(Saur-München) Saur-London)

Organization descriptions (22,456 entries)
Descriptions, varying in length from several lines to several pages, are grouped into the following sections:
- Federations of international organizations
- Universal membership organizations
- Inter-continental organizations
- Regional membership organizations
- Semi-autonomous bodies
- Organizations of special form (including informal networks, conference series, information systems, funds)
- Internationally-oriented national bodies (including centres, development agencies, world affairs institutes)
- Inactive and dissolved bodies
- Multinational enterprises
- Religious orders and fraternities

In addition index references are provided to newly formed and unconfirmed bodies, as well as to multinational treaties and agreements.

Contents of descriptions
The descriptions, based almost entirely on data provided by the organizations themselves, include:
- Organization names in all relevant languages
- Principal and secondary addresses, with telephone and telex details
- Main activities and programmes
- Personnel and finances
- Technical and regional commissions
- History, goals, structure
- Inter-organizational links
- Languages used
- Name of principal executive officer
- Membership by country

Multilingual index (166,000 entries)
The computer-generated index provides the most detailed available means of identifying international bodies. Access is possible via:
- Organization names in English, French, and other working languages
- Former names in various languages
- Organizations cited as sponsoring bodies
- Name initials or abbreviations in various languages
- Organization name keywords in English and French
- Personal names of principal executive officers

Volume 1 is the well-known standard reference work, now in its 21st edition under United Nations auspices. For the second year it is supplemented by two additional independent volumes containing previously unpublished information which also serve as indexes to Volume 1:
Vol. 2 — Geographic Volume: International Organization Participation; country directory of secretariats and membership. ca. 1456 pages
Vol. 3 — Subject Volume: Global Action Networks; classified directory by subjects and regions. ca. 1072 pages

Volume 1 is also cross-referenced by the quarterly International Congress Calendar which lists future international meetings.

Edited by: Union of International Associations, Brussels
Published by: K·G·Saur Verlag München · New York · London · Paris
International Organization Participation
Country directory of secretariats and membership
2nd edition 1984/85, 1456 pages. Bound. DM 428.00
ISBN3-598-21861-3  0-86291-281-4
(Saur-München)  (Saur-London)

Secretariat countries
This part lists by country the international organizations which maintain headquarters or other offices in that country. Address details are given in each case.
Number of entries: ca. 16,000
Example: Over 780 bodies are listed for Switzerland, over 300 for Denmark, over 1,700 for France.

Membership countries
This part lists, for each country, the international organizations which have members in that country. For each such organization listed, the international headquarters address is given, in whatever country that is located.
Number of entries: ca. 126,000
Example: Over 1,500 international bodies are listed for Japan, over 500 for Kenya, over 2,900 for France.

in both parts the organizations are grouped by Yearbook section within the countries, with an indication as to whether they are intergovernmental or not. The entry number of the description of the organization in Volume 1 is given, so that Volume 2 may also be used as an index. Names of organizations are usually given in English, if that is a working language of the body (users interested in French or other language versions, by country or on microfiche, should contact the editors). Address details include telephone and telex. Also included are detailed statistical tables summarizing the information in various ways.

This computer-generated directory constitutes a unique guide to the involvement of any given country in the international community of organizations. Such information is normally not available to development agencies, governments, scholars, or to those offering services to international bodies associated with a particular country.

Edited by: Union of International Associations, Brussels
Published by: K·G·Saur Verlag  München · New York · London · Paris
**Global Action Networks**

**Classified by subject**
This part lists over 8,000 international organizations by subject according to their principal preoccupations (as in the commercial “yellow page” directories). Subjects however are grouped into both general and detailed categories (ca. 40,000 entries) as well as on the basis of interdisciplinary subject combinations (ca. 40,000 entries). The classification scheme highlights functional relationships between distinct preoccupations.

Total entries: 99,905
Number of categories: ca. 80 general and 800 detailed

In both parts the organizations listed within a category are grouped by Yearbook section, with an indication as to whether they are intergovernmental or not. The entry number of the description of the organization in Volume 1 is given so that **Volume 3 may also be used as an index**. Organization names are usually given in English if that is a working language of the body (users also interested in French or other versions, by category, on microfiche etc. should contact the editors). **Address details** for the secretariats of the organizations are given with telephone and telex numbers where available. Detailed **statistical tables** summarize the information of this volume in various ways.

**Classified by region**
This part lists international organizations according to the region with which they are particularly concerned. (e.g.) Africa, Caribbean, Nordic, etc.)

Number of entries: 10,981

**Citation index**
In this part are listed the English names of international organizations cited as contacts by any of the 16,000 other international bodies. For any given organization cited, a list is given of other bodies claiming some form of contact. The index entries give the entry number of the description of the citing body in Volume 1.

Number of citations: ca. 11,500

**Publication title index**
This part lists in a single alphabetical sequence the titles of publications produced by international organizations as listed in the descriptions of organizations in Volume 1. Titles include periodicals (with frequency) and other current publications. The English name and the entry number of the organization in Volume 1 is given.

Number of entries: ca. 7,000
World Problems and Human Potential
2nd edition 1985/86
Approx. 1,500 pages, Hardcover. Approx. DM 428.00
(Publication date October 1985)

World Problems
In approximately 1500 pages, over 4500 problems are described, covering:
- Food, agriculture, forestry
- Environment, resources, energy
- Trade, development, finance
- Unemployment, labour conditions
- Government, regulation
- Housing, amenities, communication
- Peace, disarmament, security
- Injustice, crime, human rights
- Social problems, minorities, underprivileged
- Education, illiteracy
- Disease, mental health
- Cultural heritage, ideology
- Unusual problems
- Excluded: theoretical or procedural problems

There is one entry per problem, the entries varying in length according to the information available. The information is structured to cover the nature of the problem, its incidence and its background; both a stressed argument and a counter argument are presented. The text itself uses the words of authoritative sources. Sub-problems are treated as separate entries.

Cross-references
Over 50,000 cross-references interlink entries in this volume. Relations may be of several types, for example:
- to a more general problem, of which it is a part
- to more specific problems, of which it is composed
- to problems which aggravate or alleviate it

Human Potential
The following planned sections and subsections provide a wide range of difficult to obtain information relevant to the challenge of world problems and the future of human and social development.
- Human values
- Metaphors
- Intellectual disciplines
- Social transformation
- Transformative conferencing
- Innovative techniques
- Human development
- Configurative communication
- Integrative concepts
- International organizations
- Occupations and roles

Edited by: Union of International Associations, Brussels
Published by: K·G·Saur Verlag München · New York · London · Paris
WHAT INFORMATION ON ORGANIZATIONS IS PRESENTED
Sample paragraphs from entries

The following paragraphs, taken from the descriptions of different organizations as reproduced in the Yearbook of International Organizations, Vol 1, and the specialized Guides, illustrate the range of indexing possibilities. Descriptive entries vary in length from 3 to 500 lines, according to both the nature of the organization and the amount of information available.

**Organization title in English (if available)**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Organization titles in other languages**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Institution**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Date and place of foundation**
- indexed in special index

**Former titles**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Subject keywords (English and French)**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Artificial activities keywords**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Interdisciplinary combinations**
- classified in Yearbook 1 Section II

**Consortial Status**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**IGO Relations**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**NGO Relations**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Membership bodies**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Identified sector problems**
- described in Yearbook 1
- indexed in Yearbook 2
- indexed in Guides 1 2 3 4 (where relevant)

**Social transformation strategies**
- described in Yearbook 4

**References**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

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**Subject groups**
- indexed in special index

**Crafts/Artives keywords**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Interdisciplinary combinations**
- classified in Yearbook 1 Section II

**Consortial Status**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**IGO Relations**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**NGO Relations**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Organization title in English (if available)**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Organization titles in other languages**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Institution**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Date and place of foundation**
- indexed in special index

**Former titles**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Subject keywords (English and French)**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Artificial activities keywords**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Interdisciplinary combinations**
- classified in Yearbook 1 Section II

**Consortial Status**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**IGO Relations**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**NGO Relations**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Membership bodies**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)

**Identified sector problems**
- described in Yearbook 1
- indexed in Yearbook 2
- indexed in Guides 1 2 3 4 (where relevant)

**Social transformation strategies**
- described in Yearbook 4

**References**
- indexed in Yearbook 1
- indexed in Guides 1 2 3 4 (where relevant)
GUIDES TO INTERNATIONAL ORGANIZATION

598 pages
This Guide presents information on the various international organizations active in relation to 55 African countries. Although it is largely drawn directly from the Yearbook of International Organizations, 1984/85, additional research enabled the descriptions to be not only updated but greatly expanded.

The Directory consists of three main parts:

Part I: African Organization Descriptions
Included in this section is a computer generated, multilingual index of organizations, which is followed by detailed descriptive entries for the organizations, grouped according to organization type.

Part II: African Secretariat Countries
This section is preceded by an index assigning a numerical code to each country. It then lists, for 55 African countries, the international organizations with secretariats in that country.

Part III: International Organizations with African Membership
As for Part II, this section is preceded by an index assigning a numerical code to each country. It then lists, for 55 African countries, the international organizations which have members in that country, or of which that country is a member.

Easy access to this information is provided by:
- computer generated, multilingual and multi-access index
- detailed descriptive entries on over 800 organizations
- up-to-date references
- statistical data.

N° 2 : Arab and Islamic International Organization Directory, 1984/85
464 pages
Following the pattern set by the first Guide, this presents information on international organizations active within the Arab and Islamic countries. Again, additional research findings have been incorporated into the descriptions.

This Directory is also structured into three parts:

Part I: Description of Arab and Islamic Organizations
The first part consists of a computer generated, multi-access index of organizations and detailed descriptive entries of the organizations, grouped according to organization type.

Part II : Arab-Islamic Secretariat Countries
Part II lists, for each Arab and Islamic country, organizations that have their main or regional secretariats in that country.

Part III : International Organizations with Arab or Islamic Membership
This section lists, for each country, organizations in which that country has members, or of which that country is a member.

As in the African guide, there is an extensive index and statistical data.

N° 3 : International Organization Abbreviations and Addresses, 1984/85
530 pages
This publication is a response to the need for a compact directory of international organization names, initials and addresses for those who do not immediately require the more extensive descriptions in the Yearbook of International Organizations.

A version of Part I of this Directory was last published by the UAI in 1963 under the name International Initiales/Sigles Internationaux, which listed 2,200 abbreviations with their accompanying titles.

Although there are now a number of abbreviation directories, none of them is designed to help users contact the organizations included. This is the special intent of this Guide. The user can gain easy access to 14,020 organization addresses (Part III) via the initials (Part I) or the organization name (Part II).

The three complementary parts contain the following:

Part I: Abbreviations with Organization Names
11,428 abbreviations in alphabetic order, cross-referenced to Part III.

Part III: Organization Names with Abbreviations
18,970 organization names, whether or not they have initials, in alphabetic order, cross-referenced to Part III.

Part III: Organization Names and Addresses
14,020 organization addresses in reference number order.

The reference numbers given in all three sections also refer to the full descriptions appearing in the 1984/85 edition of the Yearbook. The tables of statistical data are also included in this volume.

N° 4 : Intergovernmental Organization Directory, 1984/85
764 pages
This volume presents information on 1,890 intergovernmental organizations, including especially their interrelationships with other organizations. This Directory has seven parts:

Part I : Index
Multilingual index to intergovernmental organizations (in Part II) and multilateral treaties (in Part III) by name, abbreviations and keywords. The index contains 37,295 items.

Part II : Intergovernmental Organization Descriptions
Detailed descriptive entries of 1,690 organizations in reference number order, according to organization type.

Part III : Multilateral Treaties
Updated summary listings of 1,415 treaties, conventions and agreements, identified by the reference number in the index.

Part IV : Intergovernmental Organization Secretariats
A listing of 2,049 secretariat addresses (with telephone, telex, etc.) by country of location.

Part V : Citation Index
Alphabetical listing of the network of 4,083 organizations cited in the descriptive entries in Part II as having formal relationships with them.

Part VI : Publication Index
This part lists alphabetically 1,343 periodical and non-periodical publications mentioned in the descriptive entries in Part II.

Part VII : Foundation Date Index
An index listing 2,352 organizations and treaties by year of creation.

A section with statistical data reproduced from International Organization Participation (Vol 2 of the Yearbook of International Organizations, 1984/85) contributes to the reference material contained in this volume.

Note
The above publications may be ordered from K. G. Saur Verlag, Postfach 711009, D-8000 München 71, Federal Republic of Germany.
Tel (089) 79 89 01. Telex 05 212 067 saur d.
 DIRECTORY OF RURAL DEVELOPMENT PROJECTS

The Directory of Rural Development Projects 1985/86, in its first edition, constitutes Volume I of a new series derived from the International Exposition of Rural Development, 1982-85. It is an overview of a large variety of rural development projects being developed in some 50 countries, and the approaches that make them effective in their fields. Descriptions of these projects may be accessed through a variety of indexes and cross-references. Details are included for how to make direct contact for further information.

Rural development projects
In 425 pages approximately 300 projects are indexed and described covering:
- Agriculture
- Community Planning
- Education
- Cottage Industries
- Health
- Women
- Environment
- Housing
- Culture
- Rural Credit
- Appropriate Technology
- Cooperatives
- Small Businesses
- Legal Aid
- Youth
- Infrastructure
- Elders
- Animal Husbandry

Entries
There is a one page brief on each project varying in length according to the information available. The entries include some urban projects which are dealing with issues to those be confronted by rural development. Entries are from both the more developed and less developed nations. This wide variety of entries intends to further the multi-ologue of rural/urban, north/south, south/south and north/north, on all futures in rural development. Each entry is structured to cover:
- Name and Location
- Summary
- Sponsorship
- Project Description
- Objectives
- Programme Activities
- Accomplishments and Learnings
- Contact Person(s).

Sources
The projects in the 1st edition were derived from two years of research in 50 countries which was reviewed and compiled at the Central International Event of the International Exposition of Rural Development (IERD) in New Delhi, 5-15 February, 1984. These briefs are a collaborative effort between the Project and the Editor with an emphasis on how each project describes its own work and accomplishments. Projects were identified from the following sources:
- UN Agencies
- International NGOs
- IERD National Steering Committees
- Government Ministries
- National NGOs
- IERD Global Advisory Board.

Cross-References
Two different cross-referencing systems interlink entries in this volume.
- A Related Subjects Cross-reference of over 75 primary and secondary emphases
- An Approaches Cross-reference relating the approaches to emerging directions and emphases in rural development identified through IERD findings.

Directory organization
The following planned sections and subsections provide a wide range of access and means of identifying projects and organizations undertaking rural development.

Project and Sponsor Indexes
Global Index: A global index gives an alphabetical listing of projects and sponsors from fifty countries included in this directory.
Continental Index: Projects and their sponsors are also listed alphabetically by continents to facilitate contiguous geographic searches.
National Index: The national index lists alphabetically the projects and sponsors within each nation.

Project Briefs
The one page project briefs are organized in the following geographic groupings:
- East, West and South Africa
- North Africa and the Middle East
- East and West Europe
- North America
- Caribbean, Central and South America
- South Asia
- East and Southeast Asia and Pacific.

Cross references and analyses
Related Subjects Cross Reference: Projects are cross-referenced under 75 major development subjects reflecting the focus of each project's work. Trends and Key Analysis: an abstract of 30 different rural development trends and keys to effective rural development compiled from documentation of the IERD. Approaches That Work: Over 500 specific approaches currently being utilized in rural development projects are listed by project and related to the rural development trends. These were identified in the Central International Event of the IERD as those which the practitioners themselves considered significant.

Computerised database entry and access
Information on how to enter new projects, how to update information on existing projects, and how to access information concerning projects on a selected subject basis is provided in the conclusion. This database is currently being developed in a collaborative venture between Control Data Corporation and the Institute of Cultural Affairs International.

The IERD series of publications
Edited by the Institute of Cultural Affairs International, Brussels, based on the findings of the International Exposition of Rural Development (IERD), in collaboration with the Union of International Associations and advisory editors.
The first volume includes the official texts of nearly 600 statutes of international nongovernmental organizations described in Sections A, B and C of the Yearbook of International Organizations, namely bodies with membership in countries in at least two continents.

Future volumes will include statutes of organizations from other sections, namely regional bodies and those of a less conventional structure. They may also include statutes of lesser known intergovernmental bodies or those of a hybrid governmental/nongovernmental nature.

In future volumes priority will continue to be given to inclusion of the statutes (and amendments) for nongovernmental organizations in Sections A, B and C of the Yearbook. Priority will be given to the English version of statutes, although texts in other languages will be included when appropriate.

In contrast to the Yearbook series, each volume of the Statutes series will only include information not published in previous volumes of the series.

This series is intended to serve the following purposes:

- to provide those endeavouring to establish new international organizations with models of statutes of existing organizations to serve as guidelines
- to provide existing international organizations with ideas for useful amendments to their own statutes
- to provide international organizations with a publication in which they can "register" their statutes and amendments in a manner that will ensure their availability in appropriate reference libraries
- to provide a collection of statutes to serve as a basis for comparative studies from which insights concerning more fruitful organization constitutions may emerge
- to reinforce the slow evolution of international law towards explicit legal recognition of the existence of nongovernmental international bodies
- to reassure governments of countries having no legal provision for recognizing international nongovernmental bodies, by providing them with examples of the statutes governing organizations engaged in well-regulated international action.

The description of international organizations in the Yearbook of International Organizations are insufficient for some purposes. In particular the space available precludes mention of the precise regulations specified in the statutes of such bodies. This was not the case when the predecessor of the Yearbook, the Annuaire de la Vie Internationale (1908–09; 1910–11), was first published. The statutes were then reproduced in the volume (which reached a size of 2652 pages). At present, although the complete texts of statutes of the better known intergovernmental organizations have since become fairly readily available in several collections, no such collection has existed for nongovernmental organizations since 1911.

Despite a number of initiatives since 1920 to formulate and implement an international convention to recognize the legal status of international nongovernmental bodies, the publication of the first volume of this series takes place at the time of the first serious debate on this question by a major intergovernmental body, namely the Council of Europe. It is hoped that this series will reinforce those efforts and facilitate any actions arising from them.
ANNEX E

Detailed review of Information system

1. UIA (in-house)

1.1 Present situation:

It is appropriate to recall the original reasons for which the UIA decided to make significant investment in further development of its information system:

(a) Outdated input terminals: The original Datapoint 2200 terminal was obtained in 1974. Over time 3 others have been obtained to handle the increased workload. On average these are used at 70-80% capacity. This equipment is now totally obsolete and for the past 2 years it has proved impossible to negotiate maintenance agreements through normal commercial channels. A special maintenance agreement, extended on 3 occasion, has been negotiated with the Banque de Bruxelles as part of their "computers-for-schools" project. The maintenance is not charged but the computers become the property of the bank as soon as new UIA equipment has been installed. It would be very embarrassing to request a fourth extensives beyond the current deadline of 30th June 1985. Due to the preceding extensions the computers have already become of very limited value to the schools project.

(b) Constraints on services: The existing (batch) system, functioning via the service bureau (Intersys), imposes severe constraints on the extension of UIA information services. This is primarily due to the batch mode of operation and the consequent cost of extracting small portions of the data on request.

(c) Dependence on Intersys: In addition to the constraints noted above UIA experienced increasing concern at the dependence on Intersys, and on the goodwill of the main contact there. This is unhealthy in a volatile industry, rendering UIA services vulnerable to the whims of commercial policies. Proposals from Intersys to transfer to an on-line mode involved significant costs without corresponding increase in flexibility. A major factor was however the degree of dependence on Intersys which would have resulted.

(d) Unintegrated files: The development of the information system had not resolved problems arising from inability to link organization and calendar operations, or to provide for satisfactory handling of address lists, or to enable appropriate personalized contact with organizations.

(e) Editorial constraints: The existing system, whilst
sophisticated on the data manipulation and indexing side does very little to facilitate editorial tasks. Editors have great difficulty in knowing the current state of an organization description, especially at the level of name/address. As a result considerable time is spent in writing, sorting and filing messages.

(f) Modernization: Since UIA purchased the original Datapoint, there have been considerable advances in office automation to which access could be obtained by judicious replacement of the Datapoints and extension of computer-facilities to editorial staff. These include integration of mailing, word-processing and database management.

(g) Research constraints: The UIA has been severely embarrassed in processing an extensive database but being unable to use it in response to requests from (i) university and other researchers or (ii) its own Associate Members. In the case of the latter, increasingly sophisticated services are being offered by other bodies.

1.2 Feasibility studies
The following stages have been taken to initiate the modernization process:

(a) Discussions with Intersys: As noted above, the service bureau advice has been sought and various proposals received. This process has been equally frustrating for both parties. Basically the UIA is an "awkward" client with non-standard problems to which it is not profitable for the service bureau to allocate resources (other than at an exhorbitant price).

(b) Discussions with ICHEC: A consultant was employed in December 1983 to clarify the problem with the aim of facilitating the task of Intersys (or a competitor). The ongoing dialogue with the consultant has been very helpful although it did not result in a satisfactory proposal from the service bureau (or any of its competitors).

(c) Discussions with PC distributors: Since the key to any new system is to profit from existing hardware and software to the extent possible, numerous contacts were made with distributors of micro and mini-computers. Basically this resulted in a decision in favour of IBM compatible personal computers, of which the exact number depends on how useful they are when linked together in a network (within UIA offices).

(d) Feasibility study by ICAI: Since October 1984 the UIA has employed the service of an international NGO (Institute of
Cultural Affairs International) offering a computer consultancy service, to study and implement a suitable system based on IBM compatibles. ICAI is itself extending its own pool of personal computers and has complementary interests in the conclusion of the project.

1.3 Description of planned system

Two possible system designs were considered: (i) a network of (unintelligent) consoles linked into a mini-computer, or (ii) a network of (intelligent) workstations linked together by a local area network. The advantage of the first is normally the relatively low cost of the consoles. Its weakness is its relative inflexibility and the need to invest heavily in software development for that particular system. The advantage of the second is the availability of software and the flexibility and independence of the workstations within the network (or detached from it). Since the success of the previous investment by the UIA in system development derived from the system flexibility, this was an important factor in the decision in favour of the second design in favour of the second design. Basically a micro network is expected by the industry to be more adaptable to future developments at lower cost.

(a) Hardware:

Workstations: These are IBM compatible with a distinction where appropriate between the make purchased based on financial, reliability and ergonomic consideration.

- High-speed corrections: The replacement for the Datapoints are BMX personal computers. Here the consideration is keyboarding facility.

- Editorial work: The main consideration here is noise level and eye fatigue.

- File server: One machine is required to manage the network linking the personal computers, to provide them with access to the large memory disk, and to provide common printer facilities. This machine is an extended BMX personal computer.

Workstation augmentation: The quality and power of a workstation is constrained by: (i) the amount of internal memory, normally 256; (ii) the processing speed; (iii) the screen resolution; (iv) facilities such as built in calendar and keyswap software. The software selected needs a minimum of 384 K internal memory (512K for development work) and a math
co-processor board is strongly recommended to improve access times. A higher screen-resolution is vital for ergonomic reasons, whereas the built in calendar speeds up the logon time and is a basis for checking record entry dates.

Main memory disk: To store most of the UIA files for:
- organization descriptions
- calendar entries (future and past)
- problems descriptions
with some possibilities for expansion and copying sorted versions, a 76 megabyte hard disk was chosen. Further disk capacity can be added as required. One of the significant advantages of a large disk is the lower access times (e.g. 35ms against 60ns).

Network hardware (and software): This ensures the actual links between the individual personal computers and the main memory disk via the fileserver workstation.
It consists of an interface card in each personal computer, the wiring between them, and the operating software in the file server. The choice of network was based on the need to ensure that work on a document from one workstation could not be interrupted by requests for the same document from another (record locking within file as opposed to simple file-locking). Only the Novell Netware system provides this without special programming. This is also the most rapid of the networks, a vital consideration in providing for access to the very large number of documents during normal editorial work. The choice was made in favour of the least sophisticated Netware system to permit easy alteration of the wiring between workstations which in this case is based on ordinary telephone wire rather than the much more expensive coaxial cable.

Tape drive for backup and communications: To safeguard against breakdown of the system, it is necessary to make a copy each day of the contents of the main memory disk onto a tape. The less expensive method of doing this by (use of a cassette streamer tape unit) does not permit transfer of the tape to other computer systems (e.g. the service bureau in Brussels, or the photocomposers in London). It was therefore decided to opt for a unit which could serve this dual purpose by using standard magnetic tapes. This is therefore the main method of transferring information from the service bureau to UIA and back.

High speed printer: In order to print out the documents from the main files (e.g. organization entries for dispatch to the organization for checking) a high speed printer is required. If speed was the only consideration then this problem could be resolved at relatively low cost. It is however counter
productive to send low quality texts to organization for checking. In addition it is desirable to be able to produce entries with a variety of characters and typefaces so that UIA can generate its own mini-directories and reports in camera-ready (or offset-ready) form. Other considerations are the desirability of having a printer capable of producing quality bulk mailings of personalized letters and the possibility of producing a quality newsletter by this means. For this reason a laser-jet printer was selected (which has the additional merit of being quiet).

Workstation printers: It is desirable that some workstations be able to print selected entries or portions of entries in order to work on them (e.g. in the case of editors before passing them on for high speed correction). Here the main consideration are compactness, low cost and above all quietness of operation. For this reason ink jet printers were selected.

Telecommunications modem: Since one purpose of the system is to offer greater access to the data to Associate Members, for example, it is important to experiment with this possibility using minimum telecommunication facilities, namely a modem link to the telephone network. This will enable external users to call up the system from their own computer. Initially the main consideration will be testing out the accounting and file security considerations. It would also be useful for links with associated bodies (e.g. ICAI for development purposes) and to computer conferences.

Document reader: Consideration is being given to purchase of a remarkably simple document reader to enable typewritten report texts to be fed into workstation memory for further word-processing.

(b) Hardware maintenance

It is obviously vital that the above hardware should be repairable in the event of breakdown. In each case appropriate maintenance contracts can be concluded once the period of guarantee is exceeded. In addition it is important that there be the possibility of switching workstations to ensure that priority work is uninterrupted because of any workstation failure. Failure of the network or the main memory disk is handled by "high speed" maintenance contracts. Failure of the communication tape unit can be partially overcome by use of floppy disks as communication and storage devices.

(c) Software
One of the main considerations in the system design was the availability of suitable software to manage the database containing the various UIA files. The search for a suitable combination of software packages caused considerable delays in reaching a decision on an appropriate design. Several complementary software features are required.

Database management: This is the software which provides access to the entries:
(i) for editorial consultation, and minor updates,
(ii) for major high-speed corrections (on the basis of editorial instructions),
(iii) for formatting entries for questionnaires, mini-directories etc,
(iv) for mail address labelling and personalized letters,
(v) for indexing to facilitate access to entries, especially in the case of the calendar,
(vi) for special searches in response to queries from researchers or Associate Members. Whilst there are a large number of database packages available few of them can be adapted to the UIA problem of a large number of entries with highly variable quantities of information (on any entry or any part of an entry), especially in a form adapted to operation in a local area network with a record locking requirement. The technical term for the UIA data base is a "text data base". The problem is further complicated by the need for both high speed (blind) typing and editorial consultation. The software selected is a package known as Revelation which is especially compatible with the Netware system, namely, it is available in single and multi-user version.

Network software: The operating system to manage the network has been mentioned in connection with the network hardware above.

Special routines: There are a number of peculiar features to UIA data processing (e.g. special characters, photocomposition constraints, etc) which necessitate additional routines to adapt the basic data base package. Revelation is a sophisticated, yet easy-to-use package, with powerful facilities for special adaptations to UIA's requirements. This work, to the extent that it cannot be performed as part of the ongoing use of the system, has had to be specially commissioned.

Telecommunications software: This is built into the Revelation package. Further development could be required to permit communication to or from non-Revelation users and to ensure appropriate accounting. Telecommunications packages for a variety of purposes are readily available.
Other packages: The choice of IBM compatible machines means that a very wide variety of other software packages are available if and when required. At this stage the main needs are for:

(i) key enhancement software for use with Revelation
(ii) word processing software, when the Revelation software is inappropriate (e.g. for individual letters not requiring address from the database),
(iii) a package facilitating use of Revelation by new users.

1.4 Implementation of system

A numer of factors govern the rapidity with which the system can be implemented. They include: (i) the need to proceed by stages to ensure continuity of production and minimize exposure to unforeseen difficulties;
(ii) the need to test out certain possibilities before becoming fully dependent upon them;
(iii) the time and resources required to implement the more sophisticated features of the system;
(iv) the need to meet certain key deadlines (e.g. Datapoint replacement, significant demonstration for Associate Members meeting in the Autumn)

(a) Datapoint replacement: This is expected to take place on schedule for 30th June, to enable calendar, problems and statute production to continue uninterrupted.

(b) Downloading of files: Files or portions of files have already been downloaded from the service bureau to the UIA system for test purposes. It is expected that key files, such as the calendar, will be definitively downloaded in the July-August period. The downloading of organization files can be phased in through November without any strain on production. Depending on difficulties, portions of problems files can be downloaded from July through September to facilitate completion of that publication.

(c) Network operation: This is not expected to create any special difficulties. The network should be operational for test purposes by June 30th.

(d) Editorial facilities: Minimal facilities should be available in June -July, with more complex facilities being implemented progressively thereafter in the light of test and feedback.

(e) Mailing facilities: Address labelling facilities should be
operational for when the organization files are definitively downloaded.

(f) Consultation facilities: Many of these faculties are an integral part of the software and may therefore be used when the relevant files are downloaded.

(g) Integration of calendar and organizations: This is fairly easy to implement from the calendar side but will only be operational when the organizations files are definitively downloaded. For organization entries to benefit, editorial standardization will be required.

(h) Organization/Organization cross-references: This will be done progressivily, as time permits, since it involves editorial intervention.

1.5 Personnel involvement:

The value of a system of the kind in process of implementation is as much dependent on the people who work with it as on the hardware and software. Use of the system is not expected to give rise to any difficulties for the following reasons:

(1) most of the UIA documentation activities already involve a high degree of computer orientation. Most people have already had hands-on experience of the UIA NCR word processor to facilitate their own tasks. The new system is really designed to make use of the computer more convenient where it may be of benefit.

(2) on the "Datapoint side", the new system should offer a number of advantages which are highly desirable to those involved.

(3) on the editorial side, it is as yet unclear how people will want to use the system. It is expected that people will find different ways of using it, depending on the work they are doing. It would be inappropriate to be over precise in defining how it is to be used, since this depends on a process of collective learning and experiment which will undoubtedly continue through the next Yearbook production cycle and beyond. The system can be used flexibly by editors in ways familiar to them or involving new skills as they acquire them, and if they prove useful. The experience with the NCR illustrates the success of a flexible response to the availability of a new tool.
(iv) on the use of the system for consultancy/research purposes and for the structuring of new by-products, much learning will be required. This is largely a question of trial and error and should not give rise to any difficulties.

(v) on the system management side, learning will also be required to work out how what knowledge must be shared to ensure continuity of daily operation of the network. As a new way of working, it is important to stress that use of the systems becomes a continuing learning experience which can be interesting to all involved.

1.6 System vulnerability:

The price of independence from the service bureau is of course vulnerability to the problems from which service bureau operations protected the UIA. These include:

(i) hardware failure and the inability to perform operations on particular unique machines (e.g. printer, tape, disk).

(ii) electrical system failure

(iii) human operational errors

(iv) loss of data from (i), (ii) and (iii)

The response to (i) and (ii) has been discussed under hardware maintenance above. Problems associated with (iii) and (iv) may be contained by use of security codes to limit the damage, and by using backup files to repair it. Both the network software and the database software provide a variety of security measures.

In the implementation phase, the transition will be organized so that it is possible to switch back to service bureau operations temporarily if there are any problems.

2. UIA (Intersys service bureau, Brussels)

2.1 Present situation

A normal Yearbook (Volume 1) cycle has just been completed without any major problems. Relations are good but the price for services is increasingly onerous in terms of UIA needs.

2.2 Transition phase-I
Corrections to UIA files will be sent on diskette or tape as from the end of June. Some files will be downloaded to UIA for lookup purposes (test updating only).

2.3 Transition phase-II

Some files will be downloaded permanently for update.

2.4 Situation for 1986

All files will be downloaded permanently. Files will be sent to the service bureau only for operations requiring special programs (e.g. for Yearbook Vol 2 or 3). The cost of using these programmes will be compared with the cost of producing new (and more efficient) programmes to do these operations on the UIA system.

3. UIA (Computaprint, London)

3.1 Present situation

A normal Yearbook (volume 1) cycle has just been completed without any major problems. Small additional investments have been made in software developments

- to improve presentation

- to reduce the number of tapes sent from Brussels to London

3.2 Planned developments

Further minor developments of software will be required:

- for Yearbook (Vol 4) to handle cross-references

- for all Yearbooks to handle any modifications arising from the entry number required in the new environment

3.3 By-passing Computaprint

It is hoped that some mini-publications can be brought out directly on a UIA printer without having to send tapes to London. This is one of the merits of a laser printer.

4. UIA (European Space Agency)

The possibility of giving on-line access to UIA files via the ESA/IRS data network is still under consideration.
5. UIA Telecommunication

Given the facility and low cost, there is every justification for experimenting with on-line access from external users to the UIA data base (or portions thereof). This requires use of an (acoustic) modem. Such a facility would be used for:

- Associate Members
- contact with other data bases
- collaboration with ICAI for system problems
- participation in computer conferencing exercises
- collaboration with UNESCO