIRAD).

Promotion and marketing: Marketing and promotion of the DAI CD-ROM has been accomplished through the IDRC mailing list of more than 2,000 organizations and through its periodical, Reports; through the IDRC Library's DDBS (Development Data Bases Service); through some of the better-known directories of databases including those published by Gale, Meckler and TFPL; through the Logibase database of SDM, an organization based in Quebec, Canada; and through the efforts of INDIX members. Dataware Technologies Inc., the organization that is publishing the CD-ROM, also will do some work in publicising the CD-ROM. Distributorships are being negotiated with two commercial agencies who will promote and sell the CD-ROM.

Exploring different ways of disseminating the DAI information: At the 1993 meeting, the delegates suggested that the DAI information could be distributed on diskettes and tapes, as an alternative to the CD-ROM format. However, given the size of the database (over 135,000 records on the current edition), this was impractical. Since the last meeting, the Internet has emerged as a powerful new engine for information dissemination, and the Coordinating Unit has explored ways in which the Internet can be used to spread information about INDIX, CEFDA and DAI, and to act as an alternative medium for the DAI database. Currently, INDIX has a home page on the World Wide Web and a Gopher menu; in the near future, the Web site will be expanded, and the Coordinating Unit will establish links to other Web sites of interest to INDIX members. From the Web site or Gopher menu, searchers can access the INDIX databases. So far there are three; the DAI database which is available on a subscription basis only; a sample of the DAI database, a subset of about 2500 records which any visitor to the site may search free of charge; and a database called DDAIS - Director of Development Information Activity Systems. As part of its contribution towards the 1993 INDIX meeting, the OECD Development Centre compiled a database of databases, i.e. information systems belonging to about 80 development aid organizations. The information was published and distributed at the meeting. This was updated by the Coordinating Unit in the summer of 1995 and is now available free of charge as the DDAIS database, at the same site as the DAI database.

Finding ways to promote NGO participation in DAI exchange: The majority of the INDIX members, and especially the contributors to DAI, have until now been bilateral and international development aid agencies. In an effort to discover how INDIX might be of use to

non-governmental organizations involved in development, both in industrialised and developing countries, and how we might encourage the active participation of these agencies in INDIX and DAI, the Coordinating Unit contracted Mr. Simon White to conduct a study into the level of interest, and the need for, development activity information exchange within the NGO community. Mr. White will present the results of his research later during the meeting.

Another venture that has as one of its objectives the establishment of closer connections between NGOs and developing-country organizations is the INDIXLink listserv. This service -- a mailing list on the Internet to which anyone may subscribe -- was inspired by questions which were directed to the Coordinating Unit from developing-country organizations and researchers. For example, the Coordinating Unit was asked by a developing-country researcher where to find information or databases on small business promotion in less-developed countries. While the Coordinating Unit may not be able to provide answers to every question, the INDIX membership includes more than 700 organizations, and must comprise a vast body of knowledge on any aspect of development. The purpose of the INDIXLink listserv is two-fold; to provide a question and answer service, through which any subscriber may ask a question about development; and to promote information about the subscriber's organization, products, conferences and other activities. The listserv is moderated by the Coordinating Unit. For those who do not have access to the Internet, the Coordinating Unit will act as an intermediary, posting questions or information on the listserv for these users, and relaying the replies by fax or letter.

Other activities: The Coordinating Unit has been working to develop tools and establish procedures to enable people to use the CEFDA and the DAI database more efficiently. One such procedure is to make available ISO codes that are used by the CEFDA, for country names, currency names and language names, in machine-readable format on diskette (as well as in the CEFDA handbook). The Coordinating Unit publishes a Newsletter on a quarterly basis; as well news about INDIX activities, recent contributions have included information about the Bellanet International Secretariat, the CIESIN consortium and IDIN among others.

The future of INDIX: INDIX is supported by sales of the CD-ROM, membership subscriptions for USD \$5,000, and contributions in kind. UNFPA, the World Bank and ILO have subscribed or will subscribe to \$5000 memberships. USAID assumed a large part of the costs of producing the first four CD-ROMs. OECD Development Centre and Danida have very generously paid for the costs of the general meetings: OECD Development Centre for the first two meetings, and Danida for this one.

The major supporter of INDIX, however, is IDRC. As host of the Coordinating Unit for INDIX, IDRC subsidizes INDIX through cash payments as well as through supplying office and computer facilities and paying the salaries of the Coordinating Unit staff.

This situation will change on April 1, 1997, when the level of IDRC's support must be drastically reduced to comply with projected budget cuts. IDRC will continue to be a subscribing member of INDIX, but can no longer provide the facilities that INDIX has been enjoying for free.

The Coordinating Unit must, therefore, become self-supporting within a very short time. During this meeting, and especially during the workshop on marketing techniques, the Coordinating Unit will seek recommendations from the delegates as to how this may be accomplished.

End

PRESENTATIONS

I. Demonstration of the new DAI CD-ROM

Mary Campbell of the Coordinating Unit for INDIX introduced the new software chosen for the DAI CD-ROM -- CD-Answer, developed by Dataware Technologies Inc -- by giving a demonstration of the 5th DAI CD-ROM, the first edition to use this software as a search engine.

II. Progress reports on studies of information exchange problems

Mary Campbell also reported on the progress of studies and consultancies commissioned on problems affecting the exchange of information through CEFDA and DAI. (A report on one of these studies was presented by Mr. Simon White of OXFAM UK -- see III below).

- **Standardization of institution names:** Lack of standardization in the use of institution names -- e.g. variant spellings, incorrect spellings, use of acronyms instead of names, different language versions -- leads to difficulty in finding information about a particular institution. The Coordinating Unit was asked to compile a file of names of institutions which fund development aid, to be used as a CEFDA authority for the Funding Organization, Executing Entity and Funding Source fields. Originally intended to contain only several hundred of the best-known international development aid organizations, at the request of the INDIX Steering Committee the list will be expanded to include any organization which is listed 10 times or more in the DAI database as being a funding organization. The list is based on the Institution Data Base (IDB) of IDRC. The list will contain: the name of the institution in English, in the local language (if not English) and, if the institute is affiliated with the United Nations, in French and Spanish; the acronym of the institution; and, if known, the institution's former name(s). A feature will be added to the interface of the DAI CD-ROM to permit DAI users to search on any one of these elements of the institution identification.
- **Regional groupings:** The standard used by the CEFDA for regional groupings is the set of regional groups devised by the ACCIS. The Coordinating Unit was asked to invite CEFDA/DAI users to submit new regional categories for inclusion in the CEFDA standard. A questionnaire was distributed to CEFDA users, and more than 40 responses were received. The suggestions will be submitted to a working group for evaluation. If funds permit, the possibility of enabling DAI CD-ROM users to create their own regional groupings for use when searching the DAI CD-ROM will be explored with the developers of the DAI CD-ROM's new search engine.
- **Sector classification:** The Coordinating Unit has contracted a consultant to work on a sector classification scheme for CEFDA and DAI. The consultant has produced a first draft of the classification scheme, and has delivered this draft to the Coordinating Unit.

III. Presentation of a survey of non governmental organizations

One of the tasks that the INDIX Steering Committee set itself as a result of the 1993 General Meeting was to identify non governmental organizations (NGOs) that would be interested in exchanging and using development activity information. To this end, Simon White of Oxfam UK was asked to carry out a survey of NGOs.

In his presentation of the report of the survey, Simon White noted in particular that there was considerable interest in both the activities of large donors and those of other NGOs. Respondents already belong to a wide variety of networks. The subject area in which there was most interest was agriculture. Respondents would use INDIX information for research purposes and to help them in targeting applications for funding. There seemed to be the same rate of access to CD-ROM readers in the developing countries as in Europe. He commented that although many respondents said they would be able to convert their data to another format for exchange purposes, further research would be needed to know their reactions to the CEFDA.

Mr. White's report is circulated with the present report, as Annex E.

IV. Panel presentations on three aspects of development information: historical, evaluative and forward looking

1. Historical information

Terry Gavin introduced the panel presentations, the aim of which was to provide points for discussion for the work of the meeting.

He described what had been done so far in INDIX in disseminating current and historical information. Although related sectoral and geographical networks exist, INDIX is the only significant initiative to collect information from all parts of the development assistance community.

He pointed out that the dramatic changes taking place in development assistance organizations and in the whole development assistance environment mean it is more than ever essential for development assistance agencies not to compete but to cooperate and to coordinate their activities. One way to do this is share information on both what we plan to do and what we have done.

He reiterated the call for shared information made by Stephane Hessel, quoted earlier by Ms Wormell, and recalled the words of Keith Bezanson, President of IDRC, in his keynote address to the 1993 general meeting of INDIX, in which he proposed three actions that the development community should undertake to face the challenge of the current crisis - that we should think how to empower societies to manage and control change; that we should cooperate and be willing to suppress the individual and territorial interests of our

organizations; and that we should inform others of our successes in order to create the public and political will for development cooperation.

The DAI CD-ROM, which provides a framework for sharing information, now seems well established. But there are further challenges for INDIX - marketing, self sustainability, finding ways to change mindsets in organizations that are reluctant to recognize the costs of obtaining information. It is now time to add forward planning and evaluative information to what is already being shared. New technologies facilitate transfer of information, but we need to concentrate our efforts on content.

2. Planning information

As an example of a programme for the sharing of planning information, David Balsen presented **Bellanet**, an initiative among several development assistance agencies to communicate electronically with each other about what they are planning to do. He described the initiative, which is still in its pilot phase, as "a multi-donor-funded, joint initiative to try to increase the impact and relevance of the development assistance community by promoting and supporting more collaboration, with an informal and forward looking slant, based on communication and utilizing existing technology". Bellanet had its origins in efforts by various organizations to focus on sustainable development issues. It is the outcome of two meetings of development assistance agencies held at Bellagio in November 1993 and September 1994.

Bellanet structure includes a steering committee, a secretariat and an Advisory Group on Information Needs (AGIN). The first meeting of the interim steering committee, comprising representatives from 5 organizations - SIDA-SAREC, UNDP, IDRC, the McArthur Foundation and the Netherlands DGIS, met in Stockholm in January 1995.

The Bellanet Secretariat is in IDRC. AGIN will consist of a number of individuals who will work together electronically and will advise and provide feedback to member agencies as well as evaluation of the initiative. It is envisaged that support for AGIN will be in UNEP. The structure also includes ad hoc technical groups within agencies that act as agents of change within their organizations.

Member organizations contribute funds or in kind. Membership is presently restricted to agencies that are development assistance providers, but if successful, the project could be extended to recipient communities.

The activities of Bellanet are focused on communications using existing technology. The Secretariat acts as a centralized communications service, and provides dialogue design, capacity development, moderation support, information support and technical support. Dialogues cannot take place unless the appropriate communications technology is in place and it has been found that some organizations have been slow to adopt and adapt to e-mail. Another component will be a common directory of people active within each programme area.

There are no recipe books for what Bellanet is trying to do. An important outcome will be the evaluation of the project itself and the lessons learned.

3. Evaluative information

In a paper presented to the meeting, Lee White observed that evaluation information, or "development experience" information is playing a greater role in the current resource-poor environment which has forced many organizations to take a business approach to development, with emphasis on managing for results, customer satisfaction and personal accountability for the failure or success of specific development programmes. Development experience information provides essential feedback linkages between historical development activities and future development assistance strategies and it is now time for INDIX to consider incorporating this type of information in its information exchange programme.

The text of Mr. White's paper is attached as Annex F of this report.

V. Electronic delivery of development information: the next stage

In his paper, John Lindsay, Reader in Information Systems Design at Kingston University in the UK, forecasts the various impacts of electronic delivery of information in the future.

The text of Mr. Lindsay's paper is reproduced in Annex G of this report.

VI. What is the vision of INDIX?

As an introduction to a plenary discussion session, Maury Brown presented the meeting with a range of issues that could shape the future of INDIX. These included:

- developing strategies for financing INDIX;
- what kind of organization INDIX will be in the future; e.g. *Will we continue to operate with a permanent coordinating unit? Do we continue to be a database producer? Do we focus on gathering data or do we use INDIX as a forum for communicating with and helping each other?*
- improving awareness of the existence of INDIX;
- making more use of electronic communications;
- looking more closely at evaluative data.

Discussion is summarized later in this report.

WORKSHOPS

Four workshops were held in parallel sessions. The rapporteurs' reports, reproduced here, were presented in a plenary session.

Working Group 1: Impact of new technology on information management

Led by: Ron Davies, Bibliomatics Consulting

The discussion paper prepared for this workshop by Mr. Davies is reproduced in Annex H of this report.

The working group made the following recommendations:

A. Electronic dissemination and access

1. Continue to publish development activity information on CD-ROM.
2. Continue to make the development activity database available on the Internet.
3. Consider creation of finding devices e.g. a "development" home page, taking into account other activities (in coordination with the ELDIS programme of IDS and EADI which is already working in this area).
4. Encourage agencies to establish their own links to INDIX resources on the Internet.
5. Continue to maintain a central database of contributed information and monitor new developments over the long term in terms of decentralized databases.
6. Monitor developments in common search interfaces and protocols that might be useful for INDIX in future.
7. Develop guidelines and training aids for INDIX partners concerning IT capacity, Internet developments, and use of the Internet.

B. User Issues and Interfaces

1. Carry out a user survey including information on current and new technologies, new interfaces, uses of the current CD-ROM, and usefulness of the data content, particularly for information on usage in LDCs.
2. Track Internet usage and (if possible) CD-ROM usage, of the current development activity database.

Other Ideas

1. Encourage informal information sharing by using mailing lists and cooperating where appropriate with other user initiatives such as Bellanet.
2. Determine the completeness of coverage of the database in terms of all development information.
3. Look into alternatives to CEFDA as a way to bring disparate databases together (e.g. full text with project information records).

Working Group 2 : Funding and marketing strategies for INDIX

Led by: Eleanor Frierson, ILO

The Working Group recognized that funding and marketing strategies are interlinked. Therefore, discussions and recommendations for both issues are combined. In this summary the basic assumptions for a strategy are indicated, followed by recommendations for immediate action, actions in the short term (within 1 year) and medium-long term (within 2-3 years).

A. Framework / Basic assumptions

1. **IDRC must operate on a full cost-recovery basis by 1 April 1997.**

IDRC will reduce its present high level of contribution to INDIX by 1 April 1997. Estimated costs for present operations of the INDIX Coordinating Unit are USD \$100,000 - 150,000 per year including overheads.

2. **A strategy of sponsorship combined with income from product sales will be needed.**

The Group considered it not realistic to expect INDIX to operate on a cost recovery basis from the revenue of product sales only. Additional sponsors are necessary to provide a solid base, although income could be increased by effective marketing and further rationalization of products and services.

3. **Assure access to INDIX data by developing-country institutions.**

Strategies should ensure that INDIX products are within financial reach of developing countries institutions.

4. Data quality and utility should be further improved.

Data quality should be further enhanced to attract and maintain interest of users. In addition to provision of data the actual use of INDIX by organisations should be assessed and enhanced.

B. Recommendations for immediate action

1. Adjust pricing structure of products

CD-ROM

- Market CD-ROM like other commercial CD-ROMS. Limit sales to subscriptions (no more memberships or single copy sales);
- Adjust pricing structure for products. (Price per copy would decrease for multiple copies; prices to be determined). For the time being the same price can apply for single and for multi-user licences. This could be revised at a later stage.

Suggested pricing structure:

1 year (2 editions/year)	USD \$500 per subscription, up to 10
1 year (100 copies of 2 editions/year)	USD \$5,000

Internet

- Reduce user time from 60 to 20 hrs per month.
- Maintain price of USD \$250 for a single-user site.

Newsletter / Internet sample database / INDIX-Link

- Remain free of charge

2. Promotion

It is strongly recommended that a short (3 paragraph) brief on INDIX (why, what, where, how) be produced, aimed at managers (rather than database managers). It should make people aware of the relevance of INDIX data by including anecdotal information about how users at different levels found the data useful. This could be distributed and circulated within organisations present and serve as an input for articles in newsletters etc.

C. Recommendations for the short term (within 1 year)

- 1. Examine new names for products (e.g. INDIX/DAI CD-ROM)**
- 2. Engage a consultant to propose a business plan / project proposal for INDIX.**

The following tasks were identified:

- identify needs of different clients for various types of products;

- evaluate the existing programme and products in light of identified needs;
- propose a marketing / pricing strategy;
- develop a draft business plan / project proposal, starting April 1997, possibly for a 3 year period (ready by March 1996);
- request and incorporate comments from the Steering Committee, working groups, etc.)
- complete final proposal (ready by June 1996)
- identify and contact potential sponsors / funding sources (starting June '96)

D. Recommendations for the medium-long term (within 2-3 years)

1. Quality improvement and control

- Improve data quality by further standardization, systematic subject indexing;
- Regularly update INDIX products;
- Continuously evaluate INDIX products and their quality. The products and progress should be recorded and published. The quality of data should be monitored and fed back to inputting centres;
- Ensure funds for continuous quality improvement.

2. Promotion

- Develop a menu of priced services for organisations e.g. subject indexing of projects, translations, clean-up of records;
- Ensure INDIX promotion in relevant meetings;
- Develop linkages/references to INDIX on Internet;
- Convince agencies of added value of publishing their data via INDIX;
- Collect and communicate 'success stories' about using INDIX. Examples could be drawn from case studies;
- Use 'Friends of INDIX' to promote INDIX within other relevant communities.

3. Engage a fundraiser/marketing professional

The tasks of the fundraiser/marketing professional would be to: prepare press releases and text for articles, carry out targeted mailings (post, e-mail, etc.), identify associations/occasions for promotion of INDIX (presentations, demonstrations, distribute material etc.), prepare 'general public' information material.

In response to a question concerning the role IDRC might be able to play after 1977, Terry Gavin replied that he thought it would be wise for INDIX to budget for the cost of funding a coordinating unit wherever it might be. If the members of INDIX would like the Coordinating Unit to remain in IDRC, and if there will still be a place for it there, IDRC would be pleased to continue the coordinating role.

Questions were raised as to whether INDIX would be able to afford both a business consultant

and a fund raising consultant. The latter would be second priority. Fundraising skills used by NGOs could be applied and it should not be forgotten that student interns ("Stagiaires") can be a valuable resource.

Working Group 3: CEFDA and the DAI CD-ROM

Led by: Mary Campbell, Coordinating Unit for INDIX

Members of this group received an introduction to the CEFDA format through the DAI CD-ROM fifth edition, and explored the database on the CD-ROM.

Recommendations:

1. Set up a schedule whereby data for the DAI CD-ROM is solicited from data providers on a fixed schedule so that data contribution can be established in the work schedule of the contributing agency.
2. Look at ways of making the DAI database available on the Internet for the subscriber's entire organization.
3. For the DAI database on the Internet, set up an electronic form to enable the searcher to order a document from the data provider, online (as in Library OPACs).
4. For the field 210 Contact, broaden the terms to permit the contact to be the executing entity, as an alternative to the funding organization.
5. On the DAI CD-ROM, enable word searching on the Country/Region field (e.g. for TAIWAN as well as for TAIWAN, PROVINCE OF CHINA).

Working Group 4: Managing Pipeline Information - Forward Planning Information Sharing

Led by: David Balson, Bellanet International Secretariat

A dynamic discussion within Working Group 4 resulted in the following comments and recommendations:

A. Comments:

1. It is assumed that cooperation / collaboration within the development assistance community is positive, thus efforts to encourage forward planning information sharing are worthwhile. It appears that basically lip service has been paid to date to this goal.

2. There are several different levels of forward planning information sharing: strategic (broad, long-term planning), specific programmes (medium term), and specific projects (short term). This spectrum covers macro information (less sensitive) to micro-level information (potentially more sensitive).

3. Problems related to project/programme evaluation information sharing are similar to those related to forward planning information sharing.

4. These problems are of a technical (reliability, timeliness, standards, maintenance), psychological (trust, competition, loss of flexibility) and legal (privacy, intellectual property, ethics) nature.

B. Recommendations

1. Efforts to tackle forward planning information sharing should focus on the do-able and not on solving the whole issue.

2. An exploration of the experiences of executive information systems (NATO, for example, and the private sector) should be carried out to learn from their forward planning activities.

3. Sources of existing information which could be potentially useful for informing forward planning should be identified and their usefulness quantified (country-level roundtables, consultative groups, East West forums, informal donor groups, UN Triennial Policy Review, corporate documentation).

4. Efforts should begin with a focus on the macro end of the spectrum in a small way.

5. It is recommended that a small experiment be carried out to explore the feasibility of creating a light mechanism for sharing macro-level forward planning information as follows:

- identify six organizations as a sample and use their corporate programme frameworks, annual reports, corporate work plans as sources of data;
- develop a data model and populate it with data from the existing sources
- evaluate its utility for informing forward / strategic planning, keeping in mind the costs of its creation.
- interested individuals from within the INDIX community could carry out this experiment through a virtual working group. Note: the Bellanet International Secretariat is prepared to support this endeavour; the UN Climate Change Convention Secretariat is looking at doing a related initiative in its field of interest.

6. INDIX should provide general information about donors to the recipient community.

Success in moving towards regular sharing of forward planning information will be dependent on a change in organizational and individual attitudes, towards a shared vision where ALL elements within the development community are addressing the challenges in a collaborative fashion.

DISCUSSION

The following points arose from the discussion sessions over the three day period:

Forward planning and evaluative information

Evaluative and pipeline information are essential. It is difficult to separate evaluative and forward planning information because planning should be based on past experience and lessons learned.

There are constraints to sharing pipeline and evaluative information. Donors seem not willing to share pipeline information until the plan is finalized and activity about to start. Although some agencies are sharing evaluative information (some provide access to their evaluation reports, and IDRC has contributed evaluative data from its EVIS system to the DAI CD-ROM), many others either do not have formal evaluation information to share or, if they have it, they are unwilling to risk exposing their own shortcomings by sharing it.

When the CEFDA was being designed, the working group identified 31 constraints to sharing development activity information. Today many of the constraints have been overcome. The lesson learned is that once some organizations started to contribute to the DAI CD-ROM, others overcame their initial diffidence.

Suggestions for beginning to encourage the sharing of evaluative data included:

- Adding a field to the CEFDA which simply says whether or not an evaluation report is available;
- Adding a field stating whether or not the objectives of the project were filled (without going into further detail);
- Creating a database containing only successful projects;
- Designing a format for the exchange of evaluative information containing a minimum set of data elements on which agencies could agree. It could be based on questionnaires used by organizations that already have a methodology in place for gathering evaluative information;
- Using the offer of an evaluation technique model as a marketing tool for INDIX.

Issues arising from the provision of evaluative information include:

- a) It is important to distinguish between describing documents that contain an evaluation report and the act of project evaluation itself. The former is simply bibliographic description and not a problem. Would INDIX wish to become involved in the actual mechanics of project evaluation? INDIX has worked up to now because of its informal structure based on goodwill. If it takes on solving problems of project evaluation it will have to move into different gear.

- b) Before talking of adding an evaluation component we should try to get more information on the CD-ROM about the project itself. Fields for listing major objectives and outputs of a project could be added to the CEFDA; or the abstract field could be made essential.
- c) There is a danger that if agencies know that their evaluation reports will be made available outside the organization, the reports will be written differently.
- d) Even if evaluation information is provided, will it be used by the people designing projects? Is it going to change the way development works?
- e) Even if an organization builds into its project design process a requirement to consult evaluation reports in a similar subject area, the requirement can be viewed as simply bureaucratic and not treated seriously.
- f) Lessons need to be learned from the private sector. There seems a sense of innocence in the way agencies and donors have been managing projects.

CEFDA and data quality

- a) Providing data in CEFDA format is a problem for some organizations. If an organization has to make a great effort to convert data to CEFDA it will not do it frequently and this will make the data less up-to-date. More flexible alternatives would be helpful to these organizations, but less structured data is less valuable and less easy to search. Unstructured full text data might be better than no data if it is the only means to closing the present gaps in coverage of the DAI CD-ROM. Some agencies might prefer to contribute their data in an unstructured form and let the Coordinating Unit structure it and add subject indexing. This could be an income-generating service offered by the coordinating unit.
- b) The quality of data contributed to the DAI CD-ROM is uneven. It is to the advantage of agencies that their data be of high quality. The Coordinating Unit could develop a service, that could be bought by contributing agencies, to improve the quality of data by, for example, assigning subject descriptors as ACCIS did with the UN data. It would be less expensive for the agencies to pay for this service than to do it themselves.

CONCLUSIONS

The Chairman asked participants to propose the actions they will undertake, on their return, to promote INDIX within their own organizations.

1. Ms H.C. Kooijman-Tibbles (Institute of Social Studies, The Hague) will continue to subscribe to the DAI CD-ROM, train librarians to use it, ask departments in her organization that are active in the field whether they have material to contribute to the CD-ROM, and make INDIX known in the library association.
2. Birgitta Mossadek-Sandell (IFLA/ALP Programme at Uppsala University, Sweden) will contact Swedish universities and institutes with programmes in the Third World.
3. Janos Pasztor (UN Climate Change Convention Secretariat) will promote INDIX at meetings he attends, initiate the production of data from his own organization in CEFDA format for the DAI CD-ROM, share experience of work of a module on strategic forward looking information at programme level; and investigate taking out a subscription to the DAI CD-ROM.
4. Alice Watson (OECD Development Centre) will investigate adding a pointer to INDIX on the OECD home page on Internet, promote INDIX at a meeting with NGO partners in November, and insert a notice about INDIX in the Macrothesaurus newsletter.
5. Monica Allmand (International Service for National Agricultural Research, the Netherlands) will investigate taking out a subscription to the DAI CD-ROM and publicize INDIX in her institution.
6. Hassane Bendahmane (UNEP) will recommend in his mission report the purchase of 50 copies of the DAI CD-ROM; upon receipt of the promotional material on INDIX from the Coordinating Unit, he will get it translated into the other five official UN languages and will send the translations to anyone who is interested; he will explore the possibility of distributing the UNEP database of 6700 institutions dealing with environmental information by placing it on the DAI CD-ROM on the understanding that UNEP would pay half the cost of production; and he will ask UNEP colleagues for other input to the DAI CD-ROM.
7. Eleanor Frierson (ILO) will buy 50 copies of the DAI CD-ROM, write to ILO department heads and regional and external office directors and inform them that ILO is a member of INDIX, insert an article about INDIX in "World of Work" and labour related listservers, report to the Secretary of the ISCC on issues concerning UN agency participation, work with Linda Schieber on strengthening the information component of the Turin Centre course for senior UN system field staff and demonstrate the DAI CD-ROM at ILO Library workshops and other meetings.

8. David Balson (Bellanet International Secretariat) will inform absent Bellanet members of the outcome of the meeting, promote INDIX at his Bellanet presentations, commit resources to help in the design and evaluation of forward looking data and provide anecdotes to help the Coordinating Unit prepare promotional material.
9. Frans Neuman (International Agricultural Centre, Wageningen) will raise awareness of INDIX among organizations in the Netherlands.
10. Mary Ewens (Conrad N. Hilton Fund for Sisters, United States) will contact the umbrella organization of Catholic foundations in the United States, insert an article in the newsletter of the international section of the Council on Foundations and make a presentation at their annual meeting.
11. Reinhard Woytek (GTZ-ISAT, Germany) will include information in GTZ publications.
12. Lee White (USAID) will promote INDIX at USAID through newsletter articles, on the Worldwide Web page, at the USAID Library, through the local chapters of the Society for International Development, through local universities that have development programmes and through the AID Multimedia Development Studies programme.
13. Linda Schieber (UNDP) will order 50 copies of the DAI CD-ROM for those UNDP country offices equipped to use it, and see that it is made known in developing country organizations through the country offices. She will also promote it through UNDP sponsored training courses at the ILO's Turin Centre attended by senior level field staff responsible for developing policy.
14. Terry Gavin (IDRC) will intensify his campaign to keep INDIX on the minds of IDRC senior management.

The Steering Committee will draw up the terms of reference of the suggested business consultant and would welcome suggestions concerning the selection of the consultant.

Chairman's closing remarks

Maury Brown outlined the shape that INDIX has taken, from being an idea that attracted interest from a wide variety of people among whom it was difficult to find a common ground, through its experimental phase to its production phase. It has now become a network with a solid and knowledgeable membership.

He saw the following shape for the future:

- there will be increased electronic communication among the members of INDIX;
- regional workshops will be held to raise awareness among organizations that were not able to come to the General Meetings. The first such workshop will probably be in

Manila, hosted by the Asian Development Bank. Similar workshops could be held in Africa, Latin America and the Caribbean;

- the INDIX Steering Committee will try to meet more frequently, holding its meetings in conjunction with the regional workshops;
- there will be more linkages with partners in other NGO and Foundations networks;
- more data will be added to the database, and the CD-ROM will be made more effective with the addition of pipeline and evaluative information. If the member states agree, data could be added from the DAC evaluation database.

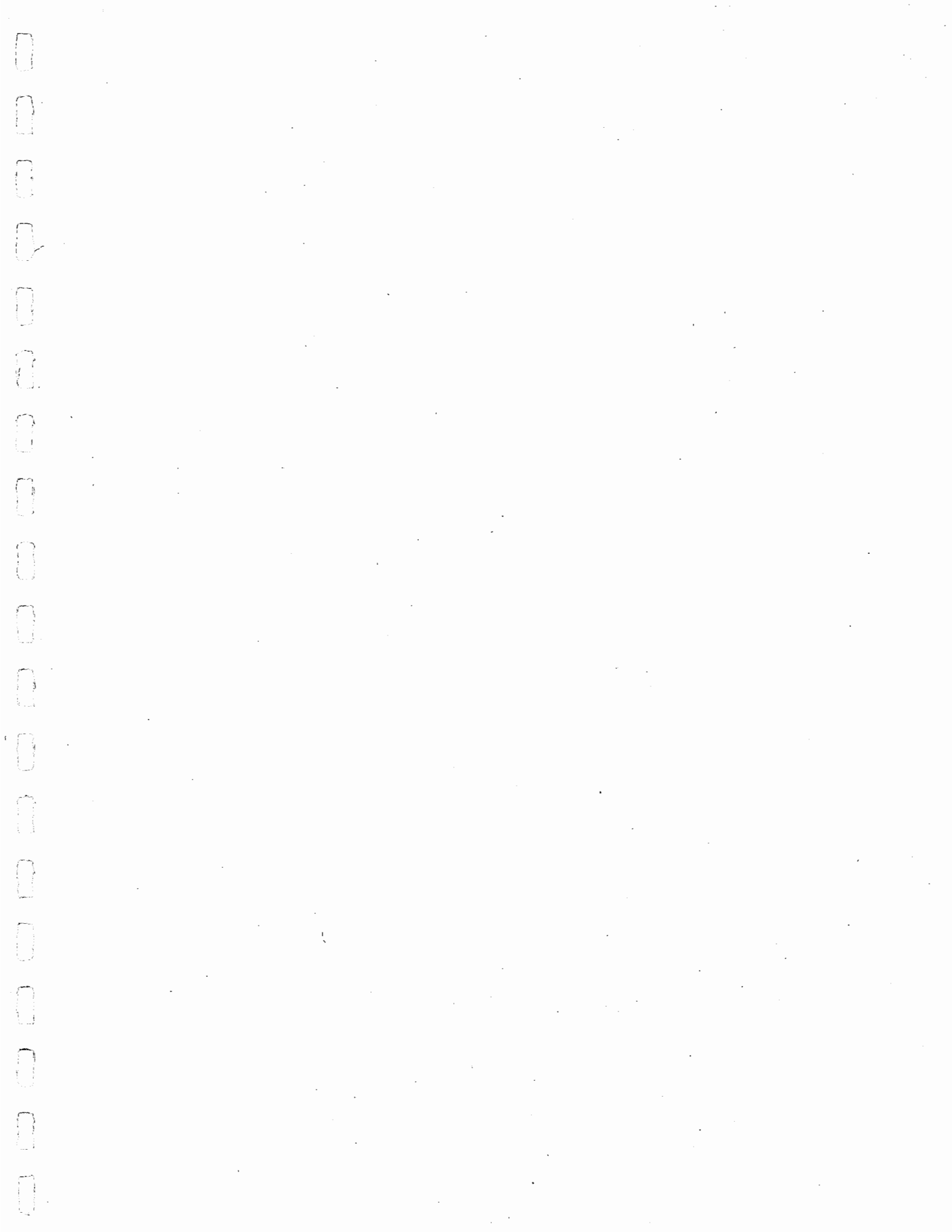
He concluded by saying that, by taking a small step at a time, INDIX has reached further than it expected to. It is true that INDIX is not known widely, but it is starting to be known. If just one programme has been improved because of the sharing of information, the effort put into INDIX will have been worthwhile.

ANNEX A

**THIRD GENERAL MEETING OF THE
INTERNATIONAL NETWORK FOR DEVELOPMENT
INFORMATION EXCHANGE (INDIX)**

**Copenhagen
13-15 September 1995**

Provisional Agenda



Preliminary Agenda

**International Network for Development Information Exchange (INDIX)
Third General Meeting**

**Hosted by : Danish International Development Assistance (DANIDA)
Conference Centre of the Ministry of Foreign Affairs
Asiatisk Plads, Copenhagen, Denmark 13-15 September 1995**

Wednesday, 13 September 1995

- 9:30-10:00 Registration
- 10.00-11:00 Opening of the meeting - Maury Brown (USAID), Chair, INDIX Steering Committee
- Address - Peter Bruckner, Director of Multilateral Affairs, DANIDA
- "Information specialists as mediators and integrators in the management of development information resources" presented by Dr. Irene Wormel, Chair, FID Education and Training Committee and Director, FID/ET International Clearinghouse.
- 11:00 Coffee
- 11.30 Report from the Coordinating Unit for INDIX - Mary Campbell
- 12:30-14:00 Lunch
- 14:00 Reports on working groups
- 15:00 Coffee
- 15:30-17:30 "What is the Vision of INDIX?" - presented by Maury Brown, INDIX Chairman
A discussion covering such questions as - What is sharing? - Who should we be serving? - How can we better engage the NGO community? - How can we involve the developing countries?
- Evening Dinner at Tivoli hosted by DANIDA

Thursday, 14 September 1995

9:30 "Electronic Delivery of Development Information - the Next Stage" presented by John Lindsay, University of Kingston, UK

10:30 Coffee

11:00 Panel discussion - "Three aspects of development information : historical, evaluative and forward-looking".

Panel members: Terras Gavin, IDRC; David Balson, Bellanet International Secretariat; and Lee White, USAID

12:30-14:00 Lunch

14:00-17:30 **Workshops - held in parallel sessions**

- How new technologies have affected information management (led by Ron Davies)
- Funding and marketing strategies for INDIX (led by Eleanor Frierson)
- CEFDA and DAI CD-ROM usage (led by Mary Campbell)
- Managing pipeline information (led by David Balson)

Friday, 15 September 1995

9:30 Report from workshops

10:30 Coffee

11:30 Future Directions (based on discussions begun Thursday morning)

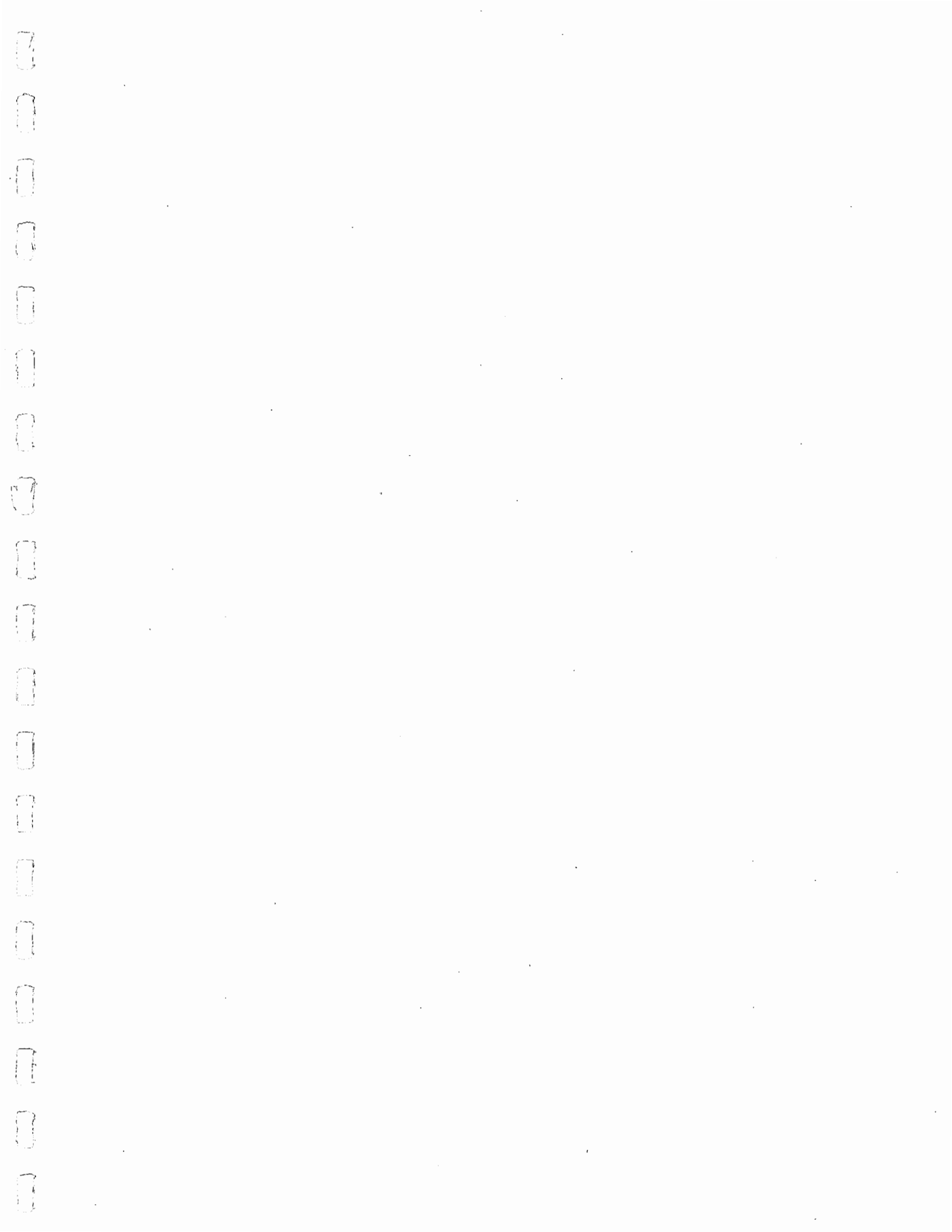
12:30 Summary and closure

ANNEX B

**THIRD GENERAL MEETING OF THE
INTERNATIONAL NETWORK FOR DEVELOPMENT
INFORMATION EXCHANGE (INDIX)**

**Copenhagen
13-15 September 1995**

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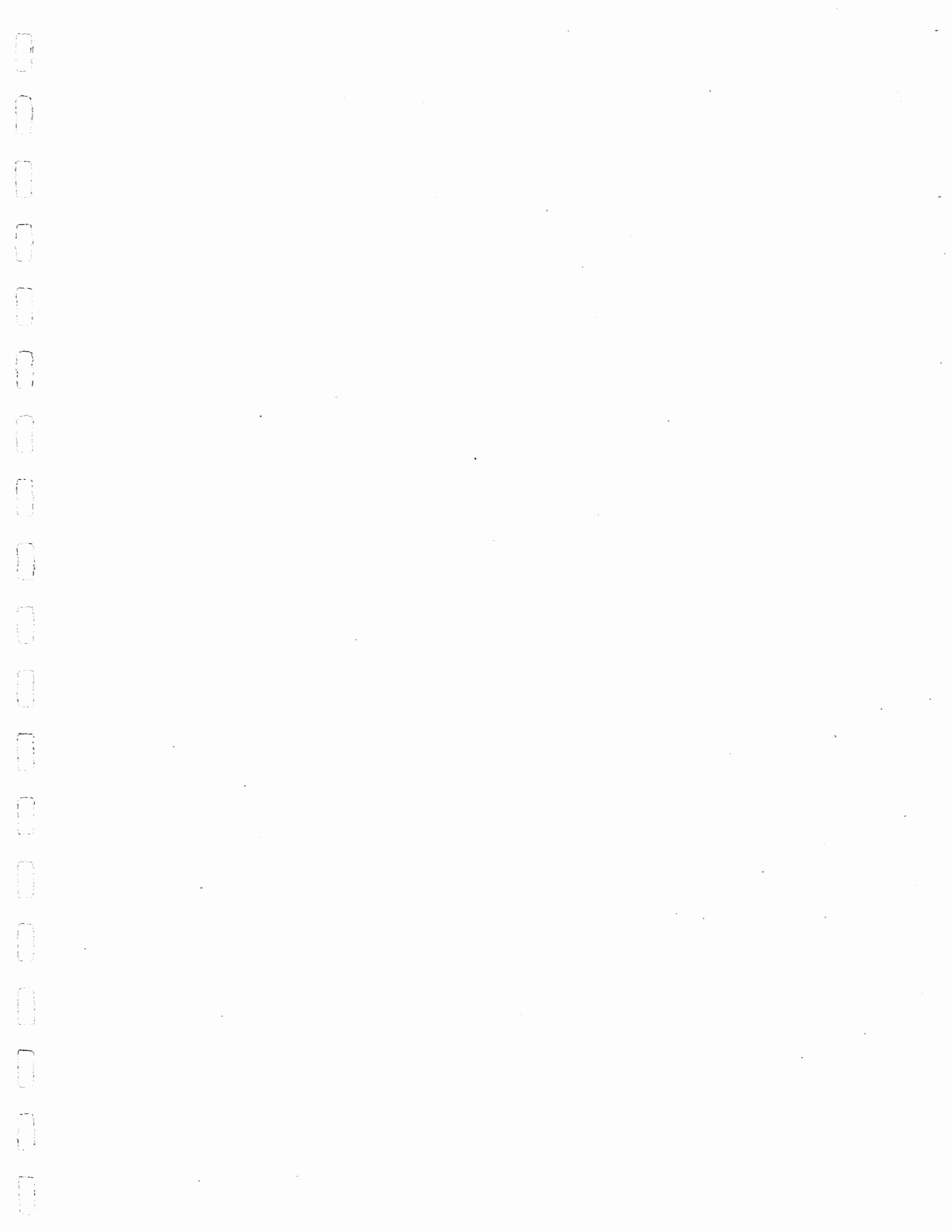
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ANNEX C

**THIRD GENERAL MEETING OF THE
INTERNATIONAL NETWORK FOR DEVELOPMENT
INFORMATION EXCHANGE (INDIX)**

**Copenhagen
13-15 September 1995**

Financial Report 1994-1995



Coordinating Unit for INDIX Financial Report for 1994-1995

Income

Received from sales of subscriptions to CD-ROMs ¹	24,330
Contributions from INDIX members	150,500
Balance in account	<u>53,830</u>
Total:	<u>228,660</u>

Contributions from INDIX Members

U.S. Agency for International Development assistance with the production of the DAI CD-ROM.....	20,000
Danish International Development Assistance (Danida) expenses of hosting the third general meeting September 1995.....	5,900
International Development Research Centre expenses of operating the Coordinating Unit, including salaries, administrative costs and some travel ²	95,800
and cash supplements.....	<u>28,800</u>
Total:	<u>150,500</u>

Expenditure

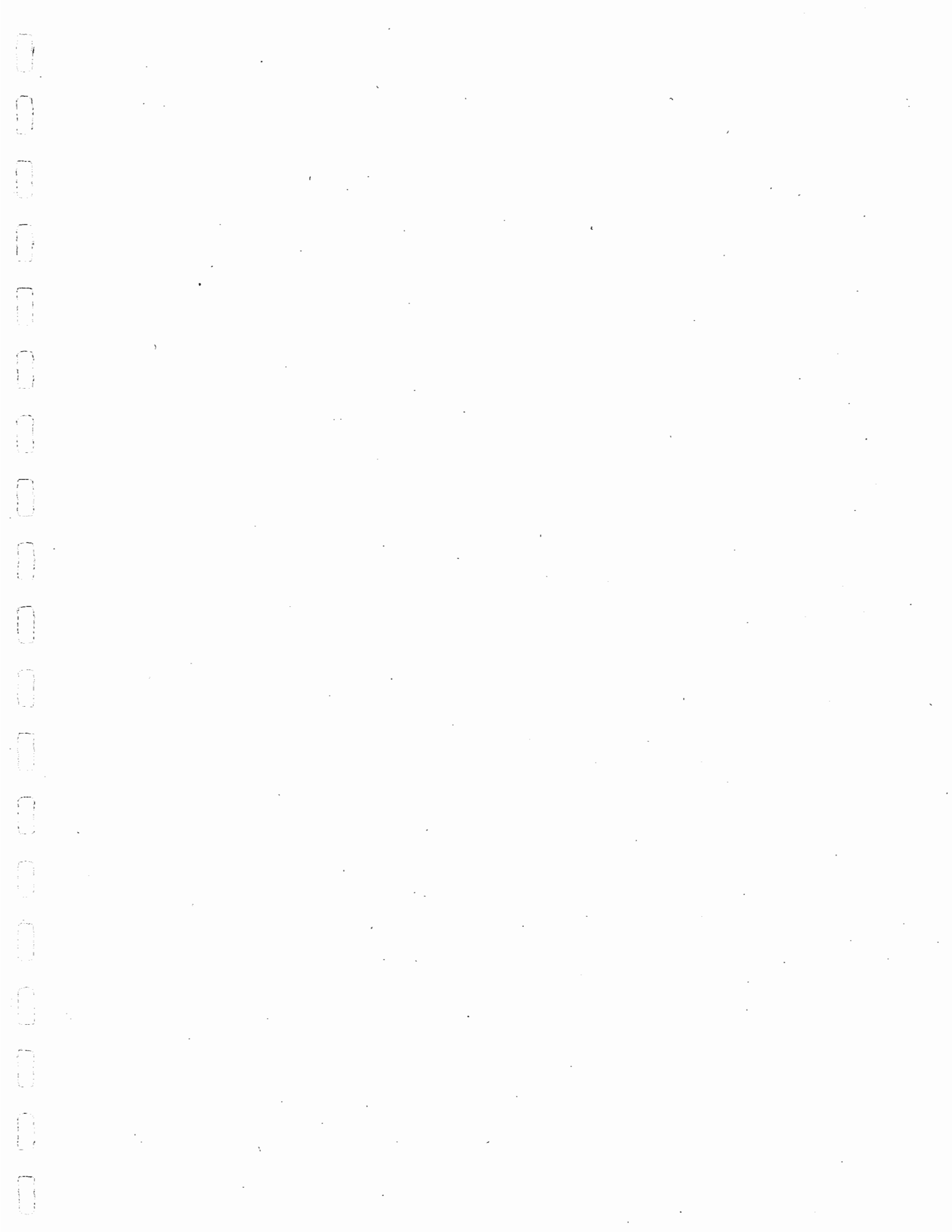
Production of 3rd & 4th editions of the DAI CD-ROM ³	28,760
Production of 5th & 6th editions of the DAI CD-ROM	19,395
Publications, marketing and dissemination	23,365
Consultancies	26,800
Travel	19,150
Capital equipment	6,140
Salaries and operating expenses	64,800
Telecommunications, mail and consumables	24,000
General meeting 13-15 September 1995	<u>5,900</u>
Total:	<u>218,310</u>

Balance remaining: **10,350**

¹ World Bank and UNFPA purchased Sustaining Membership subscriptions at USD \$5000.

² Does not include: costs of office space and overheads contributed by IDRC; costs of travel of INDIX Steering Committee members to meetings of the Steering Committee.

³ Includes one-time license fee for ROMWARE software.

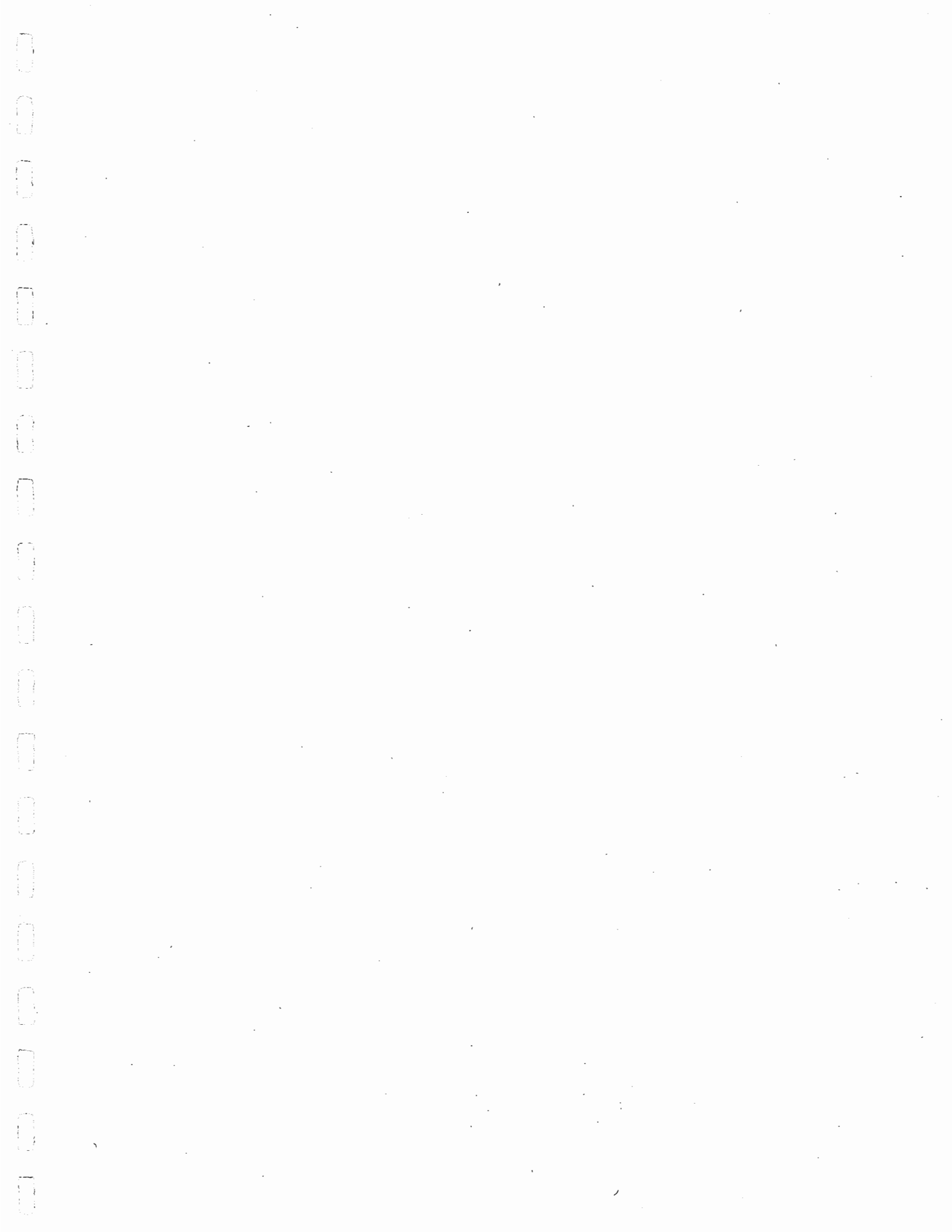


ANNEX D

**THIRD GENERAL MEETING OF THE
INTERNATIONAL NETWORK FOR DEVELOPMENT
INFORMATION EXCHANGE (INDIX)**

**Copenhagen
13-15 September 1995**

Proposed Future Budget and Work Plan



Proposed Budget for INDIX Activities 1996-1999

At the recommendation of the Working Group on Funding and Marketing Strategies for INDIX (Third INDIX Meeting, Copenhagen, September 1995), a project proposal was developed for the purpose of soliciting funds to continue and expand the INDIX program. The budget and work plan drafted for the proposal are shown below.

For fiscal year 1996-1997, IDRC will cover the costs of Salary, Travel, Support Services and Overhead.

All amounts are in US dollars.

	1996/97	1997/98	1998/99	Total
EXPENSES				
Salaries				
- Coordinator	75,000	78,750	82,700	236,450
- Technical Assistant	50,000	52,500	55,125	157,625
Capital Equipment	0	8,000	5,000	13,000
Consultants	40,000	75,000	30,000	145,000
Travel	20,000	30,000	25,000	75,000
Dissemination	90,000	95,000	110,000	295,000
General Meeting		5,000		5,000
Administrative Office Costs	25,000	27,000	30,000	82,000
Overhead	30,000	37,125	33,800	100,925
Total Expenses	330,000	408,375	371,625	1,110,000
INCOME				
Sales Revenue	(57,500)	(62,500)	(67,500)	(187,500)
IDRC Contribution	(172,000)	0	0	(172,000)
Funding Required	100,500	345,875	304,125	750,500

Budget Notes

Salaries: Salaries are calculated based upon retaining the Ottawa location of the Coordinating Unit. A 5% increase per year is assumed.

Capital Equipment: There will be a requirement to replace two microcomputers and a printer during the course of the project.

Proposed future budget and work plan

Travel: The travel line item will cover the cost of trips made by the Coordinating Unit staff to INDIX Steering Group meetings (semi-annual) and general meetings of INDIX participants (biennial) as well as to donor institutions for presentations, demonstrations, data acquisition.

Dissemination: This includes the cost of the publication of four newsletters per year, the production of two editions of the CD-ROM, the cost of general meetings and the production of training material as well as marketing and promotion of products and services.

Administrative Costs: This includes general administrative costs such as clerical help, accommodation (\$7,000 per year), mailing, telecommunications and host computer time.

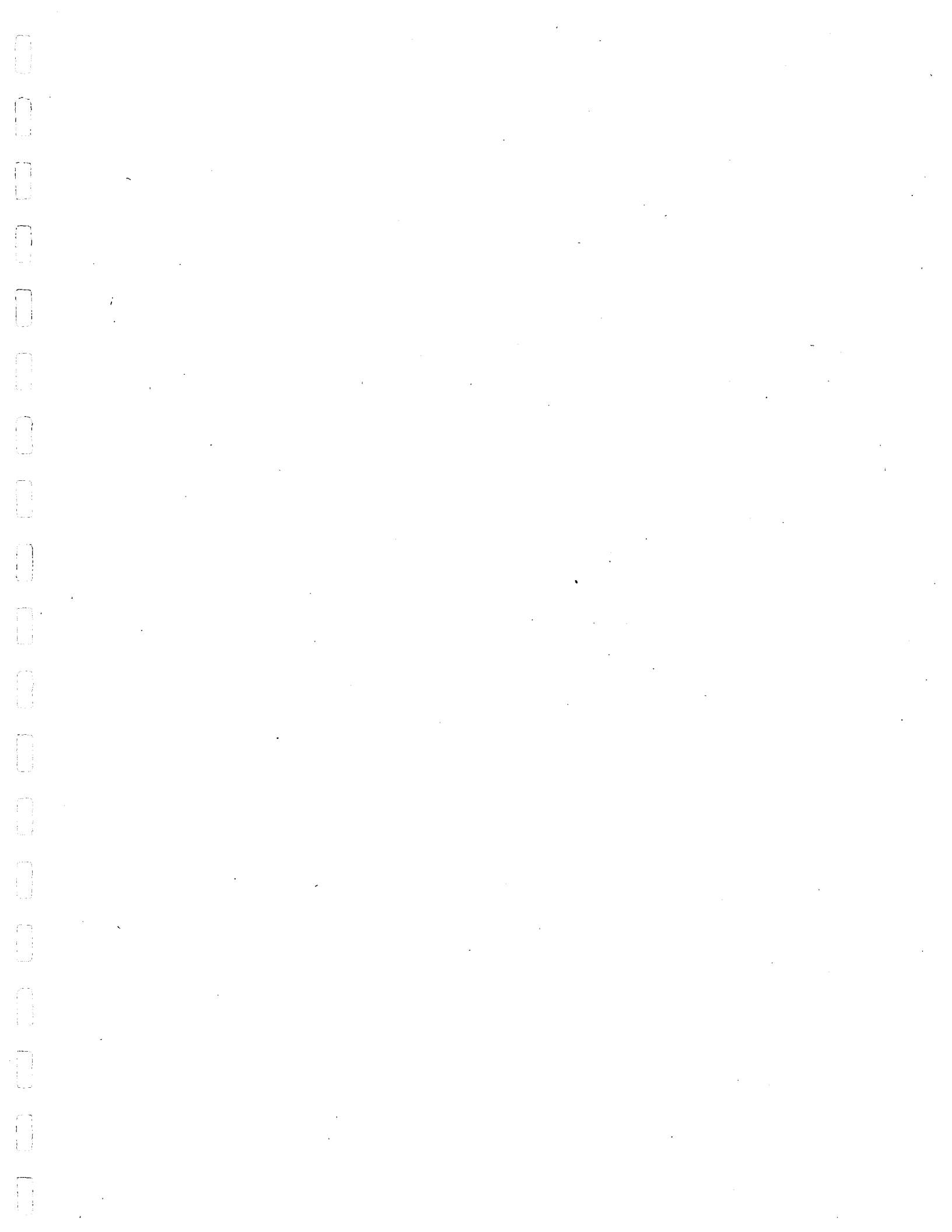
Overhead: An administrative overhead of 10% is assumed on expenditures.

Sales Revenue: Revenue generated from the sale of products and services, CD-ROM and Internet subscriptions, as well as donor memberships is estimated conservatively. The fee structure for one year subscriptions to the CD-ROM (i.e. two editions) is \$500 for up to 10 copies and \$5000 for 100 copies or more. The cost for Internet access is \$250 per year with a limit of 20 hours access per month.

Contributions: For 1996/97, IDRC will cover the costs of Salary, Travel, Support Services and Administrative Overhead.

Proposed Work Plan for INDIX Activities 1996-1999

Activity	Year 1 (96 - 97)				Year 2 (97 - 98)				Year 3 (98 - 99)			
	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Revise CEFDA format												
Update INDIX-DAI and DDAIS databases												
Harmonize sector classifications												
Publish Newsletter												
Publish INDIX-DAI CD-ROM												
Hold General Meeting												
Hold Steering Cttee. Meetings/Seminars												
Evaluate INDIX activities												
Develop evaluative information methodology												
Develop planning information methodology												
Establish Electronic Resource Centre												



ANNEX E

**THIRD GENERAL MEETING OF THE
INTERNATIONAL NETWORK FOR DEVELOPMENT
INFORMATION EXCHANGE (INDIX)**

**Copenhagen
13-15 September 1995**

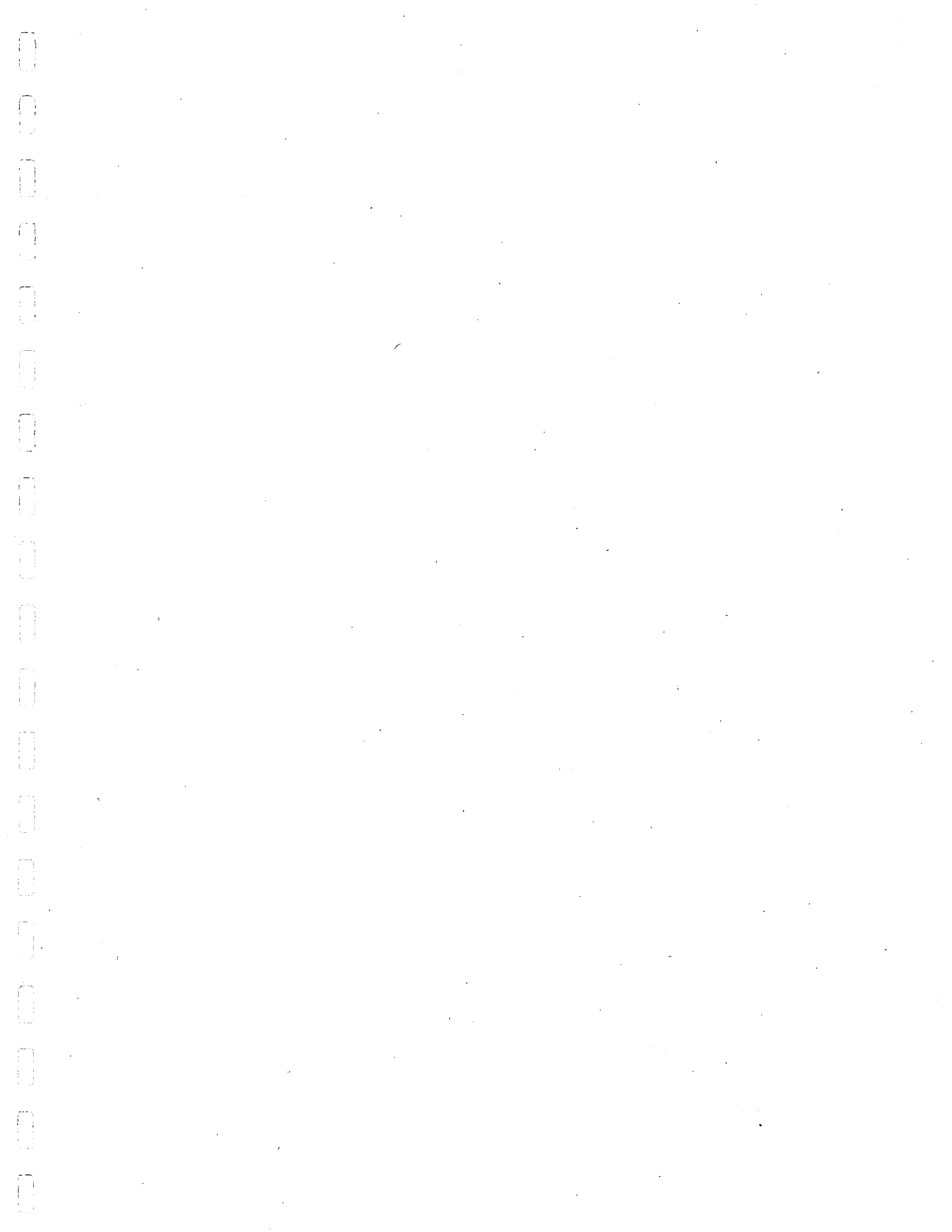
Presentation



**SURVEY OF NON GOVERNMENT ORGANISATIONS
THEIR DEVELOPMENT INFORMATION EXCHANGE NEEDS
AND THE INDIX INITIATIVE**

PHASE 1 REPORT

**Simon White
December 1994**



Summary

This research was undertaken over a total of 12 working days between February and October 1994 on behalf of the Coordinating Unit for INDIX based at IDRC.

Questionnaires and a covering letter were sent via e-mail and post to over 250 non government organisations to assess their level of interest in INDIX and their need for, and level of interest in, development activity information exchange.

The majority of these organisations are developing country based (31) but include several European organisations (24). For the purpose of this study, North American organisations were not contacted. Those contacted were largely members of existing information networks, IDCC (UK), EADI (European), El Taller (Morocco) and other addresses provided by IDRC and through whom there had already been some contact on the INDIX initiative.

All those contacted by mail received the pre-printed materials on the DAI CD-ROM in the appropriate language; later mailings included the newsletter.

E-mail messages were sent via the Association of Progressive Communications. This provides links to several other networks, though, given the low number of replies from the e-mail systems, it is likely that several of the messages did not reach the system operators concerned.

55 replies were received in all, the majority by mail and the questionnaire replies have been analysed in detail.

There is further research that could usefully be undertaken after the direction of the INDIX initiative has been clarified.

Those organisations who replied to the questionnaire are mostly interested in INDIX, would like to be able to meet to discuss information exchange and the majority of them have CD-ROM equipment or can get access to it.

A small number of organisations have offered themselves as an in-country focus for the DAI CD-ROM while some organisations suggested another organisation who might play this role.

1 Key Observations from the Questionnaire Analysis

- 1.1 The focus of respondent organisations (ROs) is in research, socio-economic development, education, agriculture and health.
- 1.2 There is strong interest amongst ROs for information exchange with other NGOs and community based groups but also quite strong interest in Donors, Government, International and UN agencies.
- 1.3 Sectors, in descending order of interest, were: agriculture, appropriate technology, health and HIV, human and land rights, gender, development, education and information networks.
- 1.4 ROs would put INDIX information to 2 main uses: a) Research and b) Targeting of funding applications, especially developing country organisations.
- 1.5 Development activity information is already being exchanged with a very large variety of organisations including non-government, government, academic, UN agencies, bi-lateral donors, and many others. ROs also belong to a plethora of information networks, some of them electronic.
- 1.6 Currently information is exchanged via, in descending order of popularity: meetings/seminars/workshops, mail, e-mail and conferencing, and publications, plus a number of other methods. Only 8 ROs are active users of the Internet.
- 1.7 Storage of development activity information is evenly divided between paper and computer files. 26 said they have a computer database of projects. Of the 32 ROs saying that they held records, the majority held over 1000 development activity records.
- 1.8 The following data items are held by 8 or more ROs: Title, Keywords, Description/Key project elements, Annual Budget, Monitoring/Evaluation/Findings.
- 1.9 Half of all ROs have CD-ROM devices and most of those who do not have CD-ROM can "get access to one".
- 1.10 Of the half who do not have CD-ROM equipment all bar 4 were sure they would still like to have access to the information. They were evenly divided about the medium they would like to receive this information in, some preferring paper and the others computer diskette.
- 1.11 Of the 32 with computer databases, 15 use dBASE, 6 Micro-Isis, and 6 FoxPro. 21 of these organisations said they would be able to transfer information in to another format to facilitate information exchange. (It should be noted though that they were not supplied with the CEFDA format and so may not yet know the work involved).
- 1.12 40 ROs would be interested in an international meeting to discuss information exchange. Subjects suggested for such a meeting are extremely varied but revolve around efficient information exchange, standardisation of formats and forming networks.

1.13 10 organisations have offered to act as centres of INDIX information and have been sent further information on INDIX and asked to say what level of service they would be able to offer. A further 21 organisations have been suggested by respondents as possible centres which are yet to be followed up.

2 Conclusions from the research so far

2.1 There is a strong interest from sections of the NGO development and research NGO community in the exchange of development activity information. Some of the organisations contacted have already asked IDRC for (mostly free) copies of the CD-ROM.

2.2 These organisations, in all continents, are mostly either equipped with computer and CD-ROM facilities or can get access to them.

2.3 There are a limited number of organisations who are prepared to act as a focus for the CD-ROM and with whom a closer relationship could usefully be developed but a clearer remit and longer term plan for INDIX needs to be established before raising expectations further.

2.4 The respondents are not only interested in information exchange with other NGOs but with a wide variety of organisations. This means that the data set built up in the DAI CD-ROM so far should be of interest to them.

2.5 An analysis of the responses from developing country organisations shows that they are equally well equipped with computer equipment and software as the European respondents.

2.6 Respondents have a wide range of sectoral interest and so there is little point in trying to reduce the data set for their benefit unless they have no (or no access to) CD-ROM equipment, in which case diskette sub-sections could be released for particular areas/sectors.

3 Questions discussed by the INDIX steering group meeting in October 1994 as a prelude to the next stage of research.

3.1 Who does INDIX primarily exist to serve? A wide audience, with no particular constituency, just those who have a use for INDIX information.

3.2 How convinced are we that the information we are providing is really of benefit, rather than just appearing to be interesting? Steering Group members have already proved its usefulness in their own organisations but IDRC will do further research to find out how well users have received the CD-ROM.

3.3 What levels of support will be available to new entrants? Advice on putting data into the common exchange format, but IDRC cannot do this work for others, unless paid.

3.4 How does INDIX fit in with other database initiatives? Does it need to? INDIX, while only having a partial data set, is the only global collection of data of its type. It can

therefore act as a source for those wanted more focused development activity data sets, and can in turn be fed by them.

- 3.5 Does the INDIX Steering Group see a value in a) expanding the net of NGO contacts, b) making the best use of the current 50 respondents, or both? Both, but the emphasis should be on finding active NGOs interested in handling the data and offering the data to others.

ORGANISATIONS OFFERING TO ACT AS CENTRES FOR INDIX INFORMATION

IDIN (International Development Info. Network) focal points in Latin America, and in other regions of the world (offered by CLACSO, Argentina)
AMREF, Nyamwaya, Kenya
British Library for Development Studies at IDS, Brighton, Sussex, UK
Applied Interdisciplinary Development Research Institute, India
El Taller, Tunis, Tunisia
GreenNet, London, UK
Institute of Economic Sciences, Yugoslavia
Institute for Development and International Relations (IRMO), Zagreb, Croatia
Swedish Volunteer Service, Sweden
SangoNet, South Africa

ORGANIZATIONS WHICH HAVE BEEN SUGGESTED AS INFORMATION CENTRES

BIREME, Brazil (suggested by IICA, Costa Rica)
British Library, ODA (suggested by The Information Partnership, London)
CENEDIC/UNESCO, Mexico (suggested by SIDORT, Ecuador)
CIID (suggested by INSOTEC, Ecuador)
COMSCYR (suggested by Centrode Agri. Biol. Ecuador)
CONICYT, National Commission of Science and Technology (suggested by CIPMA, Chile)
Deutsche Gesellschaft fur Technische Zusammenarbeit (GTZ), Eschborn; Kreditanstalt fuer Wiederaufbau (KfW), Frankfurt Main (suggested by DSE/ZD Germany)
Directorate for Food, Road and Rural Infrastructure (DIFRI) (suggested by APTIS Nigeria)
Interaction, Washington DC (suggested by International Human Rights Law Group)
Institute of Development Studies, University of Helsinki (suggested by Development Unit for Foreign HEDEC/Stakes, Finland)
Institute of Development Studies Library (suggested by Oxfam)
Karnataka Regional Engineering College, Srinivas Naga, Surathkal, nr Mangalore, India (suggested by Advanced Institute of Management, India)
Malaysian Institute of Microelectronic Systems (MIMOS) (suggested by ADIPA, Malaysia)
NAVDO (Nigerian Agency for Voluntary Development Organisations), UI P O Bod 22444, Ibadan, Oyo State, Nigeria (suggested by Development Action Agency, Nigeria)
NIC (suggested by Development Innovators, India)
NORAD/IDOK information centre, Oslo (suggested by Chr Michelsen Institute, Norway)
PADIS, UN-ECA (suggested by RADEV, Ethiopia)
Volnet UK (suggested by Save the Children)
Xavier Institute of Management, Bhubaneswar, Orissa, India (suggested by Alternative for Rural Movement, India)
Zimbabwe Media Technic (suggested by TOOL, Netherlands)

NUMBERS OF RESPONDENTS BY COUNTRY

Argentina	1
Bangladesh	1
Belgium	1
Chile	1
Costa Rica	2
Croatia	1
Ecuador	3
Ethiopia	1
Germany	1
Great Britain	10
India	6
Malaysia	1
Mauritius	1
Netherlands	3
Nigeria	2
Norway	1
Peru	1
Slovenia	1
Sri Lanka	1
South Africa	1
Sweden	1
Tunisia	1
U S A	1
Yugoslavia	1

ANALYSIS OF INDIX QUESTIONNAIRE RETURNS

Total number of questionnaires returned: 55

European organisations: 24

Non-European organisations: 31

5. Can these details be included in the report based on this survey?

YES - 50 NO - 2

6. What is the purpose of your organisation and the nature of its activities?

Research	15
Development	12
Training/teaching	11
Literacy/education	6
Exchange/disseminate information	4
Emergencies/relief	3
Human rights (using legal specialists for human rights training, advocacy and litigation, publishes also)	3
Socio-economic development of rural women and children	3
Agriculture	2
Community development and improvement	2
Education in development	2
Health education	2
Lasting benefits for children and their communities	2
Organise seminars	2
Transfer of technology, skills and technological information	2
ADIPA forum for interaction among social science/development professionals in Asia and Pacific	1
Agroecology	1
Central and Eastern Europe	1
Child rights	1
Co-ordinating body for centres of social science in Latin America	1
Co-ordination of African states in Belgium	1
Computer training	1
Consultancy in fields of marketing, investment and management	1
Consultancy	1
Consultants in library and information work	1
Development policies	1
Development co-operation	1
Development support communications	1
Dissemination of technical information and patents to small and medium industry to create export industries and more jobs	1
Documentation	1
E.U., Mediterranean countries	1
Economic policy	1
Emphasis on Africa and Asia	1
Environment	1

Survey of non government organisations

Environmental approach and economic development in Chile	1
Environmental approach and economic development in Brazil	1
Equality/reciprocity and broad participation	1
Federation and network of universities and independent research in social sciences	1
Health development projects (identify, implement)	1
HEDEC works in health, social welfare, population in developing countries and Finland's neighbours	1
Help countries enhance innovative quality of development planning	1
Help in starting/improving information systems	1
Improve status of women	1
Income generation	1
Information centre	1
Integration of sectors of society	1
Interdisciplinary management research	1
International relations	1
International co-operation	1
Irrigation, development & adoption in developing countries	1
Labour issues	1
Library and information facilities	1
Low cost communication	1
Methods of microeconomic analysis	1
Methods of macroeconomic analysis	1
Models of development of enterprises	1
Non-profit organisation	1
Oxford University Department	1
Promote research and training programmes	1
Promotes bilateral sustainable treaties between Netherlands & Bhutan, Benin, & Costa Rica	1
Provide access to scientific and technical literature in agriculture and related areas in developing countries	1
Provides expertise and information related to health/social welfare	1
Provides information and expertise related to population	1
Public/private partners facilitating work of govt and non-govt university, business & NGO's in field of environment and sustainable development	1
Reproductive and sexual health	1
Research and developing information systems	1
Resource mobilisation	1
Rural water/sanitation	1
Rural wage-earners	1
Rural and tribal development in FINE states of India	1
Self-help groups	1
Small farms	1
Socio-economic development in Brazil, all sectors	1
Strategy of foreign economic relations	1
Support services	1
Technical advice on information handling, information policy, databases and libraries	1
Technical support	1
Training of childcare workers in residential inst.	1
Training for NGO capacity building	1
Training workers with children and adolescents in South Africa	1
Transition	1
Urban workers	1

Survey of non government organisations

Women in agriculture	1
Women in development	1

7. With which organisations would you like to exchange information about development activities?

a. List types of organisation

Any/all	4
NGO's	36
Donors	29
International organisations	23
Government	21
North & South based	15
Community based agencies	11
UN Agencies	4
Academia	3
International forums	3
Partner agencies in the South	3
Research institutes	3
Small organisations	2
Any childcare/youth development programmes	1
Business and industry	1
Chambers of commerce	1
CIID	1
Databases	1
European countries	1
FAO	1
IFOAM	1
Industries	1
International development studies institutes	1
International development and research institutes	1
NTIS, USA	1
Organisations in partner countries (Burma, Bhutan, Costa Rica)	1
Other consultants	1
Peoples' organisations	1
PNUD	1
Public and private agricultural institutions	1
Publishers of research in agriculture and related areas in developing countries	1
Regional Organisations	1
Social/legal/human rights groups	1
Sources of technical expertise	1
Southern based organisations	1
UNIDO in Venice	1

b. List sectors of interest

All	2
-----	---

Survey of non government organisations

Agriculture	18
Public health and health promotion	13
Appropriate technology	11
Gender	8
Economics, and economic policies	7
Environment including social aspects	7
Education	6
Human rights	6
Development policy and practice	5
Industrial development and industrial policy	5
Information networks and systems	5
Labour rights	4
Planning and policies	4
Population/demography	4
Rural development	4
Food technology and processing	3
HIV/Aids	3
International economy/trade	3
Mother and child health	3
Politics	3
Small and cottage industrial development	3
Water and sanitation	3
Child rights and development	2
Community development	2
Cultural planning and finance	2
Emergencies and relief	2
Finance/Debt	2
Forestry and Environment	2
International relations/cooperation	2
Poverty alleviation	2
Renewable energy	2
Scientific and technical policy and strategy	2
Sexual and reproductive health	2
Social welfare	2
Transport	2
Urban development and management	2
Agricultural tools	1
Agroecology	1
Arab World	1
Biodiversity	1
Chemical Industry	1
Communication	1
Community based organisations in developing countries	1
Cultural policies and cooperation	1
Development education	1
Economic development	1
Economic cooperation	1
Electronic networks	1
Employment	1
Energy	1
Enfranchising disenfranchised sectors	1

Survey of non government organisations

Environmental technology	1
Housing	1
Human settlements	1
Human resource development	1
Informal sectors of Africa	1
Irrigation management	1
Management	1
Minorities	1
Natural resources management	1
NGOs	1
Nutrition	1
Organisational change	1
Pastoralism	1
Philanthropy	1
Political economy	1
Pollution	1
PRA	1
Privatisation	1
Productive sectors	1
Public administration	1
Public management	1
Recycling	1
Rehabilitation and resettlement	1
Resource centres	1
Social aspects of agriculture	1
Social aspects of economic systems	1
STD's	1
Technology	1
Training	1
Transition policies	1
Urban issues	1
Urban planning	1
Urban and regional issues	1
Water resources	1
Women's development	1
Youth	1

8. What would you use INDIX information for?

European Organisations

Research	11
Application for funding	6
Comparisons	3
Information projects	3
Monitor/Evaluation	3
Development	2
Information contacts	2
Network development	2
Planning	2

Survey of non government organisations

Redistribution of information to others	2
Access to literature	1
Application for research funding	1
Co-operative project work	1
Education	1
Identify work possibilities	1
Identify research partners	1
Improve quality of work	1
Library users	1
Prevent duplication	1
Producing a bibliographic database	1
Project implementation	1

Non-European Organisations

Research	25
Targeting funding applications	16
Comparison	7
Training/teaching	7
Programme design/improvement and programme implementation	5
Projects/North-South co-operation	3
Create NGO links	2
Dissemination to other NGOs/to industry	2
General capacity building	2
Policy/decision making	2
Reference/resource	2
Agriculture	1
Conferences	1
Development	1
Free consultancy	1
Information service and clearing house on environment	1
Management	1
Possible replications	1
Strengthening database	1
Technical Assistance	1

9. Which organisations do you already swap development activity information with?

Many	1
None	3
NGOs	9
Academic institutions	8
Government departments	6
EADI	6
IDRC (Canada)	5
EI Taller partner organisations	4
Partner agencies	2

Survey of non government organisations

AICARDES (ibidem Arab countries)	2
CODESRIA (Dakar)	2
OECD	2
UN agencies	2
UNEP	2
VSO	2
Research and consultancy organisations	1
Research and training organisations	1
National research institutes in Peru, Mexico, Colombia, Guatemala	1
UK charities	1
Publishing organisations worldwide	1
Exchange organisations worldwide	1
Library information requests	1
PRA Institutions	1
Aid Agencies	1
Nordic donor organisations/health and social sector offices	1
Private sector	1
Local hospitals	1
Childcare groups in UK, USA, Canada	1
Human rights organisations	1
Regional National groups	1
Sister organisations in Europe	1
ACCORD	1
ADAB (Dhaka)	1
ADIPA/APDA (idem for Asia)	1
AEIJI	1
AGRECOL	1
AID	1
ALAIC	1
ALCECOOP	1
ALIDE (Asociacion Latinamericana de Instituciones Friancieras de Desarrollo)	1
America Watch	1
ANC (South Africa)	1
Both Ends (NL)	1
British Library	1
Brot fuer die Welt	1
CAFOD	1
CCFD	1
Centre for Our Common Future (Switzerland)	1
Christian Aid	1
CIDA	1
CIID	1
CINDE (Coalition Costarricense de Iniciativas de Desarrollo)	1
CLACSO	1
CREAL	1
CRS	1
Dag Hammarskjold Fdn (Uppsala)	1
DANCHURCHAID	1
DANIDA	1
Development and Peace	1
DSE (Germany)	1

Survey of non government organisations

Environmental Liaison Centre International	1
ESCAP (Bangkok)	1
Evangelisches Zentralstelle fuer Entwicklungshilfe	1
FICE (International Federation of Educative Communities - UN)	1
Ford Foundation	1
Forum for African Voluntary Organisations in Development	1
IBISCUS (Paris)	1
ICCAO	1
ICFID	1
IDCC	1
IDS	1
IASA (Austria)	1
IICA-CIDIA	1
IIED (London)	1
IIRR (Philippines)	1
ILET	1
Intermediate Technology (UK)	1
International Women's Tribune Centre (USA)	1
ISIS (Philippines)	1
IVITA (University of San Marcos, Lima)	1
Mass Democratic Movement	1
MISEREOR (Katholisches Zeutrallstelle fuer Entwicklungshilfe)	1
MLAL	1
Nagoya (Japan)	1
Nicaraguan Solidarity Campaign	1
Nordic Volunteer Organisations	1
NOVIB	1
ODA	1
ODI	1
Office for Network Enhancement	1
OXFAM	1
PACT	1
PANOS (UK)	1
RVA	1
SangoNet	1
Satis (Dakar)	1
SCF	1
Swedish Volunteer Organisations	1
Third World Information Network (UK)	1
TROCAIRE	1
UN non government liaison services (Switzerland)	1
UNCHS (Nairobi)	1
UNCRD	1
UNDP	1
UNESCO (Paris)	1
UNICEF	1
UNRISD (Geneva)	1
USEPA	1
VIIO (Association for Information and International Development)	1
VITA (USA)	1
World Wide Network (USA)	1

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WRI	1
World Bank	1

10. How do you share information with other organisations?

Meetings	29
Seminars/workshops	28
Mail	27
Electronic mail & conferences	18
Publications	10
Conferences	7
Fax	5
Newsletters	4
Phone	3
Education programmes	2
Exchange of reports	2
IDIN databases	2
Journals	2
Campaigns	1
Conference papers	1
Joint research	1
Libraries	1
National Congress	1
Networks on particular issues/countries	1
Peacenet	1
Personal contacts	1
Project applications	1
Project activities	1
Sell services and products	1
Visits	1

11. Which networks for information exchange do you already belong to?

Lots	1
None	8
INTERNET	8
EADI	4
IDIN	4
APC	3
ALTERNEX	2
EI Taller	2
GN(APC)	2
IDCC	2
IDRC	2
VIIO	2
ALAIC	1
BASIN (France)	1
BOND	1
Brazil Network(?)	1
Cellnet	1

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Cix	1
COMNET (Latin America)	1
Compuserve	1
CULTURELINK	1
Developing Countries Farm Radio (Canada)	1
DISC	1
DSA	1
EUROSTEP	1
Fidonet	1
GreenNet	1
HandsNet	1
HEN (Health Education Network, Kenya)	1
IBSS UNESCO (International Bibliography of Soc. Science)	1
IMIN (Irrigation Management Info. Network)	1
IMISCUS (Paris)	1
INDIX	1
Information for Development Co-ordinating Committee	1
International Union for Health Promotion and Education	1
Library Exchange Programme	1
National Networks	1
National (Yugoslavia) PS network	1
NGO'S	1
Non-electronic networks	1
NORDNET	1
Novib Platform	1
PADIS	1
Red de Redes	1
REDICSA (Red de Info de cs. soc. de Argentina)	1
REDMA-(Reg. Environmental Information Network, Chile)	1
REDNIA (Red de Informacion Agropecuaria en Costa Rica)	1
RISPAL (Latin American Research Network for animal products system)	1
RPA Notes	1
SANGONET	1
Scandinavian Information Specialists	1
Third World Information Network (UK)	1
TOOLNET logistics	1
Village Animal Health Care Network	1
WorkNet	1
World Wide Network (USA)	1
(SIDORT in process of setting up national network in Ecuador)	1

12. How do you store records of your development activities?

Paper files	39
Computer databases	37
Audio cassette	1
Bibliographic databases	1

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Catalogues	1
CD Rom	1
Computer printed files	1
dBase file	1
Directories	1
Discs (Word processors and DTP)	1
Film	1
Floppy	1
Grant/donor databases	1
Project donor base	1
Video	1

13. How many such records do you hold, approximately?

Lots	2
2 million	1
80,000	1
50,000	1
43,000	1
20,000	1
15,000	2
12,000	1
10,000	2
5,000+	4
2-3,000	1
2,000	1
1,000	1
390	1
250	1
200	2
125	1
100	2
50	4
46	1
15	2
12	1
10	1

14. What information do you keep on each project?

Title	26
Description/key project elements	20
Keywords	17
Annual budget	16
Budget	9
Monitoring/Evaluation	8
Findings & recommendations/report	8

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Effective and fast training of researchers in use of information systems	1
Effective participation by small NGO's	1
Environment	1
Exchange of information among different systems	1
How to bring DAI-CD ROM, IDIN etc. into E-mail networks	1
How to eliminate information overload without sacrificing scope of coverage and qualitative aspects of information	1
How to use such information effectively	1
How to make available information at rural level, to help practically in development work	1
How to integrate local data bases through national CD-ROMs to expand use of information available	1
Internet mosaic	1
IT	1
Mismatch between supply and demand (How to reach equilibrium)	1
Modalities of information	1
More comprehensive input	1
Multi-level information needs of the rural/urban poor to promote sustainable development	1
Networking	1
New ideas	1
Objectives, relevance and impact of organisations information exchange and management	1
Open seminars	1
Possibility of electronic interchange of information on development activities through on-line computer communication and CD-ROM technologies	1
Possibility for faster inter-library exchange	1
Potential of computerized data	1
Production of faster information systems in more decentralised way	1
Providing gift computers for organisations which cannot afford them	1
Socio-economic development	1
Software	1
Specialised areas of information exchange	1
Specific links	1
Standardization	1
Structural framework for collecting data	1
Systems for recording and sharing information	1
Technical skill and equipment required	1
Training	1
Up to date information	1
What is available now	1
Who is doing what in each country/region	1
Women's issues	1

25. Do you know other organisations who would be interested in exchanging development information?

ACTION AID

ADAB, 1/3 Block-F, Lalmatia, Dhaka, 1207, Bangladesh (P O Box 5045 Newmarket)

Aga Khan Foundation

AICARDES

ARARM, 3-C Shankaveshet Road, Pune 411042, India

Asian Institute of Management (Fax: 63 2 8179240), Makati Philippines, Attn: Pres. Alfonso

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BBSC

Bureau of Market Research, Box 392, Pretoria 0001

CARE KENYA

Centre for Action Research and Documentation, A/7 H.I.G. Boromunda Housing Board,
Bhubaneswar, Orissa, India

Centre for Development Studies, Patna University, Patna, India

Centre for Development Information, Columbo, Sri Lanka

Child Rights Information Network (to be established) contact DCI (010 44 22 734 0558)

CLACSO

CODESRIA

CONAMA, National Commission of Environment, Chile

CONICYT, National Commission of Science and Technology, Chile

Development Management Program

EADI Information and Documentation Working Group

EADI Secretariat, 10 Rue Richemont, P O Box 272, CH-1211, Geneva 21, Switzerland

ECDPM, Maastricht (O C Vrouweplein 21) Holland

El Taller, eltaller@gn.apc.org, Noel/Constantino

Engineering College, Nitte, Nr Padubidri, Manglore, S India

GRESEA (Groupe de Recherche pour une Strategie Economique Alternative) Rue Royale
11, 1000 Bruxelles, Belgique

IDIN (International Development Information Network)

IIED

Institute for R and D in Agriculture, Zeleni vena 2/111, 11000 Begograd, Yugoslavia

Library Tun Seri Lanang (National University), 43600 U K M Bangi, Selangor D E Malaysia

Ministry of Economic Planning and Development (Mauritius), I, Emmanuel Auquetil Building,
Level 9, Port Louis, Mauritius

MIDEPLAN, National Office of Planning, Chile

Mr Djimique Manasta, BP 2664, Dakar, Senegal

Nigerian Agency for Voluntary Development Organisations (NAVDO)

Nirado, GPO Box 2524, Marina, Lagos, Nigeria

NSC, Red Rose Club, 129 Seven Sisters Road, London N7 7QG

ODA

OXFAM

PADIS, P O Box 3001, Addis Ababa

Private Research Centres, Chile FLASCO, CEP, CED

SATIS (Global Union for Technologies for Sustainable Development)

SCF UK

UI P O Box 22444, Ibadan, Oyo State, Nigeria

UNDP, Anglo-Mautius House, Port Louis

UNISA, Mr L J du P Potgieter

Universidad de Chile, State Universidad

VIIO (Association for information and international development)

ORGANISATIONS RESPONDING - BY COUNTRY

ARGENTINA

Consejo Latinoamericano de Ciencias Sociales (CLACSO)
(The Latin American Council of Social Sciences)
Catalina Saugy
Av. Callao 875 - 3 piso
1023 Buenos Aires, Argentina
E mail: saugy@clacso.edu.ar
Fax: 541 812 5489

BANGLADESH

Bangladesh Women's Health Coalition
S M Kabir
Executive Director
Hs. 46A, Road 6A, Dhanmondi R.A.
Dhaka 1209, Bangladesh
Fax: 880 2 817969

BELGIUM

Institut Africain/Centre D'etude et de Documentation Africaines (CEDAF)
Edwine Simons
Documentalist
65 Rue Belliard
1040 Bruxelles, Belgium
Fax: 32(2) 230 75 62

BRAZIL

Centro de Cultura Luiz Freire (CCLF)
Cristiano Donato
Communication Officer
Rua 27 de Janeiro, 181 - Carmo
53.020.020 Olinda PE, Brazil
Fax: (55.81) 429 4881
E mail: clf@ax.apc.org

Federacao de Orgaos para Assistencia Social e Educacional (FASE)
Virgilio Rosa Netto
Administrative and Financial Director
Rua Bento Lisboa 58
BR-22221-011 Rio de Janeiro RJ, Brazil
Fax: +55 21 205 3099
E mail: fase@ax.aoc.org

CHILE

Centre for Environmental Research and Planning (CIPMA)
Av. Holanda 1515, Casilla 136362
Providencia, Santiago, Chile
E mail: cipma@toconao.usach.cl
Fax: (562) 2232028
Tel: 2749600/2746333

COSTA RICA

Instituto Latinoamericano de Fomento Agroindustrial
Luisa Acuna Alvarado
350 mts de Spoon, Apartado 332
Sabanilla 2070
Los Yoses, Costa Rica
E mail: Luisaa@cariari.ncr.ac.cr
Fax: (506) 224 9725

H C A

Manuel E Ruiz
Coordinator of Rispal
P O Box 55-2200, Coronado, Costa Rica
E-mail: MRUIZ@IICA.AC.CR
Fax: (506) 229 6982

CROATIA

Institute for Development and International Relations (IRMO)
Nada Svob-Dokic
Lj F Vukotinovica 2, 41000 Zagreb, Croatia
E. mail: nada@mairomo.irmo.hr
Fax: 385 41 444059

ECUADOR

Instituto de Investigaciones Socio-Economicas y Tecnologicas (INSOTEC)
Ivan Escobar Lalama
Juan Leon Merd 920 Y Wilson, 2 - piso
Quito, Ecuador
E-mail: @insotec.org.ec
Fax: 5922 566 585

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Servicio de Investigacion y Desarrollo
Operacional de Recursos Tecnologicos
(SIDORT)
Dr Victor D Martinez
P O Box 09 01 7198
Guayaquil, Ecuador
Fax: 4-281562

Centro de Agricultura Biologica
Patricio Bravo
Rocafuerto 3-39 y Ave. Huayna-Capac
Casilla 01-1635
Cuenca, Ecuador

ETHIOPIA

RADEV
Traore Gaoussou
P O Box 60233
Addis Ababa, Ethiopia
Fax: 251 1 515833

FINLAND

Development Unit for Foreign
Hedec/Stakes
Irma Kivela
Information Specialist
P O Box 220
00531 Helsinki, Finland
Fax: 358 0 7732922
E-mail: Hedec@stakes.fi

GERMANY

German Foundation for International
Development/Documentation Centre
(DSE/ZD)
Dietrich Steinert
Head of Documentation Centre
Hans - Bockler Str. 5 D - 53225
Bonn, Germany
Fax: 0228 4001 111

GREAT BRITAIN

CODA International Training (CIT)
Tony Callender
4th floor, 393-395 City Road
London EC1V 1NE, UK
E-mail: uktecaf@gn.apc.org

International Development Centre
Sheila Allcock
Queen Elizabeth House, 21 St Giles
Oxford OX1 3LA, UK
E mail: allcock @ vax.ox.ac.uk
Fax: 0865 273607

Oxfam UK
June Stephen
274 Banbury Road
Oxford, OX2 7DZ, UK
E mail: oxfaminc@gn.apc.org
Fax: 0865 312410

British Library for Development Studies at
IDS
Peter Ferguson
Institute of Development Studies
University of Sussex
Falmer, Brighton, BN1 9RE, UK
E mail: P.ferguson @ sussex.ac.uk
Fax: 0273 621202
Tel: 0273 606261

CAB International
Peter Gooch
Wallingford, Oxon OX10 8DE, UK
E mail: p.gooch@cabi.org
Fax: 0491 833508

Ethnographic Audio Visual Archive
Stephen Homewood
Dpt. Photogrammetry and Surveying,
University College London
Gower Street, London WC1E 6BT, UK
E mail: homewood@ps.ucl.ac.uk
Fax: (+44) (0) 71 486 8773

Actionaid
Carys Edwards
Hamlyn House, MacDonald Road,
Archway
London N19 5PG, UK
Fax: 071 263 7599

GreenNet
Viv Kendon
23 Bevenden Street
London N1 6BH, UK
E mail: support@gn.apc.org
Fax: (+44) 71 253 0801

Survey of non government organisations

School of Information Studies
Kingston University
John Lindsay
Penrhyn Road
Kingston upon Thames, Surrey KT1 2EE,
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E mail: janet:lindsay@kingston
Fax: 081 547 7887
Tel: 081 547 2000

The Information Partnership
David Haynes
140 Tabernacle Street
London EC2A 4SD, UK
Fax: 071 253 0607

Save the Children
Becky Purbrick
Overseas Information Officer
17 Grove Lane, London SE5 8RD, UK
Fax: 071 793 7626

INDIA

Alternative for Rural Movement
Mr Rajendra Kumar Rana
AT/PO Baliapal
Balasore Dist., Orissa
India 756026

Development Innovators (DIN)
Narayan Sahoo
N-6/83 Jayadev Vihar
Bhubaneswar-751015
Orissa, India
Phone: (0674) 481028

Institute for Regional Development
Studies
Dr Ram Vilas Verma
3A/37 Azad Nagar
Kanpur-208002, India

Advanced Institute of Management
Dr G R Krishnamurthy
Hat Hiel, Microwave Station Road
Mangalore-6 India
Fax: 091 (0824) 414710

Applied Interdisciplinary Development
Research Institute
Dr A Peter
10 Nelson Manickam Rd, Second Floor
Choolaimedu, Madras - 600 094, India
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Baif Development Research Foundation
Ms Mona Dhamankar
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Pradeep Chambers, Bhandarkar Road
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KENYA

Health, Behaviour and Education Dept,
AMREF
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African Medical and Research Foundation
Wilson Airport, P O Box 30125
Nairobi, Kenya
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MALAYSIA

Asian and Pacific Development Centre
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Association of Development Research
and Training Institutes of Asia and the
Pacific (ADIPA)
Syed Abdus Samad
Executive Secretary/Co-ordinator
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50770 Kuala Lumpur, Malaysia
Fax: 603 2550316
E-mail: adipa@adipa.po.my

Survey of non government organisations

MAURITIUS

Food and Agricultural Research Council
(FARC)
Robert Antoine
Reduit, Mauritius
Fax: (230) 454 7026

NEPAL

Small Business Promotion Project
Prashant Rana
Deputy Co-ordinator
P O Box 3676, Kathmandu
Nepal
Fax: (00) 077 1 521982

NETHERLANDS

Eco Organisation
Hans Verolme
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3501 DA Utrecht, The Netherlands
E mail: hansv@cooperation.antenna.nl
Fax: (+31) 30 367 998

TOOL

Henk Smeenk
Sarphatistraat 650
1018V Amsterdam, The Netherlands
E mail: henk.smeenk@tool.nl
Fax: 31206277489

Catholic University Third World
Centre/Development Studies - KUN
W Kruysen
Documentalist
P O Box 9108
6500 HK Nijmegen, The Netherlands
E-mail: DWC@Antenna.nl
Fax: 80 615957

NIGERIA

Development Action Agency
Dr Charles Akinde
P O Box 109
Odode Idanre
Ondo State, Nigeria

Applied Technologies Information and
Systems (APTIS)
E Olu Aruya
Eureka Chambers
P O Box 3000
Benin City, Edo State, Nigeria

NORWAY

Chr. Michelsen Institute
(Development Studies and Human Rights)
Kirsti Hagen Andersen
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5036 Fantoft, Bergen, Norway
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Tel: (+47) 55 57 41 87

RUSSIA

Eco-Accord Centre on Environment and
Sustainable Development
Olga Ponizova
Executive Director
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Lenin Hills, Moscow 117234, Russia
Fax: 7 095 939 0877
E-mail: accord@olgapon.gins.msk.su

SLOVENIA

Centre for International Cooperation and
Development (CICD)
Bucar Maja
Director
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61109 Ljubljana, Slovenia
Fax: (+386 51) 343 696

SRI LANKA

International Irrigation Management
Institute (IIMI)
Ms I Ramya de Silva
P O Box 2075
127 Sunil Mawatha, Pelawatte via
Colombo, Sri Lanka
E mail: iimi 157:cgi129
Fax: 94 1 866854
Tel: 94 1 867404

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SOUTH AFRICA

National Association of Child Care
Workers
Brian Gannon
P O Box 23199, Claremont 7735, South
Africa
Fax: (+27) 21 788 3610

Development Resources Centre
Mokhethi Moshoeshe
Director of Information Services
P O Box 6079, Johannesburg 2000, South
Africa
Fax: 2711 838 7504
E-mail: SN0010@Connectinc.com

Community Education Computer Society
(CECS)
Peter van Heusden
Skills Development Officer
14a The Waverley, Wycroft Road
Mowbray 7700, South Africa
Fax: 2712 448 2194
E-mail: Peter@cecs.wcape.school.za

SWEDEN

Swedish Volunteer Service
Svante Sandberg
Coordinator Information Dept
Box 17510
11891 Stockholm, Sweden
E-mail: svsv@nn.apc.org
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TUNISIA

El Taller
Noel V Salazar
B P 137
1002 Tunis Belvedere, Tunisia
E mail: eltaller@gn.apc.org
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URUGUAY

Instituto de Comunicacion y Desarrollo
(ICD)
Analia Bettoni
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Fax: 924423
E-mail: ICD@ax.apc.org

U S A

International Human Rights Law Group
Karin Edlund
1601 Connecticut Avenue NW, Suite 700
Washington DC 20009, USA
E mail: lawgroup@igc.apc.org
Fax: 202 232 6731

YUGOSLAVIA

Institute of Economic Sciences
Ljubica Martinovic
Zmaj Jovina 12
P O Box 611, 11001 Beograd, Yugoslavia
Fax: (381) 11 181 471

QUESTIONNAIRE ON USE / EXCHANGE OF DEVELOPMENT INFORMATION

Please fill in your answers to these questions by editing the file you have downloaded, then return to: Simon White at InterNet address: swhite@gn.apc.org

Please note: "Development" here means social and economic development but also relief/disaster initiatives and development research.

Identification

1. Your name
2. Your role/job title
3. Name of your organisation
4. Address

Postal:

E-Mail:

Fax No:

5. Are you willing for these details to be included in the report based on this survey?
YES or NO

(Please note that your name, and the name and address of your organisation will not be included in the report unless you give your permission here)

6. What is the purpose of your organisation and the nature of its activities?

Exchanging Information

7. With which organisations would you like to exchange information about development activities?

a. List types of Organisation (eg non-government, government, Southern, Northern based, aid donors, small, large, community based, international,)

b. List Sectors of interest (eg agriculture, labour rights, appropriate technology....)

8. What would you use this information for? (eg Comparisons, Research, Targeting funding applications...)

Current Information Networks

9. Which organisations do you already swap development activity information with?

10. How do you share information with other organisations? (eg meetings, seminars, electronic conferences, mail....)

11. Which networks for information exchange do you already belong to?

Development activity records

12. How do you store records of your development activities? (eg Paper files/computer databases)
13. How many development activity records do you hold, approximately?
14. What information do you keep on each project? eg. title, annual budget, descriptions, keywords

Computer Technology

15. Does your organisation have a CD-ROM reader?
YES or NO
16. If not, can you easily get access to one?
YES or NO

(If you would like to get a copy of the DAI CD-ROM, please contact INDIX Coordinating Group at IDRC - see first page)

If you do not have a CD-ROM reader:

17. Would you still want to use the information from the DAI CD-ROM? YES or NO
18. What form would you like to receive this information in?
(eg Printed reports, computer disk,, please specify)
19. Do you have a computer database of projects?
YES or NO
20. If so, what software do you use? (eg Oracle, DBase, Cardbox)
21. Would you be able to change your computerised data to another format before exchanging it or having it included in the DAI CD-ROM?
YES or No

Local Focus

22. Can you suggest an organisation you are in contact with (government or non-government) that has good technology and skills and which you would trust to act as a focus for the DAI CD-ROM and other information exchange initiatives?

INDIX Meeting

23. Would you be interested in an international meeting with other development related organisations to discuss information exchange?
YES or NO
24. What would you want such a meeting to discuss/achieve?

Referrals

25. Do you know other organisations who would be interested in exchanging development information? Please give details:

Thanks for taking part in this survey. Please copy this questionnaire to other interested organisations or pass on their names and addresses for me to send them details.

ANNEX F

**THIRD GENERAL MEETING OF THE
INTERNATIONAL NETWORK FOR DEVELOPMENT
INFORMATION EXCHANGE (INDIX)**

**Copenhagen
13-15 September 1995**

Presentation for Panel Discussion



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**Another Aspect of Development Information:
Evaluation Information**

Prepared by: Mr. Lee White, Technical Information Specialist, U.S. Agency for International Development, PPC/CDIE/DI, Rm. 209D, SA-18, Washington, D.C. 20523-1802, Telephone: (703) 875-4970, Fax: (703) 875-4866, Internet: leewhite@usaid.gov

Presented at: Third General Meeting of the International Network for Development Information Exchange (INDIX), Copenhagen, Denmark, September 13-15, 1995.

In the past, evaluation information has often been the forgotten or ignored category of development information. However, for donor and recipient countries who are finding it increasingly difficult to balance support for meeting domestic needs with continuing a foreign aid program or financing an internal development project, let alone maintaining a sustained level of development assistance funding support, this type of information is playing a greater role of influence in national and governmental politics, senior management policy- and decision-making and strategic management of development programs.

Implementing development programs in a resource-poor, environment has forced many organizations to approach development more like a business, by creating a new management environment which emphasizes new values, management tools and approaches to development. At the U.S. Agency for International Development (USAID) these currently take the form of the following four areas of emphasis:

- * Managing for results;
- * Customer (or development recipient) ownership and satisfaction;
- * Teamwork and participation (between and with donor organizations, development partners and stakeholders); and,
- * Accountability (or in other words decentralizing authority and increasing direct, personal accountability and responsibility for the failure or success of specific development programs).

Evaluation information, which I will more broadly refer to as "development experience information", is being used more each year by national governments, development organizations and development partners to justify, plan, manage and learn from their economic and development assistance programs and activities. It can take many different forms including some of the following:

- * Evaluation plans or agendas;
- * Evaluation methodologies;
- * Benchmark survey data (such as household surveys, rapid appraisal assessments);
- * Performance indicators or measures;
- * Scopes of work or consultant's terms of reference;
- * Evaluation findings;
- * Development results or performance;

Another aspect of development information

- * Development impact (ex post evaluations);
- * Lessons learned;
- * Success stories (for Governmental bodies, the public and constituencies)
- * "Evaluation success" ratings; and,
- * Program effectiveness/performance ranking or scoring;

Development experience information is used at many different stages of development work, such as,

- * Planning a project, country, sector or cross-cutting program evaluation;
- * Coordinating multi-donor evaluation activities;
- * Defining performance measures for strategic objectives;
- * Implementing and coordinating an evaluation study (such as the multi-donor Rwanda evaluation study currently in process)
- * Gathering performance data;
- * Analyzing and reporting development results; or, most importantly,
- * Applying development results, findings and lessons learned to inform management for
 - resource decision-making;
 - assisting senior staff in policy development;
 - supporting informed choices for strategic country, regional and/or organizational program design or new program directions; or,
 - convincing national governing bodies, the public or supporting constituencies that a development program is effective, well-managed and generating meaningful and politically acceptable results.

The audiences for this type of information are extremely diverse. The value of this type of information is increased exponentially, the more it is shared with all groups concerned, even if it is not complimentary toward the particular development program being evaluated. A development program with negative results, if properly managed and communicated within the development organization, as well as, outside of the organization, which includes corrective management action to stop or improve the program, is a more effective way of doing business, than having development organizations trying to hide their failures.

To date, the development community has a rather spotty record for sharing development experience information. The best example of sharing this information within the bilateral donor community is the Development Assistance Community (DAC) Evaluation Inventory System. For the past five or six years bilateral development assistance organizations and a few U.N. organizations have shared bibliographic records (some with abstracts), and selected subject coding (DAC sector codes) for a wide range of evaluation reports, studies, analyses, publications and research which have been completed by these organizations. For the last two or three years there has been an attempt to share information on evaluations which are planned by each organization in the coming year. The abstracts which appear for some of the completed evaluations contain information ranging from short annotations of the type and nature of evaluation conducted and evaluation methodologies employed, to evaluation findings, conclusions, recommendations, and occasionally lessons learned. The collected information is made available either in diskette form with a user-friendly search and retrieval system, or as an on-line database through the Canadian

Another aspect of development information

International Development Agency (CIDA) computer system.

So what is wrong with this approach? It certainly is a good beginning ... but is the information useful and well used? The first long-standing complaint by a very small handful of the bilateral donors is the unwillingness on the part of most bilateral donor organizations to impart with more specific information about their evaluation findings outside of their own organizations. In fact, the majority of these organizations still do not routinely share their full evaluation reports, even though they are referenced and can be located on the database. So - are we really committed to sharing this type of information to begin with?

The second complaint is that although the information is sent to a coordinating group in CIDA, which has done an admirable job of maintaining a centralized database and distributing the data back to the bilateral donors, there has not been enough attention paid toward improving the common exchange standard for this type of information, particularly in terms of broadening its definition, so that it could be used more universally by other development organizations beyond the OECD member country organizations. This is in part, because, thus far, the inventory database has been managed by the DAC Subcommittee of Evaluation Experts which either (1) does not see this as part of their responsibility or (2) does not place this area of work very high on their semi-annual meeting agendas.

The planning information which is shared within this same system is almost meaningless to all parties concerned because of the way in which it is shared. Rather than pulling this together in a centralized database, it would be better to share this type of information through an electronic dialogue process, at a minimum with the bilateral development parties concerned, but on the opposite end of the spectrum, through an open process involving all concerned and interested parties who should and would like to participate and be made aware, respectively, of planned evaluation activities. This type of information could be shared for donor coordination purposes, sharing limited resources for conducting similar donor evaluation studies, as a communications and marketing tool for all interested parties of evaluation plans and findings once the work is complete, and as an educational tool for students of international development, and informing governmental oversight bodies and development partners, such as host country institutions and NGOs.

Another example of development experience information which many development organizations are spending exorbitant resources breaking new ground on, mostly on their own, is in the development of strategic planning and strategic development framework approaches leading to more effective management and participatory development assistance programs. Each of these efforts requires extensive work identifying useful and convincing performance measures for each strategic development objective. These measures will be used to make critical decisions on:

- * Programming increasingly limited development assistance funding;
- * Justifying strategic development approaches to oversight organizations;
- * Demonstrating prudent management decisions; and,
- * Communicating development results to taxpayers, democratically-elected representatives, and budget officials in executive branches of government.

Another aspect of development information

Thus far, this type of development experience information has been shared in a rather adhoc fashion to interested parties. However, its potential for use by other development organizations is enormous, once standards for exchange are developed and mechanisms are employed for communicating more openly with other development partners about work in progress.

For these two examples of development experience which I have just outlined, there are also many full-text documents and reports which have been written and are increasingly being made available electronically. However, with the advent of electronic sharing networks comes the attendant problems of

- * Information overload;
- * The lack of organization to "development experience" information;
- * Quality control and data validity for this type of information;
- * Marketing and promotion of the availability and use of this information; and,
- * Further support for training end users.

It is becoming more important to make strategic use of in-house analytical and research support services which can identify, synthesize and present selected development experience information in a form which is useful for the decision-maker, policy-maker, program strategist, budget officer, democratic representative, development partner or prospective constituent.

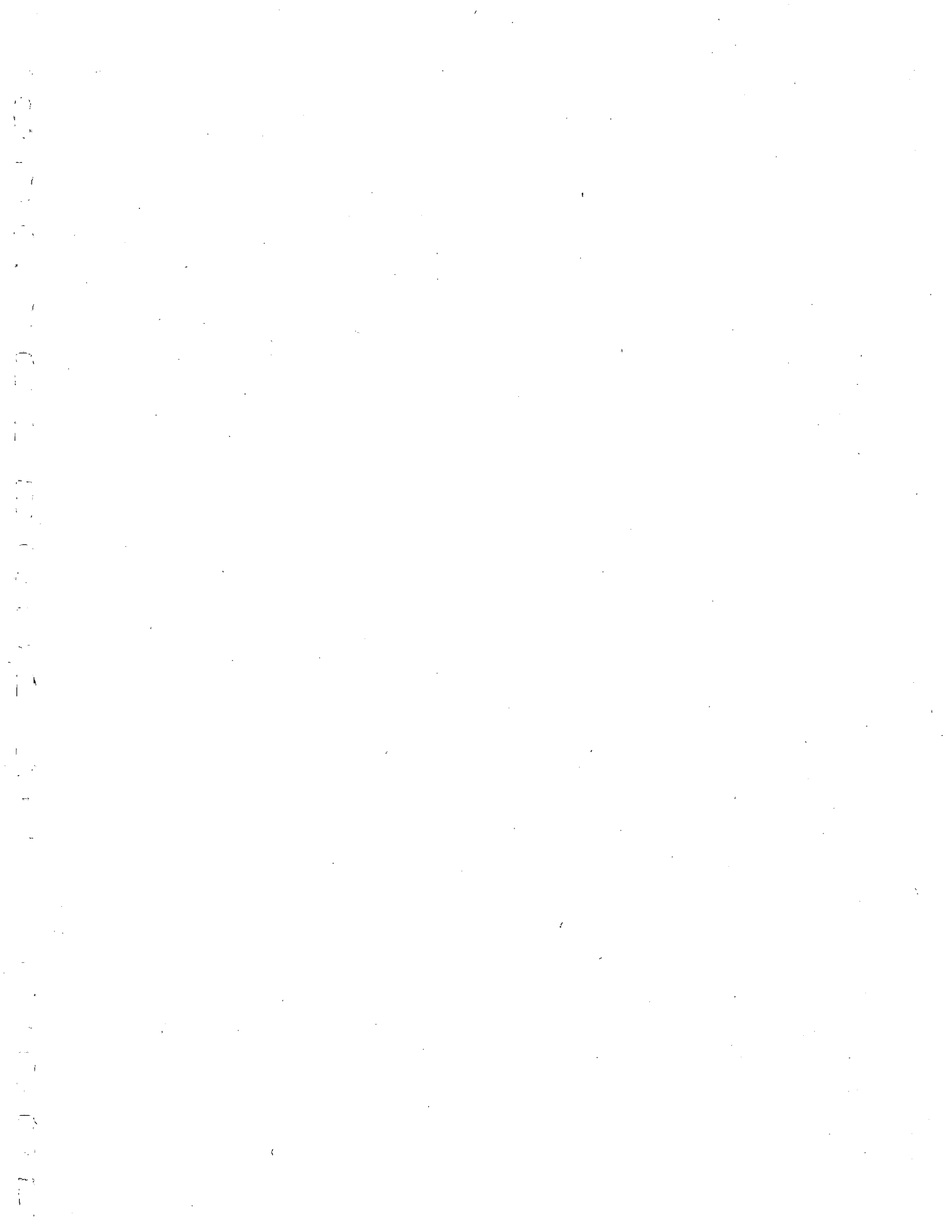
Development experience information provides essential feedback linkages between historical development activities and future development assistance strategies. INDIX has accomplished much with the development and implementation of its Common Exchange Format for Development Activities (CEFDA) and its DAI CD-ROM. Perhaps it is now time for INDIX to consider incorporating development experience information as part of its information exchange program. This would permit INDIX to provide information on not only what development activities have been funded, but more importantly, how well these activities have worked.

ANNEX G

**THIRD GENERAL MEETING OF THE
INTERNATIONAL NETWORK FOR DEVELOPMENT
INFORMATION EXCHANGE (INDIX)**

**Copenhagen
13-15 September 1995**

Presentation



Electronic delivery of development information: the next stage

Paper prepared on the basis of the INDIX meeting, Copenhagen, September 1995.

**John Lindsay
Reader in Information Systems Design
Kingston University, UK**

Development Information must be the messiest combination of terms to have to deal with: there is no agreement on what is meant by development and none on information. The electronic delivery of the combination adds a third complexity: the role of technological change.

Rather like physicists with forces though, we can make propositions and run experiments without having to define or understand the concepts.

Some positive steps seem indisputably to have been taken.

- British Library OPAC server and its client, linked to the document delivery system
- BIDS, NISS, SOSIG, OMNI and other information gateways
- ELDIS

Examples of projects

- Electronic data interchange
- VISA and Computerized Airline Ticketing Systems
- Teleports

It seems though that these have certain inevitable consequences:

- Combined and uneven development - parts of the so called third world will come to look more and more like "first world" countries, and parts of those more and more under-developed.
- Distance will change as a function of all activity, but what is positive and what negative will be debatable.
- Intellectual property rights will become indefensible.
- Metaphors and models will become more necessary to understand the information processing activities, but will become harder to understand. The more effort put into explaining the new on the basis of what people already know, the harder it will be to understand.
- There will be an increasing division of information rich and information poor, as all the traditional devices are devalued.
- Every consumer will become a producer.

Some things will be distinctly negative:

- The functioning of the information economy will become more complex and existing frameworks and theories will be unable to cope.
- The state will attempt to control activities it does not understand.
- Pressure will increase for exacerbating immigration controls.
- Telecommunications networks will become increasingly difficult to manage.
- The traditions of colonialism and imperialism will be translated into the new information order.
- Metropolitan cities will grow, without an appropriate development of urban management skills.

All these seem to raise a number of questions:

- Will the concept of a developing country disappear along with the development industry?
- Will there become many cores and many peripheries?
- What should information policy look like?
- What is the role of privatization, competition and the market, and the plan?
- How is intellectual property right to be abolished?
- What is the impact of all this on aid policy?

Certainly I'd propose some theses:

- That the development in this technology may function as an engine of growth.
- That it will pressure towards the abolition of private intellectual property.
- That a key target is institutional development.
- That project formulation and management will become more complex and more important.
- That the impact of the massification of higher education is to lead to a vast expansion of the information literate.
- That this has the potential to enhance democratic tendencies.
- That there will be a leveling out of the role of the priesthood and a diminution of the authority of learning.

All these propositions are contentious but serve simply to indicate the scale of the change that development information is concerned with, and perhaps how unprepared information professionals find themselves to design systems to satisfy users.

This sort of framework also contrasts with a recent mantra from the World Bank, where information is defined as a factor of production! And that's that. It then goes on to talk about information technology, and information isn't mentioned again.

What we have succeeded in achieving since I wrote a position paper for the EADI Information and Documentation Working Group, funded by UNESCO, in 1985, is that most development activity organisations now have computerized databases of their document collections, though at different stages and with different software and standards or their absence. Some of these

Electronic delivery of development information: the next stage

organisations have access to electronic mail, some the Internet, some are running web pages. In other words there is a huge unevenness. Most professionals now know how to use word processors and there has been a substantial increase of access to personal computing, though less so to systematically developed data resources.

This shift in the EADI membership organisations has not been reflected in the donor organisations nor, less surprisingly, the recipients, or the commercial organisations who execute most of what is called "development programmes". This unevenness makes the planning and building of information systems difficult. However the success of INDIX in producing its database points to the will to collaborate which would have been difficult to imagine ten years ago, uneven though it is.

The failure to produce and implement common protocols in the document management environment seems so far, at a limited level, not to have been matched in the INDIX participants, though at the expense of a very limited set. However the activity has gone further and the production of the CD-ROM specifying the operating system required and including the data management component is to replicate the MyCrisis problem I warned against a long time ago. It is the distinction between the British Library Catalogue and the Library of Congress yet again. An increase in functionality is at the expense of greater difficulty in system integration.

Meanwhile the number of organisations, the range of documents and the variety of data types has expanded, increasing the complexity of the problem we confront.

The next step will be different for different organisations but it does seem to me that the Development Information Community has a clear path to follow.

We must try to reduce the number of organisations' networks into a more coherent structure: the members of INDIX should be encouraged to work within the ICCDA framework, within which specific work packages may be formulated and executed.

We must strive to establish subject orientation, open systems and client server as design ideals which inform our practice.

We must avoid religious wars about CD-ROMS versus the Internet: one is a distribution and storage device independent of networks, the other is a network protocol. They are not in contention. How any particular organisation designs the capture, storage, distribution, processing and communications to satisfy the information requirements of its users requires information systems design skills, not a missionary position on a particular technological feature of a particular time.

We must recognize that different levels of expertise and access to technology will always be a characteristic.

We have to enhance the information understanding skills of the professionals before we can do much for the users, but education and training will at every stage be crucial. This virtual world requires different levels of abstraction and intellectual activity from the world of physical things.

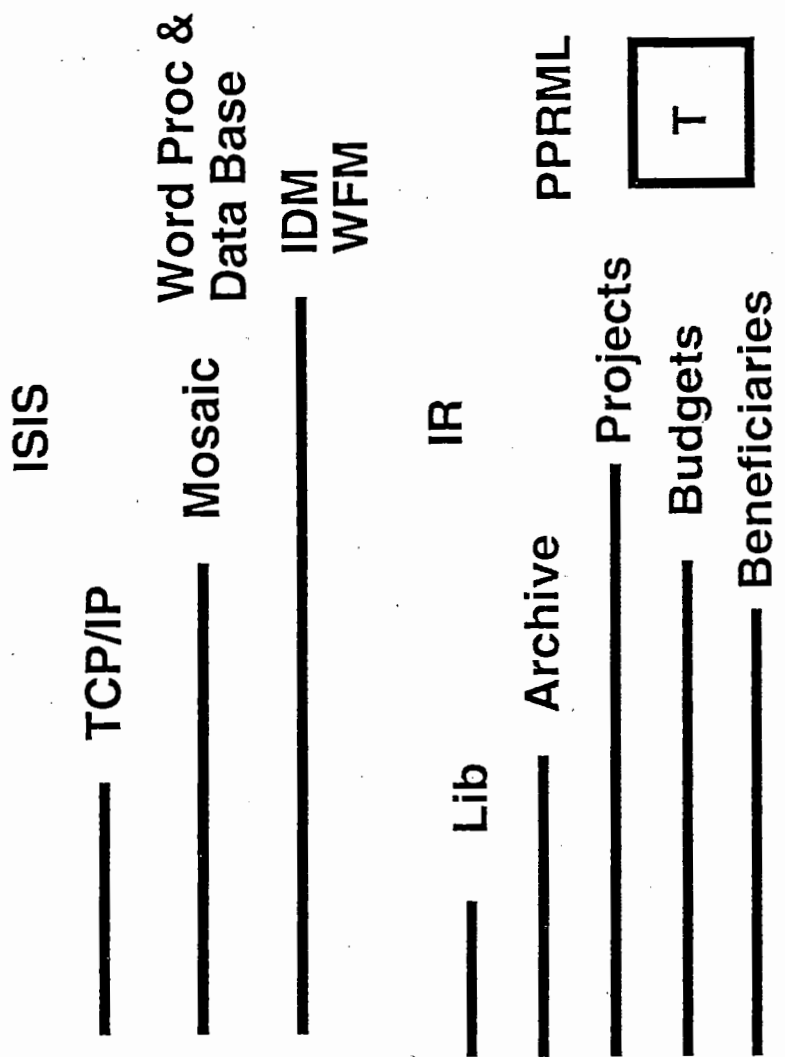
Electronic delivery of development information: the next stage

The EADI working group is involved in a project which we have called ELDIS (which can mean any combination of electronic, development, documentation and information, systems and services you like). How the project actually develops will depend on what sources of funding actually become available. If none, then it will proceed slowly. The initial work has already been undertaken in the production of the electronic guide, which has provided the framework for what is in practice an information gateway. The schema for the project is shown on the attached diagram.

The proposal from within the World Bank to set up infoDev is likely to cause a shift in the balance of forces involved in development information. Unless the argument can be won that information technology is not synonymous with information, and that an information system is not a box and a wire, then an introduction of a relatively large amount of money under the direction of the Bank will just cause an inestimable amount of damage. The officials of the Bank have not been involved with the ICCDA community in the past and no experience indicates that they will have the humility to try to learn what is going on.

Meanwhile the work on INDIX needs to continue. Bodies such as the Economist Intelligence Unit and Knight Ridder, publishers of the EIU Regional Intelligence on Disc could well be interested in such a proposition. However that can only be a short term proposal for the dynamics of the technology must point to a directory server which can execute in real time. The protocols for project identification are simple and would fit without difficulty into networked architectures already established. However the information economy will be demonstrated to its limits.

Evaluation and pipeline issues though are of a different level of abstraction and complexity and it is doubtful whether they lend themselves to systematization. In information theory there is no problem: they are amenable to analysis and design, but in implementation it is unlikely that they may be populated with meaningful data.



- Models
- Rules
- Queries
- Answers

Inst.
Org
OH

Technology Transfer

Design Analysis

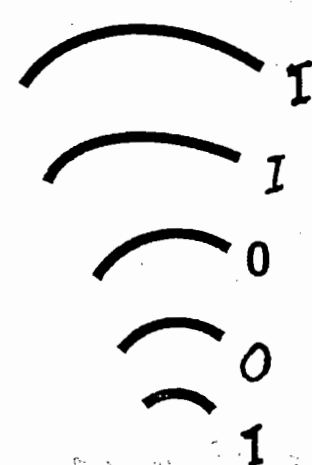
User Environment

Standards

Inf Econ

Inf Econ

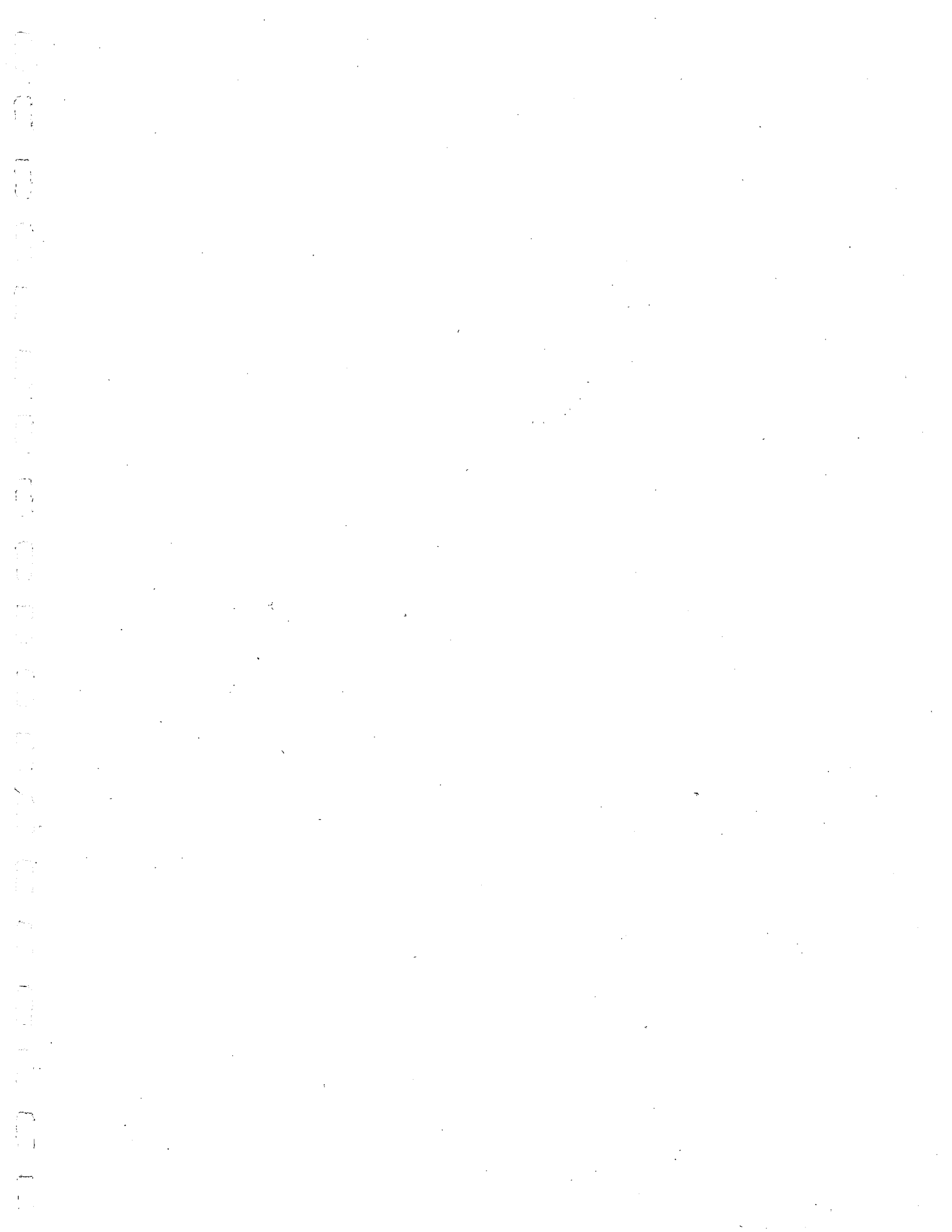
IT Fetc



TENDER



Multilateral
Bilateral

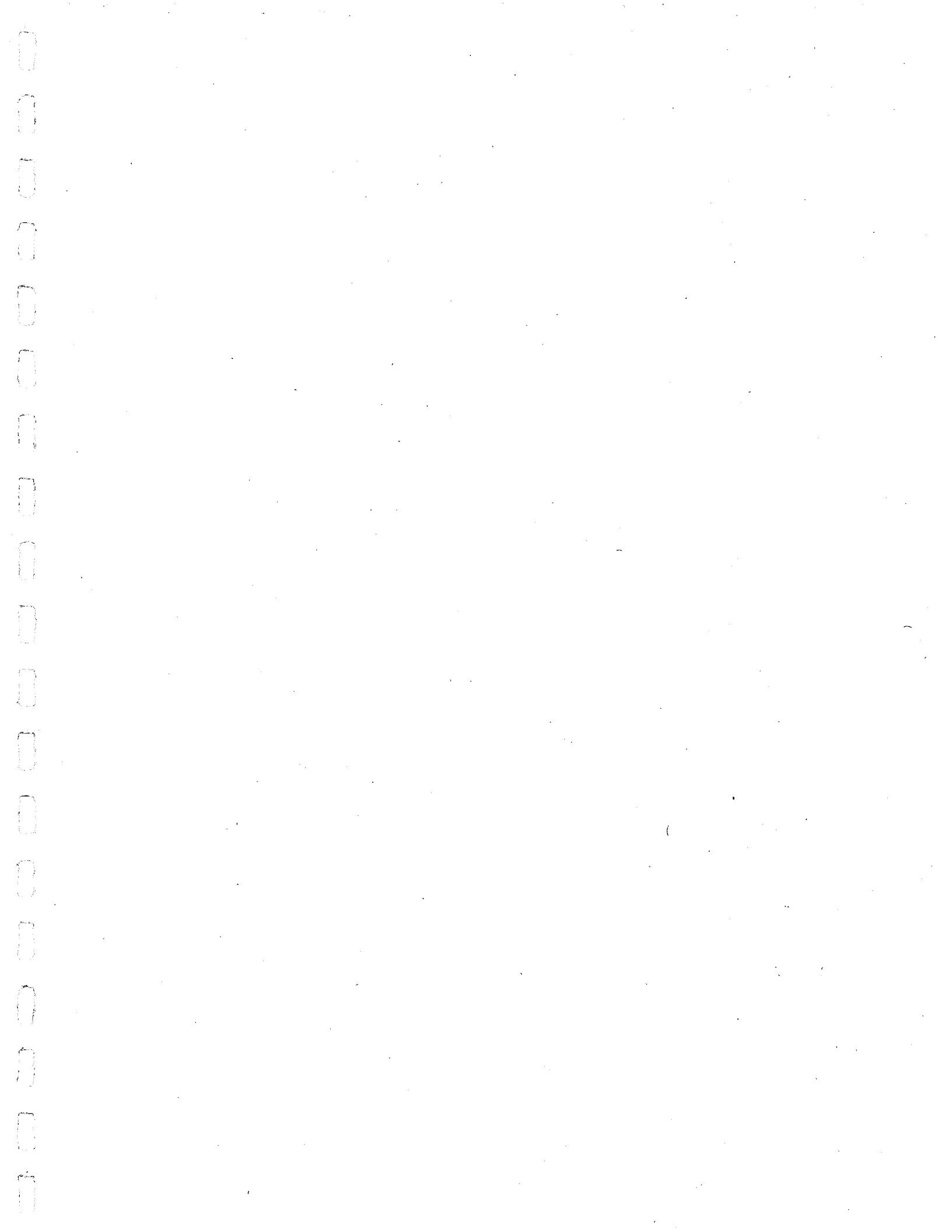


ANNEX H

**THIRD GENERAL MEETING OF THE
INTERNATIONAL NETWORK FOR DEVELOPMENT
INFORMATION EXCHANGE (INDIX)**

**Copenhagen
13-15 September 1995**

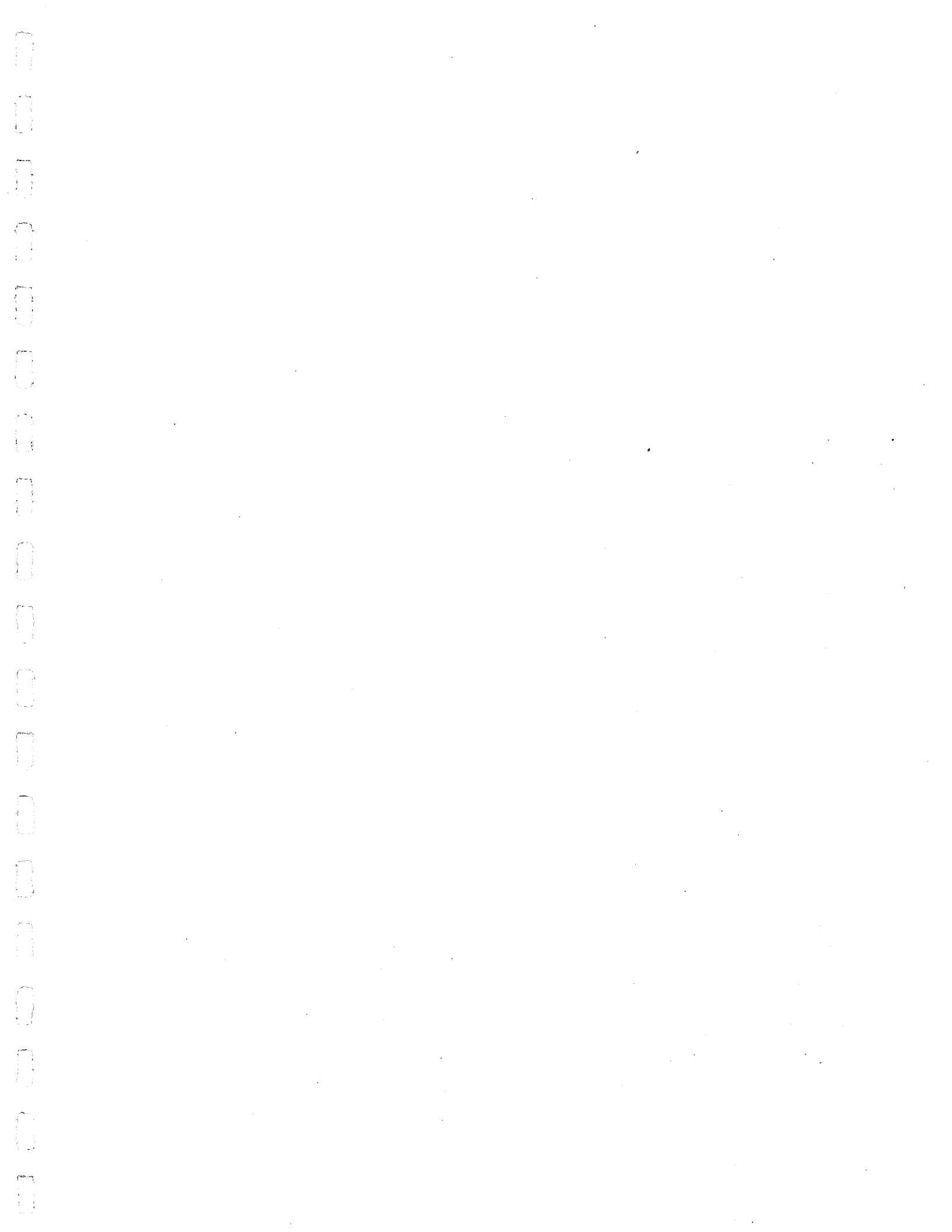
Discussion paper



**The impact of new technology on
information management:
a discussion paper**

**Third General Meeting of the
International Network for Development Information Exchange (INDIX),
Copenhagen, Sept. 13-15, 1995**

Prepared by Ron Davies, Consultant



Technology for information management has taken many different forms. In the nineteenth century, catalogue books and document folders were the dominant technologies of the day. In this century, typewriters, visible index cards, mechanical tabulators, Hollerith cards, optical coincidence cards and microfilm were all at one time new technology. However nowadays when we talk about new technologies for information management, we are talking, almost without exception, about computer technology. Since the first widespread applications of computers in the 1960s, new technological developments have been entirely digital technologies, driven by, or designed for, processing by computers. (The one exception, facsimile transmission, is quickly being integrated into the digital world, so that most faxes start out, or end up, in digital form.) In order to understand the influence that this new technology has had on information management, and especially the management of development information, we must understand how this technology began, how it developed, and where it is going.

Part I A brief history of modern information technology

Since the invention of the first major commercial computer, UNIVAC in 1951, computer processing has increased at a steady and astonishing rate. The replacement of vacuum tubes with transistors, the ability to pack increasingly large numbers of transistors on a single chip and the development of the microprocessor, has meant that computers have continually been smaller, more powerful, more reliable and less expensive. There have been various attempts to describe the progress made over the last forty years based on different bases for comparison. Moore's Law (formulated by Gordon Moore in 1965) stated that the power of a chip of the same cost will double every year; a recent source gives a more conservative figure of every 18 months¹. Andy Grove of Intel has his own law which says the number of transistors on a microprocessor will double every two years. Regardless of the formulation, progress has been rapid and continual, and there is no evident reason to believe that it will change.

This increase in raw computing power has been accompanied by a similar steady increase in storage capacity in relation to cost. A typical personal computer configuration in the mid 1980s included a 20 megabyte hard drive; the same basic business configuration today at roughly the same cost would include a hard drive at least 20 to 30 times larger. A 50 megabyte hard drive for a minicomputer cost about 10,000 dollars² in the late 1970s; today the smallest drive for an equivalent machine would be 650 megabytes for a cost of about 1,200 dollars, i.e. 12 times larger at an eighth of the cost; a drive for a microcomputer that holds a gigabyte (1,000 megabytes) costs less than 500 dollars. In addition, increased processor power and system memory has meant that it is feasible to compress data on a regular basis, often doubling the physical capacity of both fixed and removable media. While the capacity of floppy diskettes has not changed dramatically (the diskettes used in a PC-compatible today only hold slightly more than 4 times the capacity of the floppy diskettes used in the 1981 IBM PC), new removable storage technologies such as digital tapes and compact discs hold many megabytes of data on inexpensive media, and are increasingly inexpensive to purchase. Compact read-only (CD-ROM) discs, for example, can hold over 600 megabytes of information and CD-ROM readers are now standard devices on many microcomputer configurations. Even the nature of CD-ROM is rapidly changing: with the cost of CD-ROM recorders under 2,000 dollars and dropping steadily, of high quality recording

Impact of new technology on information management

software under 250 dollars and of recordable discs at 10 dollars apiece, CD-ROM is now within reach of many organizations as an everyday data storage and transfer tool, no longer restricted to large-run electronic publishing.

While less dramatic and harder to quantify than changes in processor power and storage capacity, there has also been a steady change in the way in which we display information from computers using printers and video display units. In the 1970s, it was not uncommon to use a printing terminal, which printed information in a fixed font on tractor-fed fan fold paper; even into the 1980s video display units were restricted to fixed character monochrome displays of 24 lines of 80 characters each. Today we have video cards that themselves have several megabytes of memory, and colour monitors that support display resolutions of 1064 by 768 pixels and higher. High quality proportionally spaced fonts are included with operating systems or application software and provide the same appearance on screen or on paper. Laser printer technology gives us virtually typeset quality at 600 dots per inch for a price as low as 1,300 dollars, doubling the resolution and halving the price over the past seven years.

While the changes in these basic computer technologies have been dramatic, in many senses they are not as important as the changes in where and how information is processed. The high cost of mainframe and early minicomputers meant that data processing was highly centralized within the organization. In the 1980s, smaller minicomputers and microcomputers brought computing power to the department, small business or the desktop of an ordinary office worker. Many organizations stopped buying or upgrading their central computer systems, and instead invested heavily in microcomputers or in smaller microprocessor-based computers. The justification for this "downsizing" of computer systems was the fact that mainframe or minicomputer hardware and software was more expensive on a unit basis than a microcomputer-based system. While direct comparisons are always difficult, studies showed that the cost of providing a million instructions per second (MIPS) on a minicomputer was about a sixth of the cost of a mainframe MIPS, and a microcomputer MIPS cost only about a twentieth of that!³ The standardization of microcomputers, based largely on the design of the IBM PC and successor machines, made computer hardware and software a high-volume business, which in turn meant that powerful software with a wide range of features was available for only a few hundred dollars per user.

However even as organizations invested heavily in microcomputers, there was a perceived need to share tools and information among these computer systems. Local area networks were first developed as a means of sharing expensive peripheral devices such as laser printers. This original rationale was soon out of date (it is probably cheaper now to give everyone a personal laser printer than to install and manage a network for printing alone). However network versions of software packages reduced licensing costs and support costs by ensuring that everyone was using the same version of the same software. Databases available over the network could be accessed by anyone who needed them, delivering information to the desktop. More importantly electronic mail became a new and important method of communication. Fast, reliable, and independent of the presence of a person in his or her office at the time the message was sent, e-mail suddenly made it possible to communicate almost as easily with colleagues in an office across the city or across the country as it was with those whose offices were down the hall. The personal computer, which had been at various times a personal number-cruncher, a correctable typewriter, and an

Impact of new technology on information management

automated index file, now began to be used as a personal communication device to rival the telephone.

In parallel with these changes in computing, changes in communications technology were taking place. Fibre optic cable, capable of carrying 100 times more data than coaxial cable, made it economical to move large quantities of information from one place to another over a wide area. Institutions in the military and research community were taking advantage of this capacity to build large data transfer networks that would allow data to be transferred between many different types of computers. This wide area networking came to be called internetworking, because it represents not just a connection of computer to computer, but connections between one network and another at the regional, national and international levels. The best known of these internetworks is known simply as the Internet. Using standard "open" protocols, independent of a particular type of computer or manufacturer, virtually any two computers could be connected, and could cooperate, using readily available software, to provide information services to end users.

In this new era of networked computing, the way in which we use computers to manage information bears little resemblance to the way in which we used computers twenty-five, fifteen or even five years ago. Philosopher Thomas S. Kuhn used the term "paradigm shifts" to describe sudden revolutions in scientific thought that were brought about by a series of small but related discoveries. The same term has been applied to the major changes in the way in which we use computers, brought about by incremental improvements in basic computing and communication technologies. Looking back, we can see that these paradigm shifts happen about once every decade, and can delineate at least four different generations in the development of the computer, each with its own "ideal" (some might say over-simplified) model of what a computer system should be. In the first generation, huge mainframe computers processed data in batch using cards and tapes; in the second, minicomputers provided online time-sharing with users working on character mode terminals; in the third generation, personal microcomputers on top of users' desks provided individual data processing services on demand. While there are some differences in detail, by common consent we are now in the midst of a fourth generation, the generation of networked computers in which computers of different sizes and types are interconnected by networks, and information is processed cooperatively and displayed to users through sophisticated graphical interfaces.

These technological changes have affected the way in which we manage information. The kind of information we deal with, the way in which we distribute and present that information, the standards we use, even how we organize our information departments has been, or is being, influenced by technology. Our success in adapting information technology to the management of development information depends not only on our ability to recognize the potential of new technologies, but to anticipate the way in which emerging technological developments can be applied. It is hoped that by looking at how information technology has changed information processing in the past, we can anticipate future changes and be better prepared to help our organizations to adapt and to make effective use of technologies for information management.

PART II Changes in information management

I The nature of information

Increased processing capacity and increased storage capacities have changed the nature of the information. One of the major constraints of information system design in years past was the quantity of data that could be handled. The number of records maintained in an online system was limited by the available disk space; record sizes and field lengths were limited by memory and software constraints. System designers had to make hard choices about what data would be recorded, and what allowance would be made for including the longest possible values for data elements. Often long textual data elements, such as descriptions, summaries, or abstracts were simply left out of the computer record altogether. With larger storage capacities and lower storage costs, these constraints no longer exist, and information systems typically store many times the amount of data designed in the 1970's.

Not only can more information elements be included in database records, but many information systems are no longer restricted to storing and retrieving representations of documents, but can actually store and retrieve the full document itself. The management of this full-text data, however, raises retrieval problems that have not been entirely solved. Assigning subject descriptions or writing summaries for full-text information to aid in retrieval remains a labour-intensive, costly and often inconsistent process, yet progress in automatic indexing has not kept pace with increases in storage capacities or improvements in retrieval software. While in large databases of full-text information, it is easy to find some information of value, finding all the information relevant to a question and avoiding irrelevant information remains both a theoretical and practical problem. The solution, or at least a partial solution, may lie in intelligent vocabulary systems that will interact with users to refine and redefine a search by proposing links between words, and then will retain the knowledge of those connections that would provide assistance to other users. However wide-spread practical applications of this approach would still seem to remain some years off.

Successful full-text information systems depend not only on increased storage capacity and effective retrieval methods, but also on the ease with which this information is available in machine-readable form. Older printed texts can now be relatively easily converted to digital form: scanners are inexpensive and are often bundled with high quality optical character recognition software that can deal with complex multi-column, multi-font texts. The high cost of human handling of the document remains the limiting factor, meaning that only high-usage, frequently consulted information can be economically converted. Fortunately, nearly all business information is now created on a computer, and new, current information does not require conversion into digital form. However, making use of that information for management purposes means that an organization must have in place procedures to capture data as it is created, to categorize it as to its long-term usefulness and then to convert it into a standard format. Businesses have been slow to act in these areas, in part because of a lack of coordination between different departments within the organization, and in part because of the sheer quantity of information produced. To ensure that the information base needed for full-text systems will be available, we need better methods for archiving this information and for determining what is valuable and what is of only passing or transitory interest.

Changes in information technology also mean that information systems no longer need to be restricted to numeric or textual data. For the first time, graphics, sound and video information, which takes up much more space relative to its information content than text or numbers, can be handled economically. Cheaper storage devices and improved compression techniques have meant that we can now store this data; more powerful processors, faster video subsystems and increased memory mean that we can now enter, process and retrieve it quickly enough to present the information in real time with little loss of data quality.

"Multimedia workstations" -- computers that can process this kind of data require only a relatively small additional investment in hardware and software in terms of the cost of an average microcomputer for business use. Despite these advances, multimedia information challenges our traditional definition of information systems and our experience in their design and use. To make good use of this kind of information, we must develop new archiving, indexing, retrieval and preservation techniques. These problems have not been easy to solve, at least with the tools we currently have at our disposal.

Points for discussion

1.1 What standards for full-text information?

Successful full-text systems rely on having information in electronic form in standard formats that can be easily manipulated. There has, however, been no single clear path for an organization to take. A variety of different open and proprietary standards compete for dominance in this area: Open Document Architecture (ODA), Standard General Markup Language (SMGL), the Rich Text Format (RTF), proprietary electronic document formats such as Adobe's Acrobat, and word processing formats, in which large amounts of information are first produced. From the perspective of your organization, which standard or standards seem to be dominant, and why? How is your organization using or planning to use these standards in creating text databases for retrieval of information from publications, official documents, correspondence or electronic mail?

1.2 Does multimedia have a future in business?

Much has been written about the coming revolution in multimedia. While some forms of information, such as geographic information, have led to the development of important new applications, the vast majority of business information is still in numeric or textual form and most of the remainder is in the form of simple graphics such as charts and tables. Despite the talk about multimedia, and its applicability to home-based computing and popular entertainment, it can be argued that multimedia computing will have very little impact on business information management over the next ten years. Is multimedia an important information resource in your agency? What kinds of multimedia information, if any, do you currently use or expect to use in the next five to ten years?

2 Electronic publications

Electronic publishing is the process of making information available to others in electronic form. Development agencies are users of electronic publications when they access

information obtained from a commercial company, government agency or other development agency. However they are often publishers of information about their own activities, and some of those publications may be in electronic form. Both aspects of electronic publishing have effects on information management.

As electronic publishing tools become more widespread, more external information resources are available to development agencies in electronic form. One popular format is the compact read-only disc (CD-ROM), based on the same technology used for digital audio CDs. CD-ROM provides an ideal medium: light, inexpensive, relatively durable and able to hold large quantities of data. The disadvantages of CD-ROM spring chiefly from the wide variety of retrieval software used to access this information. Each producing company has its own software, each of which has particular installation requirements as well its own user interface. CD-ROMs are mostly used at individual workstations, but a number of CDs can also be made available through local area networks to staff in their offices or through centrally placed workstations. Licensing fees are higher for network installations and licensing agreements may require additional management and control; extra software and hardware must be purchased and installed on the network; special attention must often be spent on configuration of different discs. All these activities require extra time and effort on the part of information centre staff.

Internetworking has also opened up new possibilities for accessing electronic publications. Reduced communication costs, and the wide availability of client/server software has made it both easier and more economical to access databases and documents at sites scattered throughout the world. Information can be very up-to-date since there is no delay for production and delivery to the user site. However electronic publications accessed over a network also pose some considerable problems, particularly if the same resource is not available in any other form. How do you make this kind of information known and available to users? Indexing or cataloguing for electronic resources is limited at best, and finding tools may be awkward to use or offer incomplete coverage. Many organizations are developing their own separate navigational guides in the form of menus or home pages to help users to find electronic resources that may be useful. Information available on the Internet is not always of high quality, since it does not have to go through the same review and revision process usually required for printed publications, and resources need to be evaluated as to their reliability and usefulness. Since there is no physical product to provide some stability in the information, these information resources can change at any time, or even disappear altogether, so references to these sources require constant checking and revision to ensure that they are accurate and up-to-date. The vagaries of network connections and server overload can mean that resources are unreliable in terms of availability, or can result in very slow response at certain times of the day.

In order to disseminate information about their activities, and to justify the use of the funds that support those activities, development agencies need to provide information services to their stakeholders: tax-paying citizens for bilateral agencies, donors for non-governmental organizations, and a wide range of people, governments and organizations for multilateral institutions. This information is traditionally distributed in the form of annual reports, brochures, newsletters, conference proceedings, country reports, books and periodicals. Information technology used in the production of these materials means that at some point all

of these exist in electronic form, and could be distributed electronically instead of, or in addition to, printed form. Databases or series of documents compiled for internal use can be made available on CD or over the Internet for access through standard tools, like Gopher or World Wide Web browsers, that will already be familiar to users, or through specific proprietary software provided by full-text system vendors. The choice of medium and software depends on the form of information, cost, convenience, and the level of use, each of which must be determined on a case-by-case basis, but some form of electronic publication is required to "establish a presence" for an organization, i.e. to ensure that the agency is visible to the rest of the world. Information management is increasingly called on to supply information to this electronic publication process.

Points for discussion

2.1 User education for electronic information

Users increasingly are being expected to use electronic publications to find information, with or without the help of an information intermediary. How does your agency provide assistance to users trying to find information electronically on their own? What kind of training or familiarization opportunities for using CDs are made available to staff? What forms of training or support would you like to see in place? How does your agency help users in navigating the huge and often confusing information resources available over networks?

2.2 Forms of electronic publication

In publishing information electronically a choice must be made in terms of medium and general approach. CDs can be produced locally with inexpensive CD recording equipment, or by service bureaus or commercial CD publishers. Internet publishing can use a number of different services (e.g. FTP, Gopher, World Wide Web, WAIS) which provide information in different forms using different access methods and different interfaces. Full-text vendors such as Folio or Fulcrum are also providing electronic publishing software. What choices has your agency made in terms of electronic publishing and why? How has your information service been involved in electronic publications produced by your agency?

2.3 Electronic or print publication or both?

In publishing information electronically, development agencies need to take into account the ability of developing country institutions -- their partners in the development process -- to access those services. Many developing country organizations have no access to the Internet, or have only limited access to services such as electronic mail or file transfer protocol. What range of electronic publishing services does or might your agency provide? Is every electronic publication also available in printed form, regardless of the cost? What considerations have been made to help develop the capabilities of developing country institutions to access that information published electronically?

3 The presentation of information

Just as the typewriter started out as a luxury, and rapidly became a necessity in business, so we have seen 9-pin and 24-pin dot matrix printers, ink jet and laser printers set a basic standard for common business communication. Many businesses today would no more consider sending a client a letter printed on a dot matrix printer than they would consider sending one that was handwritten. The same high presentation standards apply to the information that we deliver to our end users. Just as information in typeset publications on glossy paper seems both easier to use and more reliable than information typed on newsprint, so the information we provide from our information systems will seem easier to use and more reliable if it is presented in an attractive form and layout.

Printed information is relatively easy to produce in this high quality format. Laser printers are economical to purchase and now can easily provide near typeset quality at 600 dots per inch. Where information needs to be specially formatted, word processing software has improved the sophistication of its formatting capabilities and desktop publishing software has improved the ease with which it can be used. While greater integration of these tools with information management software would be welcome, the extra investment to produce occasional high quality pieces for publication is not great.

However more and more information is being delivered to users in electronic form, where the display quality is determined not by a printer, but by the electronic display. Here both the way in which it is presented and the ways in which the user can manipulate the information -- in short the user interface -- takes on a greater and greater importance. The tremendous popularity and wide acceptance of graphical World Wide Web browsers such as Mosaic and Netscape is not due primarily to their usefulness in finding information. They do not, in themselves, provide searching tools. Though they provide hypertext capabilities, very little of the vast amounts of recent information available over the Web is true hypertext, but mostly lists of items, not conceptually different from the simple menu structure of other information services. The acceptance of these browsers is due largely to their high quality presentation. These products can use proportionally spaced fonts in different sizes and weights and colours, can display information with graphics, and can present information with a reasonable degree of white (or grey) space in the layout. They interact with users in a relatively straightforward graphical interface, where users can use simple actions like clicking on a desired item or paging up and down through the document to find what they need to know. The presentational qualities of these freely distributed softwares have raised the standard for electronic information delivery just as much as the introduction of inexpensive laser printers has for printed products: it will be increasingly difficult for information systems to provide less, and still be considered good systems by end users.

Points for discussion

3.1 User interfaces -- where do we go from here?

User interfaces are already quite sophisticated, and the insights of the work done at the Xerox PARC research centre in the 1970s have been heavily mined in the creation of today's

graphical user interfaces (GUIs). How will the increasing capacity of tomorrow's computers be used to make information systems easier to use? Increasingly sophisticated computing power, and the ability to store and analyse complex vocal patterns, will facilitate easy to use, efficient voice command systems. To provide accurate, flexible hand-written input, in voice recognition, or to provide the touch/screen interface that was put forward as the input method of choice ten years ago in the heyday of teletext. Will non-keyboard interfaces such as voice recognition be particularly applicable to developing countries, where opportunities to use computers and become familiar with a keyboard, a mouse and pulldown menus are more restricted? Will these systems become a reality within the next five to ten years? How can development information systems be adapted to be ready for, and able to use this technology if and when it develops?

3.2 Language and the user interface

With the world-wide diffusion of personal computers and personal computer software, and the increasingly global market for information, software developers have realized that there is a substantial market for their products outside of North America and Europe. With increased processing capacity, decreased storage costs, and common compression technology, it is now economic as well as feasible to process rapidly and efficiently text in a wide variety of non-Latin languages and non-Latin character sets. With the development of open standards, such as Unicode, the same software used by English or French speakers can be used to enter, manipulate and retrieve data in Hindi, Chinese, Arabic and Thai, and the same interfaces routines can be used to interact with users in their own language. What impact will this have on computer use and information management in developing countries? What impact will this have on information systems for development agencies, and institutions in developing countries? How quickly will we see these systems implemented? Is there more than just language required to make interfaces as easily used in the South as they are in the North?

4 Standards for networked information

In the past, the first questions were always *What make of computer do we buy?* or *What software do we choose?* An answer to one of those questions almost resulted in an answer to the second, since the choice of software that could be used for information management on a given computer platform or the choice of platforms for a given software package was severely limited. Nowadays, with information management networks using "open" systems to connect various different types of computer, and client/server computing allowing different softwares to communicate over a common network, the choice is more complex. In addition to choosing hardware and software, we must also choose the standards that we will use. Network computing depends on standards; choosing the inappropriate standard, whether for the network protocol, server operating systems, server software, client software or data formats can make it difficult to integrate all these components in the network, to upgrade one or more parts of the network, or to migrate to different systems. Standards exist on at least three broadly defined levels: network protocols, application protocols and data format standards.

Network-level protocols are sets of standards allow one computer and another computer to communicate. They include OSI, TCP/IP and proprietary protocols such as Novell's IPX. In some cases, you may need to deal with several different protocols, one for in-house services and another for providing services to users outside the organization or in distant offices. Not all applications will support all types of protocols, so it is important to ensure that you have the connectivity you require with users and with the institutions with which you want to share data.

Application protocols allow an application running on one system to cooperate with a program running on another; they govern the way in which you search for, retrieve or deliver information, and here there is an even wider choice. SQL, originally a proprietary development by IBM, has become a common protocol for obtaining business information from another system. SQL was not originally devised for long or full-text applications, and has been limited in its application to these kinds of information applications. Other protocols have been developed by other communities. The Gopher protocol and the HyperText Transport Protocol (HTTP), which is the underlying protocol for the World Wide Web, provide exploration of information resources and information delivery in a client/server architecture; the simplicity of the interface for the user and the easy availability of both client and server software has encouraged the creation of thousands of information resources almost overnight on the Internet. WAIS (Wide Area Information Service) is a search protocol that has become popular principally because it was the first search software freely available over the Internet. The American ANSI Z39.50 Search and Retrieval Protocol and the corresponding international protocols ISO 10162 and 10163 were developed by the bibliographic information communities, and are supported in new products by library systems vendors, CD-ROM producers, online database vendors, universities and national libraries in North America and Europe. Information managers must choose between these protocols in finding ways to deliver information to their clients.

Finally, *data format standards* facilitate the exchange of data between one system and another, including moving an information management application quickly and easily to a completely different system. Data formats vary tremendously depending on the kind of information you are managing. However basing data structures on a standard format facilitates exchange of data with other institutions, publishing the information electronically, and helps to ensure it permanent value, independent of a particular software or hardware. With computer hardware becoming obsolete on shorter and shorter life cycles, and software products that were once industry standards disappearing from the market place in a matter of a few years, the ability at the very least to export data to a standard format will make the work involved in moving an information management application to a new platform much simpler and easier. Point for discussion

4.1 Choosing the right standard

"Without standards and interoperability, internetworking falls apart. Standards alone do not guarantee interoperability; while standards are a pre-requisite, interoperability is only achieved through dialogue between users, vendors and systems integrators."⁴ The establishment of a standard is a complex interaction between vendors, standards organizations and buyers. For a durable standard to be established, each group must participate in the process. Buyers or users often spend time during selection to find out what has been chosen by similar

organizations and what works within other agencies before committing to certain standards and protocols. What software, standards or protocols has your agency chosen for information management applications, and why? Are you confident that these standards will see you well into the next century? What additional standards could be developed to help manage development information in a cooperative and useful way?

5 Information and the organization

The linking of distributed computers through communications networks has changed the use of computers. Computers were originally designed for computing (i.e. performing mathematical operations on numbers), and later adapted to the creation and retrieval of text and data. However once they are installed on a network and users have the ability to send and receive electronic messages, they are also a powerful tool for communication, as powerful as the telephone. The introduction of the telephone radically changed the structure of many businesses, allowing company presidents to move from offices directly above the production floor to head offices many miles or even thousands of miles away. The improved communication functions provided by electronic networks have a similar power to transform the structure of our organizations.

Better communication through electronic networks will allow greater physical decentralization of functions, at the same time permitting coordination and control of distant workers. Where once it was only possible to communicate swiftly with officers in the field through abbreviated and expensive telexes, we can now send long documents frequently and cheaply. Development agencies will be able to place officers in the field and have them maintain the same level of effectiveness they would have at head office. However the ability to communicate easily with head office and the availability of powerful local computers also mean that those field officers will demand the same information services offered to colleagues back home. Information management will have to deliver the same information to the office one floor away and to the office halfway around the world. It will no longer be possible to restrict service to normal working hours in one time zone; service will have to be provided twenty-four hours a day. Information managers and staff will be called on to satisfy the needs, for document delivery as well as information about information sources, of people they have never met, and whom they may never see in the course of their careers.

In order to meet the information needs of the staff of this new distributed organization, a wide variety of information services will have to be delivered to end users, with compatible, if not identical interfaces and delivery systems. Different information units within an organization will have to coordinate their efforts and cooperate more closely. Publications and press units, largely concerned with publishing information to the outside world, will need to ensure that the information is easily retrievable as well as available electronically; records management and document sections will be called on to provide subject access to the electronic archives of the organization as well as publishing on demand the text of the official documents themselves; libraries and documentation centres will have to deliver to users electronic sources of information they acquire (such as full-text CD-ROM databases) as well as their more traditional printed materials and electronic catalogues. This congruence of information access and information delivery may not result in a single information department, but it will require these different units to work more closely together than they ever have before.

Points for discussion

5.1 Support costs in a distributed network

One of the drawbacks of distributed networks is the high support costs they involve. Support only accounts for 28% of computing costs for a mainframe data centre, but accounts for 77% of all computing costs in a distributed environment⁵, largely because of the geographic dispersion of computers and users, and the divergence of types and configurations of machines. These costs will only increase as networks become larger and more dispersed. How do you provide help, training and support for users throughout your distributed system, including to users halfway around the world and in time zones 12 hours ahead or behind head office? What means are available to provide high quality support while containing and properly managing these costs in an open, distributed information environment?

5.2 Does e-mail have transitory usefulness or permanent value?

The use of electronic networks for mail communications also poses a problem for information management. Electronic mail as a medium sits somewhere between the informal, transient nature of a telephone call and the tangible physical form of a memo, letter or printed document. Our information systems are currently designed to ignore phone calls, but to retain and classify memos, letters and reports. What are we to do with electronic mail or electronic documents? How will this medium be treated, and how can we ensure that it is treated in a consistent fashion throughout our organizations?

5.3 The information intermediary

Intermediaries are professional that assist others by finding, analysing, manipulating or providing information needed by others within their organization. With information services increasingly being made available directly to end user through the enterprise network, the role of these professionals in information management may be changing. While the need for help may be greater than ever, given the complexities of using information in electronic form and the complexity of finding information on a world wide network, intermediaries may find their role shifting, from the role of information hunters and gatherers to those of scouts and guides, searching out new information resources, and teaching others how to use those resources directly. How is the role of intermediaries changing within your organization? Does management understand the continuing need for assistance in accessing and using information?

6 Informal sources of information

Internetworking has changed not only formal forms of information but also informal information flows. The "invisible college" was a term coined to describe the information contacts that took place between diverse professionals who were experts in a given field. These personal contacts were typically made at meetings of professional organizations or

academic conferences, where, in addition to listening to formal papers, experts would gather in the corridors between meetings or in the lounges of their hotels to discuss professional problems or to establish relations that would make it easier to communicate even after they had returned to their respective homes and jobs. Part of the value that an experienced professional brought to an agency was in knowing who in the same field was knowledgeable about a certain topic, and being able to ask that person questions and get quick and frank responses.

The "invisible college" is still alive and thriving, but we are seeing new developments in what could be called by analogy, the "electronic college". Through bulletin boards and discussion groups available over worldwide networks, people are able to put questions to large groups of people working in a specific area. Hopefully they get accurate responses from experts, but at least they usually get some useful tips from others who have wrestled with the same problem or asked the same question at some earlier point in time. This ability to identify and make use of expertise and experience is a tremendous information resource, even if it is not stored within a database or in the form of a document.

Networking also provide information services with the ability to provide similarly useful, but less format collections of information to a wide audience. One approach is to collect and codify some of the information in an electronic document that will provide basic answers, or as it is called in many Internet discussion groups, a Frequently Asked Questions document that will in itself provide a valuable information resource. For example, a list of questions frequently asked by employees of Tandem corporation was made available to employees in an electronic form and was accessed more than 1,000 times a month⁶. Another approach would be to publish an electronic newsletter with short, informal notices about new sources, new events, or even answers to current questions. By repackaging information this way, an information department can provide a valuable new service to the organization and its collaborators.

Points for discussion

6.1 Electronic colleges for information and development

What kind of electronic forums or summary documents could be useful to managers of development information? Do these forums already exist? Where? Are these forums also available to participants from developing countries? Are there additional kinds of discussions groups or topics that would warrant a summary treatment that could be made available. How could they be made available? What cooperative structure is required to create and manage these informal forums and discussion groups?

6.2 Network infrastructure in developing countries

Developing countries have benefitted directly from the decreasing cost of computing, and especially from the development of low cost personal computers and lowcost mass-market software. During the network era of computing, with the emphasis on electronic sharing of

information, developing country institutions could benefit tremendously from the many resources available over the Internet, and the expertise that is freely offered through many discussion groups. However internetworking requires a telecommunications infrastructure that does not yet exist in many developing countries or is very expensive in relation to other costs⁷. Without access to the international intellectual community, there is a strong risk that developing country institutions will be left behind and be shut out of the global communication networks, so that developing country scientists, researchers, technicians and decision-makers could fall farther behind. Are there ways for development agencies to encourage the development of the infrastructure necessary for global networking or are there low-cost ways for LDC institutions to tap into the rich resources of the global networks?

7 Coping with change

In the past we have witnessed a "paradigm shift", a major revolution in the way that we use and interact with computers, about every ten years. If this continues to hold true, it will not be long before the next major revolution is upon us. Many organizations have had difficulty in reacting to the rate of change in information technology, particularly in difficult budgetary times, and information systems that were once state of the art are now out of date. Even in those organizations that have reacted to change, doing so in a timely and effective manner is difficult. Providing high quality and effective services to information users means not getting so far ahead of technological developments that large investments are made in technological dead ends, and yet not getting so far behind that systems are perceived as dated or do not meet new and important needs.

A recent survey of American adults found that nearly 50% of them felt they were being left behind by advances in technology⁸. The figures were even higher among those with moderate or low incomes or people who had never used a computer before. If that is the consensus among American adults, what do the peoples of the Third World feel? The dangers are clear enough: "[t]he chasms between rich and poor could widen, for example, if the latest computing paradigm creates still more opportunities for educated people and still fewer for the uneducated"⁹. If developed country economies are moving more and more to use information management as a competitive edge, what chance is there for developing countries where experience with information technology is even now very limited?

The solution, if there is one, must lie in education. We have learned that, in terms of technology at least, what seems to be the final solution is in fact only a way station on a voyage to another place. Increasingly the only baggage that we can afford to take with us on this journey is the basic information itself that exists in computer-readable form, and the limited knowledge that our past experience in managing information has provided. Because of the continual and rapid development of new information technology, information systems, and the skills required to build and to use them, have to be re-invented every five to ten years. Increasingly both in development agencies and in partner institutions in developing countries, information management will require people with the technical training not to manage information, but to manage the technology that manages the information.

Points for discussion

7.1 Justifying the costs

Traditionally computer purchases have been treated as a capital cost, amortized over a relatively long period, e.g. five years. Increasingly however organizations are having to treat them as operational costs, that have no intrinsic value after a much shorter period, such as three years. Can we justify the expenses that are incurred under this kind of scenario? How can we show the return on investment, when technology is racing ahead at such a pace? How can we not continue to race after it, knowing that if we do not, our information services will remain neglected, underused, and ignored, perhaps at greater cost and at greater risk to our organizations?

7.2 Training for change

How do we plan for the future technologies when we only dimly sense what it might be? If it is hard for information managers in development agencies to keep up with these changes, how do we hope to make it easier for our colleagues in developing country institutions to do the same? What kind of training will help prepare today's information managers and technicians, not only for what we need to do next week or next month, but also next year and in the years to come? How do we prepare senior managers and executives to understand and appreciate the investments that are required to provide effective information management systems into the next century and beyond?



Impact of new technology on information management

Notes

1. **Business Week** March 6, 1975, p. 65. Progress in chip technology has been faster than other computing technologies. A comparison of the cost of the most powerful commercial mainframe computers (including peripherals and storage devices) over the course of 30 or 40 years shows that the relative cost of computing has roughly been halved only every three years (Tesler, p. 12).
2. Prices are provided for general comparison only and are generally quoted for purchase in American dollars in the U.S. Prices in most countries will be higher.
3. Tapscott, p. 129; cf McKenney, p. 17.
4. Jill Huntington-Lee. "Internetworks: connect or die" **Internetwork** vol. 5 no. 9 (Sept 1994), p. 28.
5. **Information Week**, Feb. 20, 1995, p. 57.
6. Sproull and Keisler, p. 134.
7. The UNDP has estimated that Internet access over a 64 kbps line will cost on average \$ 100, 000 per year for a developing country, in addition to one time equipment costs of \$ 20,000. (Zambrano, Raul. "The UNDP Sustainable Development Network", **Bulletin of the American Society for Information Science**, Feb./March 1995, p. 24).
8. **Los Angeles Times**, Feb. 21, 1995, v. 113 p. D2 col. 6.
9. Tesler, p. 21.