

Information Management in the Institute of Water and Sanitation Development Harare, Zimbabwe

Report of a field mission

22-28 March 1998

by

J. Stephen Parker

and

Nigel Browne



The Hague

IRC International Water and Sanitation Centre

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Cover photo: IWSD Headquarters, Harare. (Photo: Nigel Browne)

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IRC International Water and Sanitation Centre
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Abbreviations and Acronyms

CREPA	Centre Régional pour l'Eau Potable et l'Assainissement à Faible Coût
DCE	Department of Civil Engineering (University of Zimbabwe)
DfID	Department for International Development (United Kingdom)
DGIS	Directorate General for Development Cooperation (The Netherlands)
GBP	British Pound
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
HND	Higher National Diploma
IDRC	International Development Research Centre
IHE	International Institute for Infrastructural Hydraulic and Environmental Engineering
IRC	International Water and Sanitation Centre
IRCDOC	IRC Documentation Unit database
ISNAR	International Service for National Agricultural Research
ITN	International Training Network for Water and Waste Management
IWSD	Institute for Water and Sanitation Development
JMP	Joint Monitoring Programme
LAN	Local Area Network
NAC	National Action Committee for Rural Water Supply and Sanitation
NETWAS	Network for Water and Sanitation International
NGO	non-governmental organization
NORAD	Norwegian Agency for International Development
ODA	Overseas Development Administration (United Kingdom; <i>now DfId, q.v.</i>)
OPAC	Online Public Access Catalogue
SADC	Southern Africa Development Community
SATIS	Socially Appropriate Technology International Information Services
TCWS	Training Centre for Water and Sanitation
TREND	Training, Research and Networking for Development
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
USD	United States Dollar
WASH	Water and Sanitation for Health
WEDC	Water, Engineering and Development Centre, Loughborough University
ZWD	Zimbabwe Dollars

Preface

This report presents the findings, conclusions and recommendations of a mission to the Institute for Water and Sanitation Development (IWSD) in Harare, Zimbabwe, by two staff members of the IRC International Water and Sanitation Centre in March 1998.

The mission was undertaken within the framework of the Collaborative Programme for Capacity Building in the Water Sector of Zimbabwe and the Southern Africa Region, a joint programme of the Department of Civil Engineering, University of Zimbabwe, the IWSD, and the International Institute for Infrastructural Hydraulic and Environmental Engineering (IHE), Delft, The Netherlands. The programme is funded by the Directorate General for Development Cooperation (DGIS) of the Government of the Netherlands. The participation in the mission of Nigel Browne was financed by IRC from internal funds.

The Terms of Reference for the mission are reproduced in full in the Introduction to the report. In summary, the mission was required to assist the IWSD in the development of an information strategy to provide information on water resources management and water supply and sanitation to sector professionals in Zimbabwe and the Southern Africa region.

The mission arrived in Harare on Sunday, 22 March 1998 and departed on Saturday, 28 March. A list of the persons interviewed during the mission is attached at Appendix A. The consultants would like to record their grateful appreciation for the support provided by all those who gave of their time and expertise in this way. Notwithstanding, any errors and omissions in the report are the sole responsibility of the authors.

The main recommendations with regard to the development of an information strategy for the IWSD are summarized in Chapter 7.

The Hague, April 1998

Introduction

The Institute for Water and Sanitation Development (IWSD)

The Institute for Water and Sanitation Development (IWSD) was established within the Department of Civil Engineering (DCE) of the University of Zimbabwe in 1989 as an International Training Network for Water and Waste Management (ITN) centre under the title, Training Centre for Water and Sanitation (TCWS). In 1993, it was transformed into an independent non-governmental organization (NGO) under its present title.

The IWSD aims to assist in the achievement of sustainable development of water resources and waste management through the provision of support to development agencies in Zimbabwe and the Southern Africa region. According to its constitution, one of the objectives of IWSD is

- to develop an information support service for state of the art information pertaining to all aspects of water supply and sanitation.

Other mechanisms through which the Institute provides support to the sector are:

- advisory and consultancy services
- training courses
- applied research.

The Collaborative Programme for Capacity Building

The Collaborative Programme for Capacity Building in the Water Sector of Zimbabwe and the Southern Africa Region is a joint project of the University of Zimbabwe Department of Civil Engineering (DCE), the IWSD and the International Institute for Infrastructural Hydraulic and Environmental Engineering (IHE), Delft, The Netherlands. The project aims to strengthen the capacity of the DCE and the IWSD to enable them to address the capacity building needs for water resources management and water and sanitation in Zimbabwe and the region.

One of the long term objectives of the project is

To strengthen the Institute for Water and Sanitation Development (IWSD) to enable it to expand its capacity to ... provide technical information ... support to the water sector of Zimbabwe and the neighbouring countries (SADC) [Southern Africa Development Community].

Three areas of capacity building support are identified, from which the immediate objectives of the project are derived. Under the area, 'Strengthening of DCE and IWSD', one of the immediate objectives is

To improve ... library, access of students to standard texts

In the area of 'Dissemination of knowledge', the immediate project objective is:

To develop an information service within IWSD to provide up-to-date information on water resources management and water supply and sanitation to sector professionals in Zimbabwe and the Southern Africa region as part of the IWSD in-service training and outreach programme.

The project outputs related to the dissemination of knowledge include:

- an updated information management system for IWSD, aiming at making the information accessible for professionals in the region. Also a regular newsletter will be produced.
- technical and scientific publications in local, regional and international journals feeding in-country databanks, as mentioned in Agenda 21, Chapter 18.

Project activities related to the strengthening of DCE and IWSD include the development of library facilities at the DCE, while those related to the dissemination of knowledge state that

In collaboration with IRC ... the IWSD will develop an updated information management system and further develop the library on water and sanitation. IWSD will produce a newsletter three times per year for circulation within the region.

Provision is made under 'Project Inputs' for two missions of 30 days each from IRC 'to assist the IWSD in the development of an information strategy'. In preliminary discussions between IRC and IWSD, it was agreed that it would be more appropriate first to carry out a shorter mission to assess the situation in more detail and make recommendations as to any further actions required.

Terms of Reference

The Terms of Reference for the mission, as agreed in preliminary discussions between IRC and IWSD, were as follows:

The expert will be expected to assist the IWSD in the development of an information strategy that will provide up-to-date information on water resources management and water supply and sanitation to sector professionals in Zimbabwe and the Southern Africa region as part of the IWSD in-service training and outreach programme. The detailed activities will include;

- Assisting in reviewing the IWSD's information management and dissemination system
- Give a one-day seminar to the IWSD and other professional staff in the sector on the basic definitions, concepts and tools of information management.
- Advising the Institute in the development and management of the library service.
- Expose the IWSD to different methods of information management and dissemination strategies.
- Discussing and setting up an appropriate information dissemination strategy that will ensure that all the targeted stakeholders will have timely access to required information.

-
- Advising the IWSD to maintain adequate quality in the information that will originate from the Institute.
 - Advise the IWSD on methods and options of financing the different information dissemination strategies.
 - Explore the possibilities of establishing a Homepage and other Internet facilities for the IWSD. Determine the hardware and software requirements for such an activity.
 - Assist the IWSD in determining the staff requirements for effective information management and dissemination.
 - Discuss the most effective layout and frequency of producing and circulating newsletters and other tools that will achieve maximum results.
 - Advise the IWSD on other possible technical and scientific publications that can be developed by the Institute.
 - It is hoped that at the end of the visit, the IWSD will have a basis for starting an updated information management system aiming at making the information accessible to professionals in Zimbabwe and the Southern Africa region.

The mission thus focused on the situation in the IWSD, and was not concerned with the development of library facilities at the DCE.

Information Management Seminar

The consultants conducted a half-day seminar on basic concepts of information management at the Department of Civil Engineering, University of Zimbabwe, in the afternoon of Monday, 23 March. The seminar was attended by IWSD staff and participants in the current diploma course. Printouts of sample web pages from the new IRC website were circulated, and participants expressed considerable interest in the use of the World Wide Web and e-mail as means of disseminating information. However, it was also pointed out that many potential information users do not have access to electronic sources, and that it will be necessary to continue to provide information in both electronic and printed formats for the foreseeable future.

Other actions undertaken in respect of the activities identified in the Terms of Reference are described in the appropriate chapters below.

Chapter 1. The Context

1.1 The Regional Dimension

The IWSD training courses have attracted participants from most of the SADC countries and from other African countries as far away as Nigeria. Attempts have also been made to identify other institutions in the region for joint capacity building activities. There are, however, few institutions in the region with similar aims and scope to the IWSD, and the Institute has found it difficult to work in countries without suitable local partners (e.g. Botswana). Suitable institutions exist in Namibia and Zambia, and there have been discussions about the possibilities of cooperation with the new University of the North in South Africa. However, many IWSD activities in neighbouring countries are carried out in cooperation with international NGOs and agencies, such as the United Nations Children's Fund (UNICEF).

While the lack of similar institutions in the SADC region poses problems for in-country research, consultancy and training activities, it also creates an opportunity for the Institute to develop its role as a regional information provider. IWSD staff themselves say that it is difficult to find out what is happening elsewhere in the region. If the Institute is able to establish and maintain an effective system for collecting information through its in-country contacts, it should be in a good position to take the lead in disseminating such information.

1.2 Potential Information User Population

One of the essential preconditions to the establishment of an effective information dissemination system is the existence of a body of potential information users with information needs that the proposed system is able to meet. Before such a system can be set up, therefore, it is necessary to know who the potential users are, where they are located, and what their information needs are.

There are three main groups of actual or potential users of the existing information dissemination services of IWSD:

1. IWSD staff
2. participants in IWSD training courses
3. other sector specialists in Zimbabwe, other SADC countries, other African countries, and elsewhere.

1.2.1 Staff

The IWSD has a total of sixteen staff at all levels.

1.2.2 Course Participants

In the last three years (1995-1997), there have been a total of 1079 participants in scheduled and unscheduled IWSD training courses in Zimbabwe and other SADC countries. Those from other countries in the region who participated in courses in Zimbabwe, together with those who participated in courses held in other countries in the region, accounted for some 48 percent of the total.

It might be expected that, in pursuit of its aim of strengthening regional links, the Institute would automatically add the names of course participants to its computerized mailing list, but this does not seem to be the case, since the list contains only 782 names and addresses in Zimbabwe and other SADC countries - considerably less than the number of participants in the Institute's training courses during the past three years.

An attempt is being made to create a separate training database which will list not only the names and addresses of former trainees, but also other information such as the courses attended and the results obtained from the trainings.

1.2.3 Other Sector Specialists

In an attempt to assess, in very broad terms, the extent to which the IWSD mailing list has been successful in identifying potential users - in the SADC region and in other parts of Africa - the list was compared with the computerized mailing list of IRC, which includes 1446 addresses in the African countries represented on the IWSD list. The results are presented in Table 1 below.

The comparison shows that, as might be expected, the IWSD list contains many more addresses (395 entries) in Zimbabwe than does the IRC list (89 entries). Zimbabwean addresses account for more than 45 percent of the IWSD African list, but for only 6 percent of the IRC list.

The IRC list is much stronger for the rest of the SADC region, with 241 addresses (62 percent) more than the IWSD list. The IRC list is stronger for nine of the thirteen countries in the region, while the IWSD list contains no addresses at all for three SADC member countries - the Democratic Republic of the Congo (formerly Zaire), Mauritius and the Seychelles. All three are represented on the IRC list.

The superior coverage of the SADC region by IRC is, however, somewhat distorted by the large number (219) addresses in one country, Tanzania. If Tanzanian addresses are excluded from both lists, coverage of the other SADC countries by IRC is only some 16 percent (56 addresses) better than IWSD. SADC addresses account for very similar proportions of all African addresses in both lists (45 percent for IWSD, 43 percent for IRC).

The analysis for other African countries includes only those countries represented in the IWSD list; others which are in the IRC list have not been taken into account. This analysis shows that the IRC is stronger in all countries but one - Eritrea - and very much so in the countries where the other African ITN centres are located - Burkina Faso, Ghana and Kenya. Overall, the IRC list includes more than eight times as many addresses for all African countries outside the SADC region, and 66 percent more addresses than the IWSD list for all African countries included in the IWSD list. (The IRC list also includes many more addresses in other African countries which do not appear at all in the IWSD list).

Table 1: Comparison between the coverage of the IWSD and IRC address systems in terms of number of addresses as of March 31, 1998

Country / Region	IWSD		IRC		IRC +/-
	Addresses	% total	Addresses	% total	
ZIMBABWE	395	45.4	89	6.2	-306
Angola	5	0.6	15	1.0	+10
Botswana	35	4.0	13	0.9	-22
Dem. Rep. Congo	0	0.0	43	3.0	+43
Lesotho	28	3.2	18	1.2	-10
Malawi	50	5.7	64	4.4	+14
Mauritius	0	0.0	5	0.3	+5
Mozambique	24	2.8	32	2.2	+8
Namibia	45	5.2	48	3.3	+3
Seychelles	0	0.0	1	0.1	+1
South Africa	55	6.3	92	6.4	+37
Swaziland	7	0.8	5	0.3	-2
Tanzania	34	3.9	219	15.1	+185
Zambia	104	12.0	73	5.0	-31
Other SADC	387	44.5	628	43.4	+241
Burkina Faso	4	0.5	82	5.7	+78
Côte d'Ivoire	1	0.1	45	3.1	+44
Eritrea	7	0.8	6	0.4	-1
Ghana	10	1.1	88	6.1	+78
Kenya	41	4.7	253	17.5	+212
Madagascar	1	0.1	12	0.8	+11
Nigeria	3	0.3	125	8.6	+122
Sudan	1	0.1	29	2.0	+28
Uganda	20	2.2	89	6.2	+69
Other Africa	88	10.1	729	50.4	+641
AFRICA TOTAL	870	100.0	1446	100.0	+576
% total list	99.0		20.0		

This analysis shows that, while IWSD may be assumed to be reaching a substantial proportion of potential users in Zimbabwe itself - certainly, very many more than IRC - its coverage of the SADC region is still some way behind that of IRC (even if Tanzania is excluded), while IRC has very much better coverage of other African countries - especially those where the IWSD's partner ITN centres are located.

For both organizations, the big differences between the numbers of addresses in the various countries suggest that there is considerable scope for extending coverage. If IRC can identify 185 contacts in Tanzania, 212 in Kenya and 122 in Nigeria, while IWSD can find nearly 400 in Zimbabwe itself, there seems to be no reason why similar numbers could not be identified in other African countries. The number of potential sector contacts will depend to some extent on the size of the country and the level of development of the sector, but there does appear to be considerable scope for both organizations to identify many more such contacts, if they wish to do so.

A cooperative effort to develop a joint database of African sector contacts, involving also the other African ITN centres and sector institutions in other African countries, could help make a major contribution to the more effective dissemination of information to sector professionals in Africa, and could perhaps form a component of the proposed African Water and Sanitation Information Network (see Chapter 4). The Water Supply and Sanitation Collaborative Council has also expressed interest in establishing cooperative databases of sector contacts.

1.3 The Supply of Information

Another essential precondition to the establishment of a successful information dissemination system is an adequate supply of the kinds of information needed by the potential users of the system. No systematic attempt has yet been made to assess the information supply situation within the region, but it seems likely that, as in other regions, a considerable amount of sector information and data are being generated in government departments, local authorities, communities and projects. Not all of this information is likely to be relevant to the needs of users other than its originators - project accounting and personnel records, for example, are unlikely to be needed by those unconnected with the project in question - but some of it (for example, reports on the application of new technologies and approaches, results of research studies, statistical data on coverage, etc.) will undoubtedly be of use to wider audiences.

The proposal for the development of an African Water and Sanitation Information Network (see Chapter 4) is based in large part on the assumption that there is a lack of adequate sector information of various kinds and a need to improve its collection and dissemination, principally by means of the Internet.

Before this, and other proposals for the development of information services within the IWSD, are implemented, it is urgently necessary to carry out systematic surveys, both of potential information users and their needs, and of relevant information sources in the region and, if appropriate, elsewhere in Africa. Appendix B, taken from the IRC publication *Organizing local documentation services for the water supply and sanitation sector: guidelines* (1994), provides basic guidance on how to conduct both kinds of information surveys. A copy of the IRC *Guidelines* is held by the IWSD.

Chapter 2: *Development and Management of the Library Service*

2.1 Introduction

The present IWSD Library is located at the campus of the University of Zimbabwe, in the same building as the Department of Civil Engineering, where IWSD still holds its training activities. There are plans to relocate the library in the planned extension to the IWSD headquarters. It is envisaged that, to function effectively as a regional information resource, the library will need to double in size from its present collection of 2,500 documents to a provisional maximum of 5,000 within the next few years.



Interior of the IWSD library. (Photo: Nigel Browne)

The IRC publication *Organizing local documentation services for the water supply and sanitation sector: guidelines* (1994), provides the basic framework for the following description and analysis of the IWSD library. This document provides more detailed general guidance on the main functions of a local documentation centre to supplement the specific points made below. A copy of this document is held by IWSD.

2.2 Objectives and Priorities

The *Guidelines* note that the objectives and priorities of a local documentation centre should be compatible with those of its parent institution, and that they should be stated in writing and endorsed by the parent institution.

The objectives of the IWSD Library have not been formally stated in writing, but may be assumed to be in line with the Institute's general objective, as stated in its constitution, of developing

an information support service for state of the art information pertaining to all aspects of water supply and sanitation.

While such a statement forms the broad basis for the establishment and operation of the library, a more specific policy statement relating to the library as such would provide a firmer basis for its work. As suggested in the *Guidelines*, such a statement should define:

- the aims and objectives of the centre
- the kinds of users it should serve
- the kinds of documents it should provide
- the conditions under which users may have access to and make use of different kinds of documents, including:
 - opening hours of the centre
 - rules for lending or photocopying documents
 - charges for the use of the centre.

As the library aims to serve users from outside the Institute, it should also prepare written regulations for the use of its facilities based on the policy statement. This will help to avoid conflicts and misunderstandings about its role and functions.

2.3 Library Users

One of the basic functions of a local documentation centre is to identify its potential users and find out what kinds of information they need.

The existing users of the IWSD library are mainly students attending IWSD short courses at the University, and IWSD staff. Most of the students are already employed in the water sector. Many of them come from other countries, mainly in the SADC region. Occasional requests for information or copies of documents are also received from other external users in Zimbabwe and elsewhere.

There are no records of the numbers and characteristics of existing library users and their needs, nor has any formal survey of potential library users from other institutions been carried out. The individuals from other institutions in Zimbabwe and other countries in the region and elsewhere whose names appear in the IWSD mailing list may be considered, at least in principle, to be potential users of the library and other IWSD services. An analysis of this list is presented in Chapter 1 above, which also discusses the need for surveys of information

users and their needs, and of information sources. Such surveys should also cover the needs of potential users of the library.

IWSD staff interviewed during the mission seemed generally satisfied with the IWSD library as a source of information, although one person commented that there was a need for better indexing of the library's collections. Some staff members also used other libraries in Harare, including those of the British Council and the World Bank

2.4 Information Sources

Once users' information needs are known, it is necessary to identify the main sources from which the required information may be obtained. In line with the Institute's aim of developing a leading role as an information provider for the SADC region, special attention should be paid to identifying local and regional information sources.

The IRC *Guidelines* include a list of some of the main kinds of document producers and distributors, such as academic institutions, commercial publishers, government departments, and so on. Many of those most likely to produce information of interest to IWSD library users - particularly those located within the region - are no doubt already known to IWSD and included in its mailing list. It is not clear, however, whether or not these institutions are specifically identified as potential sources of documents for the library, nor whether any systematic attempt has been made to acquire their publications catalogues and other bibliographical aids as a basis for identifying suitable documents.

2.5 Staff and Training

There are no staff with library qualifications or training in the IWSD library at present. The Training Officer is generally responsible for the library, while its day-to-day operation, including administrative tasks and issuing documents on loan to students and staff is done by a clerk, with some assistance from a secretary. The preparation of records for inclusion in the library database is currently done by the Institute's Director.

The question of staffing is considered in more detail in Chapter 5, in the context of the information manpower needs of the Institute as a whole. Whatever solution is adopted in this regard, however, staff who will continue to be involved in the day-to-day running of the library, namely, the clerk and possibly the secretary, should be given the opportunity to undergo formal training in basic library methods as well as specific training in the use of the current database software.

The Zimbabwe Library Association or the Harare Polytechnic should be able to advise on the availability of suitable training courses. At a later stage, it may also be possible to arrange a practical attachment to the IRC Documentation Unit.

2.6 Physical Facilities

The IWSD library is currently located in very crowded conditions in a small room (4 x 2½ m.) on the first floor of the Department of Civil Engineering building at the University of Zimbabwe. It contains five steel bookcases (total: 26 shelves), a computer and printer, a

photocopying machine, a telephone and general office furnishings (desk, chairs, filing cabinet etc.). The computer is also used by the library secretary for other administrative tasks. There is no seating for users.

Work has already begun on an extension to the Institute's new offices in Maasdorp Avenue which will provide space for the library as well as training and conference facilities and additional office space. Estimates of the space, furniture and equipment requirements of the relocated library, including a study area for users and display facilities, are provided at Appendix C. However, as the precise allocation and layout of space within the new extension have not yet been determined, no attempt has been made to provide floor plans and layouts for the new library at this stage.

In the design and construction of the new extension, adequate provision should be made to ensure the security and safety of the library and its contents, and of users and staff, with regard to damage, theft and disasters and emergencies.

2.7 The Document Collections

A basic aim of a local documentation centre is to establish, develop and maintain well-organized collections of documents containing the kinds of information needed by users.

The IWSD library contains nearly 2,500 documents in English, occupying about 23 metres of space in five metal bookcases. Most of the documents date from around 1985 onwards. They are mostly reports on water supply and sanitation from organizations such as the World Bank (399 records), the World Health Organization (210), UNICEF (91), IWSD (92) (TCWS, 34), UNDP (91), IRC (76), NORAD (70), NAC (68), GTZ (53), The Blair Institute (50), ODA (26), WASH (19), IHE (16) and WEDC (11).

A partial review of the subject coverage of the collection, using selected keywords to search the library database, yielded the following results: health (223 records), community (150), training (142), evaluation (76), participatory (66), and hygiene (52).

Data on coverage of countries in the region are discussed in the section on 'The IWSD Database', below.

The collection has developed in a broadly ad hoc manner as a result of IWSD's work in the water supply and sanitation sector. There are no formal criteria for the selection, acquisition or discarding of documents, which are either received as unsolicited donations or acquired at the request of IWSD staff, subject to there being enough funds available from an appropriate budget. The collection grows by an average of 300-400 documents a year; there appears to be little or no discarding of materials which has been superseded or otherwise become out of date.

The selection criteria used by the IRC Documentation Unit may help the IWSD to develop its own criteria. The selection criteria could also be used in reverse, to help determine what

needs to be weeded out of the library to help to keep the collection up-to-date. An outline of the IRC selection criteria is provided at Appendix D.

2.8 Recording and Processing Documents

To be able to provide users with the documents and information they need, a documentation centre needs to create and maintain a record of the documents in its collections and to make this record accessible to users. To help users find documents which will be useful to them, the documents need to be classified by subject; they also need to be physically prepared for use and protected against damage.

2.8.1 The IWSD Database

The main record of the contents of the IWSD library is a computerized database created using a DOS version of the Cardbox Plus software package. The Director of the Institute is currently responsible for maintaining the database. A printed catalogue is also produced from the database.

The database is currently accessible on only some of the Institute's computers. Since these are not linked in a Local Area Network (LAN), updated versions of the database have to be loaded on to these computers individually, using floppy disks. The installation of a LAN would greatly facilitate access by staff, not only to the IWSD database, but also to the Internet. The database is not accessible from outside the Institute at present. It is hoped to provide access via the Internet under the African Water and Sanitation Information Network project (see Chapter 4).

At least some IWSD staff find the database difficult to use, partly because of the lack of any visible instructions on how to use it. As a short-term measure, some simple instructions on one A4-page next to the computer in the library, explaining the use of the database, may make it easier for users to access the database. Longer-term measures should include formal training in the use of the database for both staff and users.

The printed catalogue could, in principle, be made available to external users, but the distribution of this document at present seems to be limited to internal users.

Records in the database have the following structure:

DOCUMENT TITLE
DOCUMENT TYPE
SATIS [classification code] #
AUTHOR
ORGANIZATION
ISBN
ISSN
COUNTRY CODE
DATE OF ISSUE
ABSTRACT

The only fields which are searchable are: Document Title; Author; Organization; Classification Code (SATIS #); Country. Keywords are created by highlighting words during the creation of the records, particularly in the Document Title field. A small number of records have no keywords. The abstract field is never used.

For academic reports this record format misses a number of key fields, such as publisher and place of publication. A number of records in the database clearly refer to newsletters and annual reports. These normally only need to be recorded in the database only once as serials. A simple system should be set up to record details of journals, newsletters and annual reports, which could be administered by the library clerk. An example of a record card which could be used for the administration of the IWSD library's collection of journals, newsletters and annual reports is provided at Appendix E.

The database also includes a number of entries for publications catalogues. These need not be entered in the database; they are better stored in a filing cabinet and replaced by new issues as required. Many organizations today have their latest publications catalogue available on the Internet.

Print-out of full records from the database is possible, but the library clerk did not know how to do this, and the secretary was also not too sure how to do it either.

A check on coverage of countries in the region produced the following overview: Zimbabwe (700 records), South Africa (150), Kenya (68), Zambia (65), Namibia (51), Botswana (31), Lesotho (25). By comparison, the IRCDOC database contains the following numbers of records for each of these countries: Zimbabwe (194), South Africa (144), Kenya (450), Zambia (178), Namibia (80) Botswana (128), Lesotho (90). While IRCDOC thus has many fewer records relating to Zimbabwe, and slightly fewer for South Africa, it has nearly seven times as many for Kenya, nearly three times as many for Zambia, about four times as many for both Botswana and Lesotho, and a few more for Namibia.

These differences are perhaps not surprising, given that IRCDOC as a whole contains about four times as many records as the IWSD database, but they do suggest that IWSD could benefit from direct access to IRCDOC when searching for information on other countries in SADC and elsewhere in Africa, while IRC, for its part could find access to the IWSD database for records relating to Zimbabwe. A more detailed analysis of the geographical coverage of the two databases would be a useful first step towards developing arrangements for mutual access by the two organizations. This in turn could serve as a model for similar arrangements with other organizations, particularly the other ITN centres in Africa.

2.8.2 The IWSD Library Catalogue

The main printed output from the library is the catalogue. This provides only brief details of each document, including classification code and as much of the title as can be got on to one line. The catalogue is arranged by classification group. Within each group, titles are listed in the order in which they are arranged on the shelves. The most recent catalogue was produced in February 1998, and includes a summary of an adapted version of the SATIS Library Classification on Water Supply and Sanitation and a sequential listing of all the publications available in the library (shelf location and title only). The catalogue has 62 pages (of which

55 are occupied by the titles themselves). The catalogue is the starting point for students attending the courses at the IWSD when looking for literature in support of their studies.

The usefulness of the library catalogue would be enhanced if the date of publication was included in the presentation.

2.8.3 Database Software

A DOS version of the Cardbox Plus software seems to have proved adequate for the needs of the library and its users up to now. However, it does not appear to be being used to its full advantage and it is doubtful if the DOS version will be adequate to cope with the growth of the library to its proposed target level of 5,000 volumes or the increased use of the database which may be expected to result from its being made accessible to outside users via the Internet. It will therefore be necessary for the Institute to introduce more advanced library database software in the near future, and to provide both staff and users with adequate training in its use.

The basic requirements of such a package were identified by another IRC consultant, during a recent mission to India, as follows:

The required library/information management package must be able to perform three basic functions:

1. cataloguing
2. database searching (full text and Boolean searches) via OPAC (online public access catalogue)
3. reporting (providing listings of references based on performed searches)

Other functions such as acquisition and budgeting are not immediately necessary.

Other essential criteria are:

- the package must be a recognized widely used library management package, preferably with an active local users' group; and
- local support should be available.

Furthermore:

- the database structure should be able to accommodate all the required fields ... and be flexible enough to allow future modification
- it should allow links to electronic documents as attached files (word processing files, Web pages etc.)
- the reporting function should allow catalogue records to be printed in different formats (short, long) and according to different sorting criteria (by author, titles, year of publication, etc.)
- there should be a possibility to link certain fields with authority files, e.g. standard lists of subject headings, corporate authors, etc.

These criteria are also applicable to the IWSD library, with the proviso that the required fields still need to be identified. In addition, any package selected for use by the IWSD should include facilities for access via e-mail and the Internet.

A review by IRC of library database packages which meet these criteria has identified the following candidates for possible adoption by IWSD:

Cardbox Plus

The simplest way of improving the library database would be to upgrade to a more advanced version of Cardbox Plus. To upgrade from Cardbox Plus (version 3 or above) to Cardbox Plus for Windows costs GBP 200 for a single user version. Networking versions are also available at varying costs depending on the number of simultaneous users it is desired to serve. In addition, a client-server version, which will make it possible to access Cardbox Plus databases via the Internet, is now available in a prototype version. A brief comparison of Cardbox Plus and CDS/ISIS is provided below.

Further information on recent developments in Cardbox Plus is available from:

Cardbox Software Ltd., Scriventon House, Speldhurst, Kent TN3 0TU, UK.
Tel. +44 (1732) 783 536. Fax: +44 (1732) 783 537. E-mail:
cardbox@easynet.co.uk. Website: <http://www.cardbox.co.uk/>

CDS/ISIS

This multilingual bibliographical database management package, developed and distributed free of charge by UNESCO, is widely used in developing countries; over 15,000 registered copies have been distributed during the last nine years. It is now available in Windows 95 and Windows NT versions, and a web interface has been developed to make CDS/ISIS databases accessible via the World Wide Web. Support is provided through an international user discussion list, the CDS/ISIS User Forum (<http://www.bib.wau.nl/isis>). There are many other websites providing information on the package and its applications, and providing advice and assistance with technical problems. A number of professional journals in information science also carry regular news and advice on CDS/ISIS applications.

There is a local CDS/ISIS User Group in Zimbabwe (Chairperson: Bright Nkhata). The group held a Workshop on Database Management using CDS/ISIS Software at the Human Resources Research Centre, University of Zimbabwe, from 24-27 March 1997. One local user is the Zimbabwe Development Bank.

The main drawback to CDS/ISIS is its complexity. Shortly after the consultants' return from Zimbabwe, a request was received from the Network for Water and Sanitation International (NETWAS), the ITN centre in Nairobi, for advice on a software package to replace CDS/ISIS. They have been using for some time, but with great difficulty. A brief comparison of CDS/ISIS and Cardbox Plus is provided below.

Further information on CDS/ISIS is available from:

Mr. Giampolo Del Bigio, UNESCO, 7, place de Fontenoy, 75352 PARIS 07 SP, France. Tel. +33 (1) 45 68 10 00. Fax: +33 (1) 45 67 16 90. E-mail: g.delbigio@unesco.org. Website: <http://www.unesco.org/webworld/isis/isis.htm>

MINISIS

The International Development Research Centre (IDRC) in Canada has recently developed a new version of their multilingual MINISIS database package which is said to be very much easier to use than CDS/ISIS. This package operates on Windows 95 and Windows NT in a single- or multi-user environment. It includes three major components: a database management engine; a set of predefined applications, including archives management, library management and others; and a set of development tools with which users can develop their own applications. In addition, a Web interface is available (at extra cost) which allows access to MINISIS databases on the World Wide Web. The library management application is being developed jointly with the IDRC Library. It will have modules for acquisitions, cataloguing, serials registration, circulation, Online Public Access Catalogue (OPAC) and interlibrary loans. This application is expected to be ready by the end of the year.

There are currently MINISIS users in the following countries in sub-Saharan Africa: Benin; Cameroon; Congolese People's Republic; Democratic Republic of the Congo; Ethiopia; Kenya; Mali; Nigeria; Senegal; Sudan.

MINISIS is not free, but the fees charged to developing country institutions are heavily subsidized by IDRC. For example, whereas the regular price for a five-user copy of the library application would be USD 12,000 to institutions in the North, it would be available to non-profit making NGOs in developing countries for only USD 1,400. The system is said to be 'easily scaleable'; users are able to cut back or add to the database definition to meet their own needs and configure the modules they need to use. (MINISIS can be used for a wide range of database applications, not only for libraries). Technical support will be available from IDRC or one of its designated support centres.

A modified version of MINISIS is being developed by the International Service for National Agricultural Research (ISNAR), located in The Hague, The Netherlands. ISNAR is willing in principle to make this version available, through IRC, to water and sanitation institutions in developing countries. No information is available at present on price or technical support; the package is currently being tested at ISNAR.

Further information on MINISIS is available from:

MINISIS Marketing group, IDRC, PO Box 8500, Ottawa, Canada K1G 3H9.
Tel. +1 (613) 236-6163. Fax: +1 (613) 563-3858. E-mail: minisis@idrc.ca.
Website: <http://minisis.idrc.ca/minisis>.

INMAGIC

INMAGIC is said to be in use in at least two institutions in Zimbabwe. A ten-user licence costs around USD 5,000, plus about USD 6,000 for the Web interface. The ISNAR evaluation of INMAGIC suggests that it is much more limited in functionality than MINISIS, as well as being considerably more expensive.

Further information on INMAGIC is available from:

Inmagic, Inc., 800 W. Cummings Park, Woburn, MA 01801-6357, USA. Tel. +1 (781) 938-4442. E-mail: Inmagic@Inmagic.com. Website: <http://www.inmagic.com>.

Comparison

In comparing Cardbox Plus to CDS/ISIS, Mr. Hugo Besemer of Wageningen University in The Netherlands, who has extensive experience with both packages, commented that:

Cardbox has a windows interface (and the attempts to produce a CDS/ISIS Windows version leave some things to be desired). The web interface of CDS/ISIS is extremely good and cheap (i.e. free of charge). The inability of Cardbox to handle repeatable fields might give a rather awkward web interface (i.e. think of an authors field. There is no alternative but to have one authors field and search it word by word. Or to create separate fields for 1st author, 2nd author etc.).

CDS/ISIS can handle virtually anything, but it requires a handy man with some patience. If such a person is not around, it will not work, and people will end up frustrated. If I would be looking for some sort of a compromise I would think seriously about Inmagic.

2.8.4 Selection

The final choice of software should, if possible, be made by the new Information Manager (see Chapter 5), once that person has been recruited, or by a local consultant appointed to perform the duties of this position if it proves difficult to recruit a full-time staff member.

One task which will have to be performed when the choice of software has been made is the conversion of the existing records to the new format. As the existing format lacks certain key data, such as publisher and date of publication, these will need to be added to the existing records before or after conversion.

This task might be made easier if complete records for the same documents could be imported from another database. With this possibility in mind, a 5 percent sample (125 items) of records from the printed IWSD library catalogue was checked against the IRC computerized database, IRCDOC. The aim was to assess the extent of overlap between the two databases and the consequent possibility, in respect of documents held in both libraries, of importing the more comprehensive IRC records to the IWSD database. Records were found in IRCDOC for 34 items (27 percent) from the IWSD list. A selection of the database entries for these items are reproduced at Appendix F, for comparison with the corresponding entries in the IWSD

computerized catalogue. To aid this comparison, the entries include the IRC and IWSD shelfmarks (classification codes showing the location of the items in the two libraries). Note that some, but not all, entries include abstracts as well as keywords, to aid in searching the database. Records for the complete list of 34 titles are provided separately.

2.8.5 Classification

IWSD uses the *Satis Classification on technology, environment and sustainable development*. There are certain overlaps and inconsistencies in the way this system is used in IWSD as compared with the treatment of similar subjects in IRC. However, detailed discussion of classification and indexing issues should take place only when a solution to the staffing problem has been found and a suitably-qualified person has been assigned to further develop and maintain the IWSD library. For comparative purposes, the classification system used in the IRC library is provided separately.

2.8.6 Storage

Most of the documents in the IWSD collections are paper-covered reports, many with plastic spiral bindings. These are not kept in storage boxes, but are tightly packed on open shelves, as a result of which some are showing signs of wear and tear. There are no display facilities for newsletters, current periodicals, new acquisitions, etc.

IWSD should, as a matter of urgency, improve the storage of the collection by providing more space for the documents on each shelf and by storing them in suitable pamphlet boxes or cases.

2.8.7 Access

Within the limitations imposed by its location at the University, the lack of space or reading facilities for users, and the lack of online access for external users, access to the IWSD library is not unduly restricted. The major restriction is that students on regular courses at the University are not allowed to use the library.

2.9 Information Products and Services

Any documentation centre should provide various types of products and services to meet the needs of users in respect of:

- keeping up-to-date with new developments in the sector
 - *current awareness products and services*
- identifying specific documents or sets of documents on specific topics
 - *literature searching services*
- obtaining copies of such documents
 - *document supply services*
- obtaining factual information and advice on specific problems
 - *query answering services.*

2.9.1 Current Awareness Services

These may include:

- newsletters

- general current awareness bulletins
- library accessions lists
- abstracts
- contents pages of current periodicals
- press cuttings
- details of ongoing research
- news of forthcoming events
- circulation of current periodicals and newsletters
- Selective Dissemination of Information (SDI) services.

These are described in more detail in the *IRC Guidelines*. The *IWSD Newsletter* is discussed separately in Chapter 6.

The IWSD library does not provide any of the above services at present, but it should be possible, within the limits of the existing resources, to produce a library accessions list (a list of new titles added to the library within a given period), circulate photocopies of the contents pages of current periodicals, and provide details of forthcoming events, especially local events. Some current periodicals and newsletters are already circulated among the staff, but this process is always vulnerable to delays caused by staff absences. It should become possible to offer SDI services, both to IWSD staff and to external users, when the database software has been upgraded and an Information Manager appointed.

2.9.2 Literature Searching

The IWSD library does not do literature searches for external users at present. In response to incidental specific requests for information, the Institute's Director may decide to do a quick search in the database and send the requester copies of the most relevant documents free of charge.

Some students and staff use the database for literature searching in their own right, but students generally tend to seek help from the library secretary. It is not clear how much the database is used to print the results of literature searches, rather than simply to identify specific documents.

2.9.3 Document Supply

The key elements of a document supply system are described in detail in the *IRC Guidelines*. Only two of these are currently in place at the IWSD library. These are:

- lending documents
- supplying copies of documents.

Students may borrow documents for three days. Overdue loans result in a fine of ZWD 2.00 per document/per day. There is a manual system for keeping track of loans using a borrower's form which is completed by the clerk. Staff loans are recorded separately and there are no limitations on the loan period to staff.

Photocopies are also provided for students, local consultants, government officials and others at cost (ZWD 0.20-0.40 per A4 page).

There are no other document delivery services at present. In particular, there is no systematic way of finding out which other libraries and documentation centres have collections of documents relevant to the needs of IWSD library users, nor are there any structural arrangements to help users to obtain documents from other libraries and documentation centres through cooperative arrangements.

IWSD should actively encourage a mutual exchange of information between its own library and other relevant libraries and documentation centres, including that of IRC.

2.9.4 Query Answering

General requests for information and advice come to the Institute's administration or to individual staff members, and may be passed on to the library if they involve requests for information about, or photocopies of, documents in the library's collections. No record is maintained of information requests received and how they were answered.

IWSD needs to establish a formalized request handling procedure in order to monitor the use of its information resource. It should be noted that efficient replies to information requests can sometimes generate work in other areas, such as research, consultancy, and training.

2.10 Promotion and Marketing

IWSD does not actively promote the effective use of the centre and its information resources at present. Its mailing list is mainly used to promote the training activities. The IWSD library does not have a brochure describing its activities.

2.11 Conclusion

There is no doubt the IWSD library has the potential, if properly developed and maintained in the next 3-4 years, to form the basis of an important regional resource for the African region. It will require careful planning and long-term investments in staff and resources. IWSD is now doing a reasonable job, with limited means.

The issues of new library software and qualified library staff to maintain and upgrade the current database need attention, and are closely related to classification and indexing issues. There is a direct relationship between quality information products and the quality of library classifying and indexing.

Chapter 3: Information Quality

3.1 Introduction

One of the activities specified in the Terms of Reference for the mission was:

Advising the IWSD to maintain adequate quality in the information that will originate from the Institute.

The IWSD itself recently produced a draft statement on Quality Policy and Guidelines which includes a number of provisions relative to information management and strategy.

3.2 IWSD Quality Policy and Guidelines

The document begins by stating that

A primary concern for IWSD is the quality of our products.

These include: consultancy and research reports; training modules or training support materials; and the availability, accessibility and presentation of sector information processed by the Institute.

With regard to research reports, the policy states that:

reports will be effected in conformity with planned targets and demonstrating necessary scientific rigour while dissemination of results will be in formats suitable to address public and scientific audiences with a high quality of presentation.

Technical (i.e. consultancy) reports are to be reviewed internally for quality before submission to clients.

The Policy goes to state that:

All information materials disseminated by the Institute shall achieve a quality of content and presentation, consistent with the target audience and budget, which brings credit to the Institute.

The collection and storage of information by the Institute, both electronic and physical, shall be efficient and effective to minimise loss and maximise accessibility.

The strategies by means of which the quality policy in respect of information dissemination will be achieved are spelled out as follows:

Training

- Training materials will ... be developed as modules for courses run more than once.
- Evaluation of training courses will be documented ... and kept on file.

Research

- Reports will be produced on time summarising the activities and progress of the research to date and including the analysis of research results to date as far as is feasible.
- Research reports will be subject to peer review and internal review prior to finalisation ...
- In keeping with the information role of the Institute, all research reports should be prepared for formal and informal publication and for scientific and public consumption. The reports should be reviewed and at a high standard of presentation bearing in mind the budget allocation.

Technical support

Reports shall be reviewed internally before submission to the client and attention shall be paid to ... the structure of the report and the quality of the presentation.

Information

All information materials disseminated by the Institute shall achieve a quality of content and presentation, consistent with the target audience and budget, which brings credit to the Institute.

- Materials should be proof read for content, quality, relevance and errors by more than one staff member before printing or dissemination.
- A mailing list allowing the identification and separation of different target groups will be maintained.

The collection and storage of information by the Institute, both electronic and physical, shall be efficient and effective to minimise loss and maximise accessibility.

Library procedures shall be established which allow for the complete control of issued and returned materials and ensure the ready access of users to the library materials.

Documents prepared, whether reports or training materials, shall be maintained by the relevant manager for ready access should the need arise. Copies should also be maintained by the originator of the materials.

3.3 Comment

This document provides a firm basis for the production and dissemination of the information products and services of the Institute, in various formats, as well as providing for them to be made accessible to different categories of users. Some ideas as to the further development of the section relating to information quality may be derived from the IRC Publications Policy (see Appendix G). Although this deals specifically with publications, some of its provisions may be relevant to other methods of disseminating information. It should be noted, however, that while the Publications Policy refers to the existence of related Publications Procedures dealing, inter alia, with quality aspects, these procedures have not yet been prepared.

Chapter 4: Home Page and Internet Facilities

4.1 Introduction

The Terms of Reference for the mission required the consultants to

Explore possible establishment of a homepage and other Internet activities for IWSD and hardware and software requirements.

The IWSD has e-mail access, but no Internet access as yet. The Institute's computers are not linked through a Local Area Network. As noted in Chapter 2 above, the installation of a LAN would greatly facilitate access by staff, not only to the IWSD database, but also to the Internet. An outline of the basic requirements of such a network is provided at Appendix H.

There are no staff with Internet qualifications or skills, and experience of using the Internet appears to be confined to a small number of staff and then on a very limited scale.

4.2 Proposed African Water and Sanitation Information Network

4.2.1 Summary

On the initiative of the IWSD, the Department for International Development (DfID) of the British Government has prepared a 'Project Concept Note' for the establishment of an Africa Water and Sanitation Information Network, based on a proposal submitted to and endorsed by the Global Water Partnership in 1997.

The aim of the project is

to achieve sustainable, equitable water supply and sanitation services in Africa by improving access and availability to current information on approaches, technologies, people and institutions.

It is expected that the development of the network will enable partnership among donors, NGOs and governments, 'who at the present time work in isolation'. It will provide a means of sharing technical information and identifying expertise and will assist in problem solving by keeping people informed on current and proposed projects, appropriate and new technologies and improved approaches and ways of working. The network will have world wide access via the Internet and e-mail, and will be linked to other relevant websites, networks and search engines.

The partners in the network will be the regional ITN centres in Africa. These are: The Centre Régional pour l'Eau Potable et l'Assainissement à Faible Coût (CREPA) in Burkina Faso, the IWSD, NETWAS in Kenya, and Training, Research and Networking for Development (TREND) in Ghana. Each centre will be responsible for the network in its own geographical region. In a second stage of the project, these regional networks will be linked to an African water supply and sanitation home page which will be developed as the networks for East, West and Northern Africa.

The network will provide information on:

- Projects: country, place, technology, focus, output, lessons learned, skills, people and documents
- People: specialists with affiliation, experience, etc.
- Institutions: type, country, areas of responsibility, brief profile
- Technology: under development, being tested or used; contacts.

The document recognizes the need to secure sources of income 'to cover recurrent costs at least', and that this might mean charging user fees to institutions as well as investigating alternative ways of attracting funds. These issues will be considered in the second stage of the project.

In the meantime, DfID will provide technical expertise for the design of the website, a network coordinator to work with IWSD, support for local staff running the regional sites, hardware and software, the investigation, testing and implementation of a suitable system, and local equipment support and maintenance.

4.2.2 Comment

It appears that the DfID is prepared to go ahead with the project on the basis of this Concept Note, rather than a full-scale project proposal; but there are several aspects of the Note which give cause for concern.

Basic Assumptions

The most important of these is that the logical framework for the project indicates that it will only succeed if a number of key assumptions are fulfilled. Chief among these are:

- ongoing interest from researchers, NGOs, governments, donors, etc., to contribute to the network
- willingness to pay
- the existence of a demand for this type of information.

These assumptions are seriously open to question. One of the main obstacles to achieving success in any information network is the difficulty of persuading participants to contribute, on a regular basis, the kinds of information the network is supposed to provide. To quote from an IRC analysis of several water sector information networks in Africa and Asia:

The attitudes of network members towards cooperating with each other, and their ability to do cooperate, have a vital influence in determining the success or failure of an information network. While members of most of the networks studied had a positive attitude towards cooperation, they were not always clear as to what this should involve, and were often unaware that, to obtain the benefits of participating in the network, they must also contribute to its activities. (Parker, Stephen. *Information management in the water and sanitation sector: lessons learned from field assignments in Africa and Asia*. IRC, 1993. Occasional paper 19. p. 66).

It is understood that one of the three other proposed partners in the network, CREPA, has so far not responded to a request from IWSD for comments on the proposal, while the other two, though supportive, expressed reservations. The ability of the proposed partners to cooperate in establishing the network at this time is also open to question. Only NETWAS has a

website at present; this is a basic 'first generation' site comprising one page with descriptive information about the organization.

CREPA and TREND have both expressed interest in establishing their own websites, but, like IWSD, lack staff with the necessary skills to do so without outside help. The Concept Note does make provision for the supply of technical expertise to develop the website for the proposed network. However, it appears that this will only be developed in the second stage of the project, leaving open the question of what mechanism will be used to disseminate information during the first stage.

As regards the collection of information, the IWSD's own experience - which mirrors that of IRC - in getting sector professionals from other institutions to contribute even modest amounts of information to its newsletter, should provide a warning of the difficulties likely to be experienced in obtaining regular contributions of detailed and up-to-date information on the range of topics with which the proposed network is meant to be concerned.

The general level of interest, among sector professionals in Africa, in obtaining information from other African sources, may also be open to question. Information on the activities of HealthNet discussion groups in Africa, supplied by the Librarian of the University of Zimbabwe Medical Library, indicates that, although the HealthNet Zimbabwe discussion group has 300-400 members they are not very active. In the broader-based HealthNet Africa there is hardly any intra-African activity; the African members are mainly interested in communicating with medical specialists in the north.

Doubts must also be expressed with regard to the willingness of users to pay for information. Most information systems outside the commercial and financial sectors have difficulty in persuading users to pay for information. The problem is particularly acute in the low-cost water and sanitation sector, where, by definition, financial resources for all purposes - and particularly for acquiring information - are limited. IRC's experience with its current awareness bulletin, *Highlights on Water Supply and Sanitation*, provides a good example of the difficulty. *Highlights* ceased publication in 1997, after being published regularly for eight years, because receipts from sales were not sufficient to cover even basic production and distribution costs. It will be replaced in 1998 by a new publication, in both paper and electronic formats, which will be entirely subsidized from IRC funds and other sources.

Perhaps the most doubtful of the three key assumptions is that there is a demand for the type of information the network is supposed to provide. The assumption is doubtful precisely because it appears to be nothing more than an assumption; the Concept Note makes no provision for any kind of systematic survey of information users and their needs, which should be the first and most fundamental stage in such a project.

Other Sources of Information

Closely linked to this is the need for a study to identify, examine and learn from other sources of information. There are many existing examples of information networks and websites providing some of the kinds of information intended to be supplied by the proposed network, and these should be studied systematically and in detail before detailed plans for the African Water and Sanitation Information Network are prepared.

Appendix J.1 provides a list of selected African websites, while Appendix J.2 reproduces extracts from three such sites. Two are general sites, selected to show that many sites themselves include many links to still more sites containing potentially useful information. The third is a very specific page describing development activities in the Marsabit District in Kenya, selected to illustrate the fact that there are already sources of information on African water projects at the local level.

This last page includes information on an unspecified number of water projects carried out in the district by six NGOs. The page is part of the Kenyaweb site, which includes similar information on the other 45 districts in Kenya, and on Nairobi. If each of these district pages covers the project activities of a similar number of NGOs, the site as a whole may include information on some 275 or more such activities at district level in Kenya. This may give some indication of the amount of effort likely to be needed to collect the much more detailed information which the African Water and Sanitation Information Network aims to provide.

Similar examples of sites and lists of sites containing project information, or consultants in various fields, could also be furnished. For example, the Pan African Development Information System (PADIS) maintains a database from which a printed output, the *Directory of African Experts*, is produced. The database may be queried for replies to specific information problems, such as the names of possible consultants living in a specific country and specializing in a particular field.

Need for Surveys

Before any further steps are taken to implement the proposal for an African Water and Sanitation Network, it is essential to carry out proper preliminary surveys of

- the ability and willingness of the proposed participants to contribute the kinds of information required
- the characteristics, geographical distribution and information needs of potential users of the network
- the willingness and ability of potential users to pay for the kinds information the network will supply
- the existence, characteristics and activities of other information sources, particularly electronic sources providing similar kinds of information related to Africa.

The possibility of linking the proposed network with other initiatives should also be considered. For example, its subject content overlaps to some extent with a proposal by the Water Supply and Sanitation Collaborative Council to include on its new website a series of country sector profiles, each of which would include: current sector projects, background reading, who's who in the sector, sector statistics, based on the Joint Monitoring Programme (JMP), a descriptive overview of the sector, and an archive of news releases.

Schedule and Budget

The time scale for implementation of the project (which should already have been formally approved in mid-February 1998, according to the schedule), seems quite unrealistic and out of touch with the realities and complexities of creating a website and establishing a functioning network of this kind. The provisional budget estimates also appear to be somewhat unrealistic. They include: GBP 100,000 for technical support, GBP 50,000 for 'investigating and setting up a sustainable strategy of sites', GBP 100,000 for hardware and software (most, if not all, of the proposed centres already have computer equipment, while the others would

need to spend far less than this to acquire the necessary capacity) and GBP 30,000 for monitoring, evaluation and review. There is no budgetary provision for the necessary preliminary surveys outlined above.

4.3 IWSD Website

Whether or not the proposed African Water and Sanitation Information Network is established, the IWSD will need to establish its own website as a means of promoting the Institute and its activities and disseminating information to users. Any provision for disseminating information collected through the network should be designed as an element within the IWSD's own site, or connected to it, rather than the IWSD site being subordinate to the network site.

Designing and establishing a basic website describing the IWSD and its products and services - similar in scope to the NETWAS site - is not a major undertaking, but it is one which requires specialized technical knowledge and skills. These are readily available from various local sources within Zimbabwe, and there is no need for the IWSD to wait for the technical assistance promised under the network project before creating its own website.

There are no particular hardware requirements which the IWSD needs to meet in order to establish a website, unless it were to set up such a site on a web server computer of its own. This is not recommended; the site should be established with an existing Internet Service Provider (ISP) in Zimbabwe, which would provide all the necessary server hardware. The Institute recently installed new personal computers and printers, and already has at least one modem connection for its e-mail system. It would facilitate the maintenance of the website, and access to the Internet in general, if the Institute's computers were linked in a Local Area Network (LAN) (see Appendix H).

As regards software, it appears that at least the newest computers in the IWSD already have Internet browser software (Netscape and/or Internet Explorer) installed. These can be activated when an Internet connection is established. If the Institute decides to design, develop and maintain its own website (as opposed to contracting with an outside agency to do this), it will be necessary to acquire a website development package, of which there are many. It would be advisable for the choice of such a package to be made by the person responsible for using it, as each one has its own approach.

Chapter 5. Staff Requirements

5.1 Present Situation

There is no Information Manager in IWSD at present; the Research Manager has overall responsibility for information management, while one of the Training Officers has been assigned responsibility for overseeing the work of the library. The day-to-day operation of the library is done by a Clerical Officer with help from a Secretary.

The lack of qualified information personnel - and, in particular, of a qualified Information Manager - is the principal obstacle to the development of the Institute's information management role, particularly at the regional level.

5.2 Recruitment of an Information Manager

The Information Manager will be concerned with four main areas of information work:

1. publications, including newsletter
2. library
3. website
4. internal information management.

Skills in each of these areas may be found in various professions, including publishing, editing, graphic design, librarianship, information science, computing, office management, etc. The most broadly-based professional background is probably that of library and information science, which normally includes both the theoretical and conceptual basis of information management and the application of these principles in various areas, including those listed above.

The most suitable candidate for the position of Information Manager would therefore be someone with professional education - preferably to at least master's degree level - in library and information science and practical experience in more than one of the above areas.

Formal education in library and information science in Zimbabwe is provided only at the Harare Polytechnic, and only up to Higher National Diploma (HND) level. Persons with this qualification would only be eligible for consideration for the post of Information Manager if they had substantial relevant practical experience and a proven track record. Zimbabweans who have been educated to higher levels abroad would be more suitable, but may be harder to find.

5.3 Local Consultants

There are both Zimbabweans and foreigners living in Zimbabwe who may be available on a part-time or consultancy basis, and one local consulting firm, Techtop, which specializes in information management and which may be able to provide backstopping support as well as advising on and assisting in the recruitment of regular information staff. The proposed project for website development includes provision for onsite support from a web specialist funded and supplied by DfID, but there are also local firms and individuals with expertise in website design and development. Other possibilities include the recruitment of a foreign volunteer or associate expert.

5.4 Options for Information Management

There are thus a variety of options for the development of information management capacity within the Institute:

1. maintain the existing staffing situation, with outside assistance on a contractual basis for each of the areas listed above
2. recruit a recent library and information science graduate from the Harare Polytechnic course with professional supervision and backstopping from an external source on a contractual basis, designed to help the candidate develop the skills and confidence to take over as Information Manager within a given period - say, one or two years
3. recruit a senior library and information science professional, educated either at the Harare Polytechnic or, preferably, abroad, and with sufficient relevant experience to be able to immediately assume the position of Information Manager, perhaps with external contractual assistance in specific areas, such as website design
4. recruit a suitably-qualified and experienced person as an international volunteer or associate expert.

In any case, proper basic library training should be provided for the clerical officer currently responsible for running the library.

5.5 Job Descriptions

The Institute should make every effort to recruit a suitably-qualified person as Information Manager as soon as possible. Appendix K sets out the desirable features of a job description and qualifications for the proposed position of Information Manager at the IWSD. In the event that it is not possible to recruit someone meeting all these requirements, it may be necessary to appoint a local Information Management Adviser for a certain period of time to provide guidance, support and backup to the Information Manager. The Adviser, who may be an individual or a firm, should be required to advise and assist the Director of the Institute and the Information Manager in carrying out the duties of the Information Manager as set out in Appendix K.

The appointment of an Information Management Adviser to provide general backstopping to the Information Manager or the Director of IWSD should be considered as additional to the appointment of a local specialist or firm to help design the Institute's website, unless the Adviser also has the necessary skills in this area.

5.6 Further Support from IRC

The project budget for the Collaborative Programme for Capacity Building in the Water Sector of Zimbabwe and the Southern Africa Region, under which the present assignment was carried out, makes provision for further information management support to be provided to the IWSD by IRC. Such further support should be complementary to any local support, and could include:

- establishing a joint database of African sector contacts
- carrying out surveys of information sources and information users and their needs
- practical attachments to the IRC Documentation Unit for IWSD library staff
- tailor-made briefing programmes at IRC for the Information Manager and other IWSD information staff
- developing arrangements for mutual database access
- developing arrangements for the exchange of news and information
- reformulating the proposal for an African Water and Sanitation Information Network
- general monitoring and backstopping in respect of information development in the IWSD.

Chapter 6. Publications

6.1 Newsletters and Other Tools

The fourth issue of *IWSD News* was published in November 1997. A 12-page illustrated publication, printed in two colours, it contains news of sector developments in Zimbabwe and the region, information about IWSD training programmes and staff changes, a poem about rural women, letters to the Editor, and two articles. The newsletter is sent to nearly 900 people on the IWSD mailing list (see Chapter 1), and a further 500 copies are printed for ad hoc distribution.

The *IWSD News* is an attractive publication which could with advantage be distributed more widely outside the SADC region and, indeed, outside Africa. As Table 1 (Chapter 1) shows, 99 percent of the mailed copies are sent to addresses in Africa. Most of these go to recipients in Zimbabwe and other SADC countries (though three SADC countries are not represented on the list) and only 10 percent to other African countries. As the comparison between the IWSD and IRC mailing lists in Chapter 1 shows, there is scope for extending the distribution of *IWSD News*, in terms both of the number of countries covered, and of the numbers of recipients in each country; and this would be facilitated by the suggested establishment of a joint address database for IRC and IWSD.

One of the main problems in increasing the distribution of a printed newsletter like *IWSD News* is the resulting increases in printing costs and postal charges. This problem has also been faced by IRC, the printed version of whose *Water Newsletter* was, until the end of 1997, sent out by mail to some 6,000 addresses worldwide. The high and increasing costs of printing and distribution were met entirely from IRC's own resources, and the possibility of recovering some of these costs by charging subscriptions was not considered a viable option. Some 75 percent of recipients were individuals in developing countries who, it was felt, would not be able or willing to pay a subscription at a rate which would justify - and cover - the costs of administering it.

In an attempt to reduce printing and mailing costs while still maintaining - and, if possible, extending - circulation, IRC has decided to make a new version of its newsletter, renamed *SOURCE Bulletin*, available on its website and via e-mail, as well as in printed form. While the website and e-mail versions will be available free of charge to anyone able to access or receive them, the printed version will only be supplied to users in developing countries, and to libraries and a small number of key individual contacts in the industrialized countries. Since some 2,000 copies of the printed *Water Newsletter* were formerly distributed free of charge to users in the North, this is expected to produce a significant saving.

Complementing the *SOURCE Bulletin* is a weekly news update, *SOURCE Weekly*, which is available free of charge, but only via e-mail and on the IRC website. Arrangements were made to register the IWSD as a subscriber to *SOURCE Weekly* during the mission.

The readership of *IWSD News* could be increased considerably, particularly in the North, by distributing it initially via e-mail and later putting it on the IWSD website, when that is operational. The Institute's existing e-mail service provider should be able to advise on how

to set up an e-mail distribution for the newsletter, and IRC is also able to offer further advice on this.

It should be noted that news items from *SOURCE Weekly* may be freely republished in *IWSD News* (and other sector news bulletins) as required. The republication in *SOURCE Weekly* or *SOURCE Bulletin* of selected items from *IWSD News* would also provide an easy and cost-free method of disseminating information from *IWSD News* more widely.

6.2 Technical and Scientific Publications

6.2.1 Production of IWSD Publications

During the last three years, the Institute has produced a total of 55 documents in various categories, as shown in Table 2

Table 2. Documentary production, 1995-1997

Type of document	1995	1996	1997	TOTALS	%
Workshop and course reports	7	6	1	14	25
Evaluation reports and reviews	2	7	3	12	22
Other consultancy reports			1	1	2
Project proposals, etc.	2	2		4	7
Training materials and modules	6		1	7	13
Studies, guidelines and procedures	7	3	6	16	29
Miscellaneous	1			1	2
TOTALS	25	18	12	55	100

The categories shown in Table 2 have been assigned by the consultants, not by the Institute. Not all the categories shown can be considered as 'publications'. Evaluation reports and reviews, consultancy reports and project proposals, for example, may be prepared primarily for clients rather than for publication, while workshop and course reports are likely to be of interest mainly to those who have been involved with the trainings concerned. If the output in the remaining three categories, ('Training materials and modules', 'Studies, guidelines and procedures', and 'Miscellaneous') may be considered as 'real' publications, then the Institute is producing, on average, some 8 new publications a year, representing about 44 percent of its average annual documentary output.

Both the total annual documentary output and the output of 'publications' have declined by some 50 percent during the past three years. However, the proportion of the total accounted for by 'publications' has increased slightly from 56 percent in 1995 to 58 percent in 1997.

The draft IWSD Quality Policy emphasizes that a primary concern for the Institute is the quality of its products. These include, inter alia, research reports, technical reports and

training modules or training support materials. The Policy notes that: 'All information materials disseminated by the Institute shall achieve a quality of content and presentation, consistent with the target audience and budget, which brings credit to the Institute'. All materials are to be proof read for content, quality, relevance and errors by more than one staff member before printing or dissemination.

Research reports are to be 'effected in conformity with planned targets and demonstrating necessary scientific rigour'. They are to be produced on time, and will summarize the activities and progress of the research to date and include an analysis of research results to date as far as possible. Research reports will be subject to peer review and internal review before being finalized. 'In keeping with the information role of the Institute', all research reports will be prepared for both formal and informal publication and in formats suitable for both public and scientific audiences, with a high quality of presentation.

Technical reports (i.e. consultancy reports) are to be reviewed internally for quality before submission to clients, with attention being paid to both the structure of the report and the quality of the presentation.

Training materials are to be developed into modules for courses which are run more than once.

All documents issued by the Institute are available free of charge.

6.2.2 Comment

Publications are the most visible output of the Institute's research, consultancy and training programmes. The draft Quality Policy implicitly recognizes that they have an important role to play, both in disseminating the results of these programmes and in promoting and enhancing the public image of the Institute as a reliable source of good quality information. However, it is considered that the effectiveness of the Institute's publications in this respect would be considerably increased if they were issued in a limited number of clearly identified series, and if each series were given a distinct identity within the framework of a common house style.

A basis for the identification of document series is provided by the draft Quality Policy, which distinguishes the following categories:

- Reports on the results of research
 - scientific
 - popular
- Technical (i.e. consultancy) reports
- Training materials and modules

This last category might be extended to include reports on workshops and courses.

Possible titles for series based on this categorization could be:

- Research Papers (for scientific reports on research)
- Briefing Papers (for more popular treatments of research topics)
- Technical Papers (for consultancy reports; with restricted distribution)
- Training Series (for training materials, modules and reports).

A specification should be produced for each series, indicating its scope and coverage, target audience, physical format, etc.

Four such series should be sufficient while average annual output remains at its present level. However, the overall decline in the volume of output over the past three years is a matter of some concern, and efforts should be made to increase output, on a planned basis, during 1998 and beyond. These efforts should focus particularly on the Research Papers and Briefing Papers series, the former being developed as the 'flagship' series, the latter as the wider public face of the Institute.

The Institute hopes to continue its present policy of distributing publications free of charge by meeting the costs involved through the proposed Research Fund and by ensuring that all research projects incorporate an appropriate cost element. The costs of creation, production and distribution of publications should be closely monitored in order to provide the data required to carry out a regular review of pricing policy on at least an annual basis.

In order to obtain the maximum possible impact from the publications programme, distribution lists should be kept under constant review and efforts made to publicize the existence and availability of the publications. This should include the production of a formal publications catalogue, to be made available both in print and on the Institute's website. Detailed records of the distribution of publications by country and type of user should be maintained in order to

- provide support for their continued free distribution
- provide a basis for estimates of potential revenue from sales if a pricing policy is introduced at some time in the future.

The IRC Publications Policy, attached at Appendix G, may serve as an example of how a similar policy might be formulated by the IWSD.

Chapter 7. Information Dissemination Strategy

7.1 Introduction

The detailed activities laid down for the mission in its Terms of Reference include:

Discussing and setting up an appropriate information dissemination strategy that will ensure that all the targeted stakeholders will have timely access to required information.

This requirement itself identifies one of the first of the key elements which need to be addressed in the Institute's information strategy, namely, the identification of the potential users of the Institute's information services (the 'targeted stakeholders') and their information needs (the 'required information').

Two documents, the IWSD Quality Policy and the Concept Note on the proposed African Water and Sanitation Information Network project already provide some indication of the desired direction of the Institute's information strategy during the next few years. However, neither of them clearly identifies the potential users of the information systems to which they refer, nor their information needs; and the same is true of the Institute's library services.

7.2 Identifying Information Users and Information Sources

The first stage in the IWSD's information strategy, and one which should provide the essential foundation for all subsequent stages, should be to plan and carry out systematic surveys of potential information users and their needs in Zimbabwe, the SADC region, and sub-Saharan Africa as a whole. This could be facilitated by the sharing of contact information between IWSD, IRC and the other African ITN centres, which itself could be the first step towards the creation of a joint African contacts database for the sector.

Closely linked to studies of information users is the need for more detailed studies of the existence of appropriate sources of information and the conditions under which users can gain access to them. This is particularly important in respect of information sources accessible via the Internet, in order to ensure that the proposals for an African Water and Sanitation Information Network take full account of existing sources and do not attempt to duplicate what is already available.

As noted in Chapter 1, the lack of institutions like the IWSD in the SADC region creates a good opportunity for the Institute to develop its role as a regional information provider. This role would be considerably strengthened by the development within the IWSD of a body of knowledge about other sources of information, both on the Internet and elsewhere, and of the capacity to establish links between such sources and information users in the region.

7.3 Developing Human Resources

The develop of this inhouse capacity, through the recruitment of an Information Manager, the training of existing staff, and the use of consultants and advisers to provide technical support and backstopping, should also be a crucial element in the development and implementation of the Institute's information strategy. Indeed, without adequate resources of suitably-qualified

and experienced manpower, it will be impossible to achieve any of the aims of such a strategy.

7.4 Specific Areas for Attention

Once an Information Manager has been appointed, and technical support arranged as required, the main areas requiring attention are:

- the development of the library service
- the nature and extent of participation in the proposed African Water and Sanitation Information Network
- the creation of the Institute's own website
- the development of publications
- improvements in internal information management.

Detailed proposals in respect of these activities have been presented in the preceding chapters of this report. However, for ease of reference, the main actions required are summarized below.

7.4.1 Library Service

- prepare library policy statement
- prepare written library regulations
- establish and maintain records of library users and their needs
- systematically acquire publications catalogues and other lists from other institutions
- arrange training for library staff
- provide adequate space for library in new building
- develop criteria for selection and discarding
- prepare instructions for use of existing database
- add missing fields to database record format
- establish card recording system for serials
- delete database entries for publications catalogues
- include date of publication in printed catalogue
- select and introduce more advanced library database software
- arrange training in new software for staff and users
- carry out more detailed analysis of geographical coverage of database compared with IRCDOC
- arrange mutual database access with IRC
- consider possibility of importing records from IRC database
- provide more storage space and better storage boxes for documents
- circulate a list of new accessions
- circulate photocopies of the title pages of current periodicals
- circulate a list of forthcoming events
- promote exchange of information with other libraries
- establish formal request handling procedures

7.4.2 African Water and Sanitation Network

- carry out surveys of participants, users and other information sources
- consider links with other initiatives
- review proposed timescale and budget

7.4.3 IWSD website

- establish IWSD website with local support

7.4.4 Publications

- extend distribution of *IWSD News* to more countries and more users per country
- distribute via e-mail and the website to cut costs
- exchange news and information with *SOURCE*
- issue publications in clearly identifiable series
- increase output of publications, especially Research Papers and Briefing Papers
- monitor costs of production and distribution
- review distribution lists
- publicize existence and availability of IWSD publications
- maintain records of distribution

7.4.5 Internal Information Management

- establish an internal Local Area Network with direct links to e-mail and the Internet for all staff members.

7.5 Financing Information Dissemination Strategies

In planning for the implementation of the strategies outlined above, the Institute should be prepared to finance them either from its general budget or from dedicated project funds provided by donors. There is little prospect of being able to recover even the direct costs through charges to users, and a more productive strategy seems likely to be to convince donors or sponsors that such activities are worth financing because they provide a large number of users with the information they need to bring about real improvements in the water supply and sanitation situation. This makes it all the more important to identify users and their needs as clearly as possible, to design and implement high-quality information products and services to meet those needs, and to monitor the use of these products and services and obtain feedback from users on their usefulness.

7.6 Conclusion

This report represents the results of a very brief preliminary mission to the IWSD, which was intended to lay the groundwork for future development rather than provide a detailed blueprint. It is hoped that the report has achieved this limited aim, and that it will provide useful guidance to the Institute as to the next steps to be taken in developing and implementing its information strategy.

Appendix A

Persons Interviewed During The Mission

IWSD Staff

Dr. Paul Taylor (Executive Director)
Dr. J. Ndamba (Research and Information Manager)
Ms. Noma Musabayane (Training Manager)
Ms. E. Mutasa (Technical Officer)
Mr. L. Mujuru (Technical Officer)
Eng. C. Shibanda (Training Officer)
Mr. Arnulf Schonbauer (Austrian Volunteer)
Mr. Innocent Gonye [library clerk]
Ms. Benita Mandibaya [library secretary]

Others

Dr. Angeline Kamba (Public Service Commissioner; former Director, National Archives of Zimbabwe)
Mr. H.R. Mashingaidze (Programme Planner, National Coordination Unit for Rural Water Supply and Sanitation)
Mr. Peter Mazikana (Managing Director, Tectop Management Consultants)
Ms. Monica Morrison (Senior Consultant, Information Resource Management Division, Tectop Management Consultants)
Ms. Helga Patrikios (Librarian, University of Zimbabwe Medical Library)
Ms. Linda Stoddart (Project Director, Information Systems Management, International Federation of Red Cross and Red Crescent Societies, Regional Delegation for Southern Africa).

How To Conduct Information Surveys

[Reproduced from *Organizing Local Documentation Services for the Water Supply and Sanitation Sector*. IRC, 1994. (Reference Series 9). Appendix A, pp. 79-81].

Introduction

This appendix explains how to carry out surveys of

- local institutions to be served by the documentation centre or with which the centre aims to cooperate
- the kinds of information needed by potential users of the centre, the ways in which they try to find this information at present, where they normally obtain it from, and how they use it.

Before explaining how to carry out these specific kinds of survey, some basic methods which should be applied in carrying out any kind of survey are described.

Review of existing sources

A review of existing sources of information should be undertaken before deciding to carry out an original survey. Surveys using interviews or questionnaires are expensive, time-consuming and difficult to organize and carry out, and it is therefore important to make sure that the information they are designed to collect is not already available from existing sources.

Existing sources of information on the subject of the survey may include reports on previous surveys, directories of institutions, staff lists, population statistics, and so on. A review of such sources can be very time consuming and unproductive unless they are accurate, reliable, relevant and up-to-date. Information and statistical data obtained from such sources must therefore be carefully checked before being used as a basis for planning the activities of the documentation centre.

Basic survey techniques

The basic steps in planning and carrying out any kind of survey are:

- define the objectives and scope of the survey
- decide on the methods of data collection to be used
- decide what human and financial resources will be needed to carry out the survey, and make sure they are available
- prepare the design of the survey
- test the survey design
- carry out the survey
- collate the information and data obtained
- analyze the results
- report the results.

The use of questionnaires as the sole method of collecting information is not recommended as it rarely produces satisfactory results. It is better to combine the use of questionnaires with interviews.

Questionnaires should be distributed in advance, together with an explanatory covering letter, to forewarn respondents about the kinds of information which the survey is trying to obtain. This should be followed by interviews in which the questionnaires are completed by the interviewer and the respondent working together. If it is not possible to interview all persons to whom questionnaires have been sent, an attempt should be made to interview at least a representative sample of them.

Resources for planning and conducting surveys

Surveys must be carefully planned and the human, material and financial resources needed to ensure their completion must be provided if they are to produce useful results.

Surveys can be very expensive and time-consuming, particularly if they involve a large number of institutions or users. In such cases, the staff of the documentation centre should ask individuals or institutions with experience in survey techniques to advise them as to whether the proposed survey is feasible and, if so, to help them to plan and implement it.

Survey of local institutions

A survey of local institutions should aim to identify all institutions in the locality which are involved in water supply and sanitation, and obtain the following information about each one:

- name, address, telephone, telex and fax numbers
- type of institution (e.g. government department, non-governmental organization, etc.)
- internal organization (principal departments, substations, etc.)
- numbers and types of employees (including any library or documentation staff)
- subject areas covered by the institution
- geographical area or localities covered by the institution
- main areas of activity of the institution (e.g. research, construction, operation and maintenance, training, information storage and retrieval, etc.)
- specific activities related to information and communication (including whether or not the institution maintains a library or documentation centre, and if so, whether it provides services to people from outside the institution).

One of the main difficulties in deciding on what institutions should be included is that many of them are often only partly concerned with the water sector; they are often also active in other areas. It will be necessary to organize the inventory so as to focus only on those elements which are concerned with the water sector.

Survey of information needs and information use

The information received from a survey of local institutions may be used to create a general profile of the potential user population which can form the basis for a more detailed survey of their information needs and the ways in which they use information.

This involves the collection of detailed information on the information needs and the information-seeking and information-using behaviour of users or potential users of the

documentation centre. Such a survey may be carried out through questionnaires, interviews, group techniques or a combination of any or all of these.

The information needed by users may be assessed in terms of:

- its subject content
- the purpose for which it is needed
- its main orientation (theoretical or practical)
- its intellectual level (elementary or advanced)
- the language in which it is recorded
- how up-to-date it needs to be
- the physical formats in which it is presented.

The design of the questionnaire to be used in specific situations should be done by the management and staff of the documentation centre, with advice, if necessary, from social scientists or other specialists with experience in questionnaire design.

IWSD Library: Space Requirements for New Building

The following are the requirements for the IWSD Library in the new extension to IWSD Headquarters.

Accommodation for Collections

(Assuming target collection 5,000 documents)

Space required for documents @ 300 per sq. m. = 16.7 sq.m.

Includes space needed for users to get access to the storage units.

Space required for current periodicals @ 25 titles per sq.m. = 2.0 sq.m.

Assumes maximum of 50 titles

Accommodation for Staff

(Assuming current staff of 1, with no provision for increase due to growth in collection or level of use)

Space required for staff @ 9.3 sq.m. each = 9.3 sq.m.

Includes all working space for processing, sorting, etc. as well as space for reader service.

Accommodation for Users

(Assuming minimum of 2 reading spaces)

Space required for users @ 2.3 sq.m. each = 4.6 sq.m.

Includes table space, space for chairs, and space for access to tables.

Total of the above: = 30.6 sq.m.

Traffic and Utility Space

25 percent of the above total: = 7.7 sq.m.

Space for Expansion

Minimum 10 percent of the above totals: = 3.8 sq.m.

TOTAL SPACE REQUIRED = 42.1 sq.m.

Some reduction in the overall total might be achieved by

1. eliminating the allowance for traffic and utility space, since space for access has already been included in the other calculations, and this will remain a small library
2. eliminating the allowance for expansion, since the calculation of collection requirements already allows for the growth of the collection to its target maximum.

This would enable the overall space requirement to be reduced to: **30.6 sq. m.**

Outline Criteria for Selecting and Discarding Documents

The following criteria are based on those used in the IRC Library for selecting documents not more than five years old.

Aims and scope

The aim of these criteria is to ensure the adequate selection of documents for the library collection. The criteria apply to all documents, including those received free of charge and purchases. The term 'document' refers to all kinds of publications, including both book and non-book materials, identified from periodicals, catalogues and staff members' proposals.

Procedure

A document is only to be selected for the collection if it meets the following criteria:

Subject

The document deals with one or more of the following aspects of community water supply and sanitation:

- appropriate technology
- communication
- community management / participation
- financing
- gender (position of women)
- hygiene education
- information management
- operation and maintenance

Geographical area

The document relates to rural and peri-urban areas in developing countries, including the Commonwealth of Independent States and Eastern Europe and Central Asian Republics. (Special attention is paid to countries where the Netherlands and the Scandinavian countries concentrate their projects).

Language

- The document is in one or more of the following languages: a relevant local language (e.g. Hindi, Bahasa Indonesia, Swahili); English; French; Portuguese; Spanish.

Price

The price is less than NLG 400 (USD 200 approx.)

Recommendation

The document is recommended by a professional staff member.

Non-duplication

The document has not already been acquired for the library collection.

Appendix E

Record Card for Serials

TITLE

weekly/monthly/bimonthly
quarterly/twice a year

PUBLISHER

SUPPLIER

YEAR	VOL	Jan	Feb	Mar	Apr	May	June
YEAR	VOL	July	Aug	Sep	Oct	Nov	Dec

Appendix F

Selected Records from IRCDOC Database for Documents Held in IWSD Library

The following records are selected from a sample of 34 representing documents recorded in the IRCDOC database and also held in the IWSD library. The complete list of 34 records is also provided separately.

5.

Barcode: 6189

Shelfmark: 152 88LE (IWSD: 104.08)

Let's build Zimbabwe together : a community manual (Training material, curricula) / Bond-Stewart, K. ; SIDA -Stockholm, SE ; Zimbabwe. Ministry of Community Development and Women's Affairs -ZW. - Harare, Zimbabwe, Ministry of Community Development and Women's Affairs, 1988 [?]. - 187, viii p.: ill. Includes references

ADULT EDUCATION / COMMUNITY DEVELOPMENT / COMMUNITY WORKERS / M / MANUALS / VILLAGE COMMITTEES / VILLAGES / WATER COMMITTEES / ZIMBABWE / extension

11.

Barcode: 13767

Shelfmark: 205.40 96UR (IWSD: 205.23)

Urban water supply sector review (Books/Monographs) / Nickson, Andrew ; University of Birmingham -Birmingham, GB. - Birmingham, UK, University of Birmingham, School of Public Policy, 1996. - 53 p.. - (The role of government in adjusting economies; no. 7) ISBN 0704416425 Bibliography: p. 46 - 53

This desk study examines the implications of the growing private sector participation in urban water supply (UWS) on the administrative capacity of governments undergoing structural adjustment around the world. It aims to provide a broad framework of analysis for the four country case studies (Ghana, India, Sri Lanka and Zimbabwe) to be carried out under the same research project. The study identifies a variety of factors, internal to the provider and arising from pressure by external actors, for this growing private sector participation. These range from pressure by foreign donor agencies to a desire to achieve efficiency gains on existing operations. However, the overriding motive in most low-income countries appears to be the need to obtain finance to expand networks to meet the demand arising from rapid peri-urban population growth. The study has revealed the enormous diversity of experience around the world in the form that private sector participation is now taking in the UWS sector. These have been divided into eight different forms of service delivery - the state-owned enterprise, the service contract, the management contract, the lease contract, the concession arrangement, the co-operative arrangement, the build-operate-transfer contract, and divestiture. The theoretical arguments for private sector participation are examined in the light of the traditional perception of UWS as a public good. Some of the assumptions regarding the alleged benefits of vertical unbundling and franchising are questioned. The basis for assessing the benefits of private sector participation is approached through a review of the major indicators used to measure performance of UWS utilities in terms of effectiveness, productive efficiency (both operational and financial), and equity. Finally, the study identified four broad issues related to governmental capacity in the light of private sector participation in UWS-the capacity to manage the broad macro-economic environment, the capacity to promote private sector participation, the capacity to regulate private sector participation, and investment decision-making.

CAB97/2 / FINANCIAL MANAGEMENT / INSTITUTIONAL FRAMEWORK / POLICIES / PRIVATE SECTOR / RESEARCH / URBAN AREAS / WATER SUPPLY / efficiency / literature reviews

21.

Barcode: 10747

Shelfmark: 321.4 94LO (IWSD: 304.06)

Low-cost urban sanitation in Lesotho (Report, unpublished document) / Blackett, I.C. ; World Bank -Washington, DC, US. - Washington, DC, USA, World Bank, 1994. - xiii, 46 p.: boxes, drwngs., photogr.. - (Water and sanitation discussion paper series; no. 10)

This is a case study of Lesotho's low-cost urban sanitation project that evolved into a successful nationwide programme. As conventional flush toilets are still considered a luxury by the majority of the population, the Ventilated Improved Pit (VIP) latrine was introduced. This report describes the approach taken by the Urban Sanitation Improvement Team (USIT) to design, test and promote a technically adequate, affordable and socially acceptable latrine using only minimal governmental and external financing, and employing private sector local builders who are trained in latrine construction.

ABILITY TO PAY / CAB94/3 / CASE STUDIES / DESIGN / FINANCING / HEALTH EDUCATION / HEALTH IMPACT / INSTITUTIONAL FRAMEWORK / INSTRUCTIONAL AIDS / LESOTHO / LESOTHO MASERU / PRIVATE SECTOR / RECOMMENDATIONS / SUSTAINABLE DEVELOPMENT / URBAN AREAS / VENTILATED IMPROVED PIT LATRINES / local production / low-income communities

22.

Barcode: 14353

Shelfmark: 321.4 95BL (IWSD: 430.50)

The Blair latrine : a builders manual for the 4 bag model and hand washing tank (Training material, curricula) / Morgan, Peter ; Mvuramanzi Trust -Harare, ZW. - Harare, Zimbabwe, Mvuramanzi Trust, 1995. - 23 p. : ill.

BLAIR LATRINES / CONSTRUCTION / CONSTRUCTION MATERIALS / MANUALS / SDISAN / VENTILATED IMPROVED PIT LATRINES / hand washing

23.

Barcode: 1057

Shelfmark: 332 85DE (IWSD: 323.01)

The design of small bore sewer systems (Report, unpublished document) / Mara, D.D. ; Otis, Richard J ; Technology Advisory Group -Washington, DC, US ; World Bank -Washington, DC, US. - Washington, DC, USA, World Bank, 1985. - iv, 52 p.: fig., tab.. - (TAG technical note; no. 14) Includes references

APPROPRIATE TECHNOLOGY / CASE STUDIES / CONSTRUCTION / COSTS / DESIGN CRITERIA / LBP / LBPO / M / MAINTENANCE / SETTLED SEWERAGE / SEWERAGE / URBAN AREAS

29.

Barcode: 10000

Shelfmark: 824 NAOW90 (IWSD: 610.14)

Report of the UNICEF assessment mission for water supply projects in the Owambo region of northern Namibia (Report, unpublished document) / Spruijt, Hans ; UNICEF -Windhoek, NA. - Windhoek, Namibia, UNICEF, Programme Development Planning Division, 1990. - 41 p.: 8 fig., 5 maps

EVALUATION / NAMIBIA / NAMIBIA OWAMBO / PROJECTS / RECOMMENDATIONS / RURAL AREAS / SAFE WATER SUPPLY

30.

Barcode: 7985

Shelfmark: 824 ZWMA90 (IWSD: 261.03)

Patterns in water use : observations from the Manicaland integrated rural water supply and sanitation programme, Zimbabwe (Report, unpublished document) / Saugestad, Sidsel ; Institute of Social Science -Tromso, NO. - Tromso, Norway, University of Tromso, Institute of Social Science, 1990. - 131, 13 p.: fig., tab.. - (Monograph series A; no. 52)

CARETAKERS / COMMUNITY PARTICIPATION / EVALUATION / GHB / MAINTENANCE / PROGRAMMES / SAFE WATER SUPPLY / SANITATION / WATER COMMITTEES / WATER CONSUMPTION / WOMEN / ZIMBABWE / ZIMBABWE MANICALAND / cultural aspects

IRC Publications Policy

Introduction

The IRC International Water and Sanitation Centre aims to ensure the availability and use of appropriate knowledge and information in the water, sanitation and environment sector in developing and newly-independent countries. Its activities include: capacity development for information management; the exchange of available knowledge and information; and the development and transfer of knowledge on priority issues. Emphasis is placed on community-based approaches, including rural and low-income urban water supply and sanitation systems, community participation and hygiene education, gender aspects, maintenance systems, rehabilitation and environmental management. All activities take place in partnership with organizations in the countries concerned, with United Nations organizations, bilateral donors and development banks, and with non-governmental organizations.

The Role of IRC Publications

IRC publications support the general aims and activities of the organization by collating and disseminating news, information, knowledge and experience on issues, trends and developments in IRC's various fields of interest, including the results of its own activities, to meet the needs of selected target audiences in partner institutions and in the sector as a whole.

In accordance with the emphasis on partnership in IRC's activities, its publications activities contribute to capacity-building in national partner institutions by encouraging national staff to create suitable publications, either alone or in collaboration with IRC staff, and to strengthen relationships with partner institutions through joint publications and other cooperative publishing arrangements.

Guiding Principles

IRC's policy is to ensure that its publications:

1. focus on key issues, topics and concerns which are directly relevant to the needs of selected target audiences in the water, sanitation and environment sector
2. meet standards of subject content, intellectual presentation and production which are appropriate in relation to the needs of selected target audiences and the financial and other resources available for creation, preparation, production, marketing and distribution
3. are published in a language or languages suitable for the intended readership
4. reflect and contribute to the professional development of sector staff, including IRC staff and, where appropriate, professional staff in partner institutions in developing and newly-independent countries
5. are, where appropriate, produced and distributed in collaboration with partner institutions
6. project a consistent corporate image so that they are easily recognizable as products of IRC and, where appropriate, of collaborating partner institutions

-
7. are created, produced and distributed on terms designed to make them accessible to members of the appropriate target audience while ensuring the recovery of all costs involved, either through sales or from internal or external subsidies
 8. are created, produced and distributed as expeditiously and economically as possible, wherever possible using environmentally friendly processes and materials.

Target audiences

The main target audiences for IRC publications include: policy makers, decision makers, planners, managers, engineers, researchers, extension workers, trainers, academics, students, information specialists, etc. in sector institutions and organizations at local, national, regional and international levels, particularly in developing and newly-independent countries. To ensure that its publications meet the needs of appropriate target audiences, IRC will take steps to identify the key issues, topics and concerns of interest to them, using both formal and informal channels. Methods of identifying the needs of target audiences are described in the Publications Management Procedures.

Standards

To ensure that IRC publications meet appropriate standards of subject content, intellectual presentation and production in relation to the needs of selected target audiences and the resources available, IRC will define quality criteria to be applied in the creation, preparation, production, marketing and distribution of its different types of publication. These criteria are defined in the Publications Management Procedures.

Languages

IRC publications will be issued in the language or languages most appropriate to the needs of their selected target audiences. Publications will normally be first issued in the language of the original manuscript, and translated into other languages as the need arises and resources permit.

Professional development

In order to contribute to the continuing professional development of sector staff, and in the interests of capacity-building in partner institutions, particularly in developing and newly-independent countries, IRC will take steps to ensure that its publications reflect the full range and depth of current professional knowledge.

IRC will require its own professional staff to contribute to its publications programme on a regular basis, and will also encourage them to publish in refereed journals and to make presentations at professional conferences and other meetings. It will also encourage the professional staff of partner institutions to participate in the creation of IRC publications and journal articles, and in the preparation and presentation of conference papers, either as sole authors or in collaboration with IRC staff.

Guidance on involving IRC staff and others in these activities is provided in the Publications Management Procedures.

Cooperative publishing arrangements

In the interests of ensuring that its publications reach the widest possible audience and that their prices are kept within the reach of target audiences, IRC will, where appropriate, enter into

cooperative publishing arrangements with partner institutions. Steps will be taken, in such cases, to ensure that all legal and contractual obligations, for example with regard to copyright, are fully observed. Guidance on cooperative publishing arrangements is provided in the Publications Management Procedures.

Corporate image

The various categories of IRC publications will be issued in one or other of a group of related and pre-determined styles designed to project a consistent corporate image while at the same time giving each type of publication a distinct group identity. Where appropriate, these pre-determined styles may be modified in the case of joint publications, or publications issued under cooperative publishing arrangements. The various categories of IRC publications, and the styles applicable to each, are described in the Publications Management Procedures.

Ensuring cost recovery

IRC will establish a pricing policy for its publications designed to make them accessible to the target audiences to which they are addressed, and at the same time to recover all the costs involved in their creation, preparation, production, marketing and distribution, either through sales or from internal or external subsidies. Any discounts offered to specific groups of customers, or in respect of specific sets of publications, will be calculated in consistency with this principle. Norms and methods for the costing and pricing of publications are described in the Publications Management Procedures.

Ensuring efficiency and economy

To ensure efficiency and economy in the creation, preparation, production and distribution of IRC publications, Publications Management Procedures based on this Publications Policy will be issued under the authority of the Director and the Management Team.

The Publications Management Procedures will:

- identify, describe and state the objectives of the main stages in the publications process, namely:
 - planning: of individual titles and series and of the overall publications programme
 - creation: of individual publications through authorship, editing, translation, etc.
 - preparation: of individual publications for production, through wordprocessing, desktop publishing, etc.
 - production: of publications through printing, photocopying, etc.
 - marketing: of publications through various publicity media
 - distribution: of publications through sales, etc.

- describe the organizational arrangements for publications management within IRC, including the relationships between publications management and other IRC activities
- describe methods of identifying target audiences and their needs
- define quality criteria to be applied in the creation, production, marketing and distribution of IRC publications
- define the functions and responsibilities of those involved in creating, producing, marketing and distributing IRC publications

-
- provide guidance on cooperative publishing arrangements with other partner institutions
 - establish norms and methods for the costing and pricing of IRC publications
 - describe the routines and methods to be employed at all stages of the publications process in IRC.

The procedures applicable to each stage of the publications process will apply to all IRC staff and others involved in that stage.

Implementation

The provisions of this Publications Policy will be implemented through the Publications Management Procedures. General responsibility for implementation will rest with the Publications Manager, acting under the authority of the Director and the Management Team and in consultation with other IRC staff as appropriate.

- END -

Outline Requirements for a Local Area Network

prepared by Irene van Dieten, Automation Officer, IRC

What do you need for a personal computer network:

1. At every desk a computer: called **client**.
 - Within this computer there should be a network-card. This network-card makes the network accessible to the client computer.
 - The operating system of the client computer should be compatible with the operating system on the server.
 - The internal memory of the client computer should be in relation to the internal memory of the server. If there is a server with an internal memory of 64Mb, the client should have 32 MB internal memory.
 - Before you start with a network you have to decide if you want to connect your printers also to the network because for every client and for every printer there should be a network connection in the neighbourhood of the location of both: the printer and the computer
2. There have to be network **cables**. From the network cabling systems the UTP cabling system is the most advanced and stable one. The system you choose is related to the network-card you are using. Every type of cabling demands a certain type of network card within the client computers.
3. All the cables of the clients come together within the **patch panel**. Together with the **HUBS** the cables are connected to the network server.
4. The network **server** needs to have:
 - A multi tasking platform: different processes are in use at the same time
 - The operating system needs to be compatible with the operating system of the client computer e.g. Windows NT and/or Windows 95
 - There has to be a backup facility – like a DAT recorder which backup every night the whole network-data.
5. An **UPS** (Uninterrupted Power Supply) is essential. This machine facilitates electricity if there is a power cut. It closes all application in a certain order so that there will be no damage to the computer data.
6. Optional is a **firewall connection**. If you want to access the Internet with the office and the network, it is advisable to buy a firewall. It protects the network system against hackers and other not 'good-willing computer freaks'.

Appendix J. 1

Selected African Websites

AdmiNet - Africa

<http://www.adminet.com/africa/>

African Conferences & Exhibitions Ltd

<http://www.robart.demon.co.uk/ACE/>

The African Water Page

<http://wn.apc.org/afwater/index.htm>

Club du Sahel

<http://www.oecd.org/sah/anglais/index.htm>

Country-Specific Pages

http://www.sas.upenn.edu/African_Studies/Home_Page/Country.html

Department of Hydrology Hydrological Research Unit, University of Zululand (South Africa)

<http://www.uzulu.ac.za/sci/hydro/index.html>

DNA - Mozambique Water Sector - Official Page of Direccção Nacional de Águas (National Directorate of Water)

<http://www.dna.mz/>

ECA - UN Economic Commission for Africa

<http://www.un.org/Depts/eca/>

EcoNews Africa

<http://www.web.apc.org/~econews/>

FAO/UNESCO Water Balance of Africa Exercises on GIS in Water Resources for Africa

<http://civil.ce.utexas.edu/prof/maidment/gishydro/africa/africa.htm>

Institute for Water Research (South Africa)

<http://www.ru.ac.za/departments/iwr/welcome.html>

The Mvula Trust

<http://www.mvula.co.za/>

National Community Water and Sanitation Training Institute (South Africa)

<http://water.cwr.ac.za/ncwsti/>

NETWAS International

<http://www.nbnet.co.ke/netwas/>

OneWorld News Focus on Africa

<http://www.oneworld.org/news/africa/index.html>

Pan African Development Information System [PADIS]

http://www.sas.upenn.edu/African_Studies/Padis/menu_padis.html

PanAfrican News Agency

<http://www.africanews.org/pana/>

Report on the Status of International Donor Co-Operation Programme for Water and Sanitation Sector. Report 1/97 (As At 1st February 1997)

http://www.gov.za/dwaf/web-pages/Cwss/cwss_imp/int_donor.htm

Rubani Africa's Web Directory

<http://www.rubani.com/>

Southern Africa Environment Page: Water

<http://www.ru.ac.za/departments/law/SAenviro/water/water.html>

Umgeni Water (South Africa)

<http://www.umgeni.co.za/>

University of Ghana

<http://www.ug.edu.gh/>

Water Research Commission (South Africa)

<http://www-wrc.ccr.ac.za/>

Zambian National WWW Server

<http://www.zamnet.zm/>

Zimbabwe Page

http://www.sas.upenn.edu/African_Studies/Country_Specific/Zimbabwe.html

Zimbabwe Geography, Population and Water Resources (FAO-Aquastat)

<http://www.fao.org/waicent/faoinfo/agricult/aquastat/ZIMBABWE.HTM>

Selected Pages from African Websites

1. AdmiNet - Africa [extracts]

General Resources [list of other websites]

INTERNET FOR NGOS IN EAST AFRICA

Sociétés d'Afrique et Sida

Nkrumahist/Toureist:African Perspective

AWA : Association des Webmasters Africains

Rubani: Africa's Web Directory

Iles de l' Océan Indien

Africa Info

AFRICA INTELLIGENCE

TradePort : Country Library : AFRICA

ASU : African Student Union

Tam-Tam

World-Wide Web Resources - Africa (uky.edu)

African Governments on the WWW

AfricaOnline Yellow Pages

Home Page africances

AFRIQUE EXPRESS

African Wildlife

Internet Africa

Afric-Network

Africanet

Africanet (ina.fr)

Une exposition africaine

Country Profiles

Le rallye Paris-Dakar 96

Political Parties in Africa (~benne)

NHBS BookNet: Area/Southern Africa

Worldnet Africa

Arabian Gulf Business Directory

Africa Missions

Africa Missions Resource Center

Sub-Saharan Africa Program (AAAS)

USAID Africa Bureau

USAID Africa Bureau Information

News Stand (AfricaOnline)

Eye on Africa (AfreeNET)

AfriNET

Privatization: Middle East & North Africa

Africa and Environs

Alchemy of Africa

ASA : The African Studies Association

[WWW Virtual Library: African Studies](#)
[World-Wide Web servers: Africa](#)
[AfroNet](#)
[The African Connexion](#)
[ISAS : The International Society of African Scientist](#)
[General Map](#)
[The Flags of Africa Countries](#)
[General Information about Africa](#)
[WWW Servers in African Countries](#)
[The list of French embassies around the world](#)
[The list of foreign embassies in Paris](#)
[African Embassies & Diplomats in the U.S.](#)
[Internet Access providers in Africa](#)
[Arab Countries \(hajeri\)](#)
http://history.cc.ukans.edu/carrie/news_main.html
<http://www.seas.upenn.edu/~cardell/africa.html>
[Country-Specific Pages \(U. Penn.\)](#)
[African Studies \(U. Penn.\)](#)
[K-12 Electronic Guide for African Resources on the Internet](#)
[The Commonwealth of Learning - African Region](#)
[Sub-Saharan Africa](#)
[Amnesty International Documents](#)
[Mennonite Central Committee](#)
[Technology for Africa](#)

Francophone Resources

[AIMF : Association Internationale des Maires Francophones \(fr\)](#)
[L'Afrique Francophone Virtuelle](#)
[FRANCIL : Réseau FRANCOphone de l'Ingénierie de la Langue](#)
[DÉCLARATION DE MONTRÉAL](#)
[Meta-Concept](#)
[Le français dans le monde](#)
[L'Afrique francophone virtuelle \(TBob\)](#)
[Le 6ème Sommet de la Francophonie à Cotonou \(Bénin\) \(bj\)](#)
[Guide de l'Internet en Afrique](#)
[Afrique francophone \(lehman\)](#)
[Appel de Propositions de Recherche, 03/'96](#)
[Ecoles Techniques Supérieures Francophones](#)
[ACCT : Agence de coopération Culturelle et Technique](#)
[Mediterranet](#)
[Bibliothèque virtuelle sur le Développement International](#)
[Infoport REFER : AFRIQUE SUB-SAHARIENNE](#)
[Agapé : Francophone Africa Ministries](#)
[Francophone Africa \(cnam\)](#)

URL : <http://www.adminet.com/africa/> (Last update : Fri, 3 Apr 1998)

2. World-Wide Web Resources

Africa

New Sites Added Since February 11

African Traditional Religion

General Resources

AdmiNet Africa

Africa Intelligence, draws from a data base of 20,000 articles appearing over the past five years in **The Indian Ocean Newsletter, Africa Energy & Mining, La Lettre du Continent** and **Maghreb Confidentiel** as well as all the biographies of African leaders published in the Top 100 People series. Offers exclusive news covering political and economic events in Africa.

Africa News Online, combined news resource from Africa, extracting reports from the continent's leading newspapers, magazines and news agencies.

Africa Online

Africa Policy Information Center, Washington Office on Africa. Recent policy-relevant documents concerning US/African relations and related issues, multilateral institutions, and African grassroots interests in peace, sustainable development, democratization and human rights.

Africa Resources, from Yahoo.

Africa Sites, from Galaxy.

African Population Database Documentation, describes the third version of a database of administrative units with associated population figures for Africa. Database is also downloadable and features boundary and population data, discussion of data sources, population projections and data quality, and raster data.

African Studies Association

African Studies Resources, from the WWW Virtual Library.

African Studies WWW, from the University of Pennsylvania.

Alphabetical Guide to African Countries' Resources, from Yahoo.

Association of Concerned Africa Scholars

Black World Today, profile of countries from Africa, the Caribbean, and Latin America.

Electronic African News

Electronic Journal of Africana Bibliography (EJAB). Provided by John Howell, International Studies Bibliographer at the University of Iowa Libraries, "EJAB is a refereed online journal of bibliographies on any aspect of Africa, its peoples, their homes, cities, towns, districts, states, countries, regions, including social, economic sustainable development, creative literature, the arts, and the Diaspora."

Encyclopedia of the Orient, encyclopedia of all cultures in North Africa and the Middle East. Many of the listings in this alphabetical collection of countries, customs, and phrases are linked to more in-depth summaries and articles.

Indigenous Studies: Africa, from the WWW Virtual Library.

Internet Africa

Rubani: "Africa's Web Directory."

Virtual Africa

World News Connection (WNC) offers time sensitive information gathered from thousands of foreign media sources, including political speeches, television programs, radio broadcasts, and articles from newspapers, periodicals, and books. Users get the most extensive and in-depth collection of unclassified military, political, environmental, sociological, scientific and technical data and reports from around the world (U.S. information is not included). All the material is translated into English

Regional categories covered include:

- Central Eurasia
- East Asia
- Near East & South Asia
- China
- East Europe
- West Europe
- Latin America

Sub-Saharan Africa

NOTE: Use is currently restricted via subscription to UK faculty, staff, and students and requires a password. Contact the Reference & Government Information Desk to acquire a userid and password. Use is currently restricted to one user at a time. If you have questions, encounter blocked databases, or find the access busy for an extended period of time, please contact the Information Services Team in King Library South by

phone: 257-1631
e-mail: govpub@ukcc.uky.edu
this [form](#).

Specific Resources

The Abyssinia CyberSpace Gateway, covering the collective cultures and peoples encompassed under the broadest region generally associated with the term "Abyssinia": the geographic region in East Africa bound by the borders of the nations of Djibouti, Eritrea, Ethiopia, Somalia, and Somaliland.

AFRIA, The Africa Research & Information Alliance, offers information services on South African topics.

Africa Policy Information Center, from the Washington Office on Africa.

Africa South of the Sahara, selected Internet resources.

African Music Encyclopedia, music from Africa and throughout the African Diaspora, with music and artist hyperlinks.

African News Resources, from the "Ultimate Collection of News Links."

African Studies on the Internet, from Australia.

African Studies Program, University of Wisconsin.

African Studies Quarterly: The Electronic Journal of the Center for African Studies at the University of Florida.

African Studies WWW, from the University of Pennsylvania.

African Traditional Religion

Angola

Buganda

Cameroon

Center for African Studies, University of Illinois at Urbana - Champaign.

Republic of Congo

Contemporary Conflicts in Africa, provides an overview of and annotated guide to information about current and historical conflicts in Africa. There are links to databases and reports provided by the United Nations, universities, and broadcasters. The "Conflict Issues" section covers such topics as peacekeeping and humanitarian operations, justice and human rights, and disarmament. Maps of each country in Africa are provided.

Country-Specific Pages of Africa, from the University of Pennsylvania.

Djibouti

EcoNews Africa, circular on environment and development.

Egypt

Eritrea

Ethiopia

Ethiopia

Ethiopia Review

Gambia

The Republic of Ghana, covers the business, education, cultural, social, scientific, industrial, and artistic life of the people of Ghana.

Madagascar

MBendi AfroPaedia, Africa's electronic encyclopaedia of business and commercial information, including currency rates, travel data, and an industry overview.

The Middle East--North Africa Internet Resource Guide

Middle East Resources

New information and Communication Technology in Africa: A Bibliography of On-line References concerning telematics, internet, new information and communication technology, networking and connectivity activities in Africa.

News

AfricaNews, provided by Africa News Service, anchored by dispatches from the Panafrican News Agency (PANA), but also includes stories from other African sources such as All Africa Press Service, the **Johannesburg Mail and Guardian**, and the **Post of Zambia**, among others.

Africa News Wire, provides searchable online news on Africa. Sources include daily newspapers, UN Radio (RealAudio), Voice of Russia, Agence France Presse and Live News from CNN.

African News Resources, from the "Ultimate Collection of News Links."

African News Sites, from NEOnet's Newspaper Guide.

ANC Daily News Briefings, compilations of items from South African press agencies.

The Daily Nation, English online edition of Kenya's daily newspaper.

Electronic African News

Ghana, backfiles.

Ghana, current.

The Republic of Ghana, covers the business, education, cultural, social, scientific, industrial, and artistic life of the people of Ghana.

Habari: East Africa News, updated daily. Contains news and editorials from a number of written and broadcast sources in the region. Sources include: **The Daily Nation**, **Kenya Times**, Kenya (Radio) Broadcasting Corporation and **Kiswahili News**.

Kenya, Uganda, Tanzania, Zimbabwe, from the Africa Online Newsstand.

Post Express, independent Nigerian daily.
South Africa, Independent Online News Service.
Today & Abuja Mirror Newspapers, two weekly Nigerian newspapers.
Zambian Post Newspaper
The Zimbabwe Independent Online, newsweekly featuring local news, sports, features and archives, in English.

NomadNet, covering **Somalia**, the Horn of Africa, peacekeeping, and relief and economic development.

Rwanda

Senegal, from iPacific.

Republic of Sénégal, official government site.

Somalia

South Africa

African National Congress of South Africa

ANC News Briefings, compilations of items from South African press agencies.

The Embassy of South Africa

South African Constitutional Assembly, includes eight searchable databases, including CA Committee minutes, reports and drafts.

South African Constitution, adopted May 8, 1996.

South African Embassy

South African Organizations

Government of National Unity, of South Africa. Voted into being in April 1994, in the country's first democratic elections.

Sudanic Africa, A Journal of Historical Resources.

Uganda

Zambian Post

This page was last updated 12 February 1998. To suggest additions or corrections to this list, send mail to kli110@pop.uky.edu.

URL: <http://www.uky.edu/Subject/africa.html>

3. Marsabit District, Kenya [Extracts]

http://www.kenyaweb.holowwww.com/ourland/eastern/marsabit/mb_sinst.html

Interaid

Within the district, Inter Aid has embarked on its fourth year of **water development** through the rehabilitation of old and establishment of new **water sources**. The overall goal of this project is to restore **urban and rural water supplies** through the protection of springs, installation of a new pipeline and dam construction and various other methods appropriate to each area. Environmental issues are major considerations of this project, with the present extension of lower grazing areas to protect land from soil erosion and deforestation. In almost every project, the communities volunteer all the manual labour.

Interaid has also assisted various schools in Marsabit with small-scale **water development** projects through the installation of small pipelines, construction of storage tanks and rain water catchment systems. Another major Interaid project in Marsabit is the installation of a 1350 watt solar-powered pump in Sololo.

World Vision

The World Vision is mainly involved in the provision of financial assistance to people who are prepared to undertake responsibilities and contribute their local resources to development and for relief activities.

At the moment, World Vision has provided **water** to various communities in Logologo, Balesa and Bubisa.

African Inland Church (A.I.C)

The African Inland Church has contributed in the distribution of the limited **water supply** for demonstration in home garden plots, and adult literacy, mainly in Kalacha Location and Hurri Hills. In addition, the AIC mission has completed construction of a dispensary at Ngurunit. The church also offers assistance in afforestation, veterinary services, health and education.

Evangelical Lutheran Church of Kenya (ELCK)

The Evangelical Lutheran Church of Kenya through working with various communities in the district, has been involved in small scale **water development**, construction of boarding schools, and in adult literacy.

Church of the Province of Kenya (CPK)

CPK support for develop district has been in the form of, construction of classrooms, dormitory block's dining halls, teachers houses and other structures. Their efforts have been directed towards the provision of **water** mainly to schools and dispensaries. In collaboration with other NGOs, they have provided water to a number of schools and other needy areas. The church is involved in many development activities in the district and their major operations are concentrated at Marsabit town, Badassa, Moyale, Dabel, Nana, Sololo, Uran, Bubisa, Balesa and Maikona,

Food for the Hungry International (FHI)

Food for the Hungry International is an organization of Christian motivation, which mainly works with the poor people in their struggle to overcome hunger and poverty through relief and integrated self development. Currently, the organization is involved in reforestation for environmental improvement and conservation, agro-forestry for increased food production, provision of **water** to the community and income generating activities, with special emphasis on women's groups. The organizations achievements so far have been the construction of **water catchments** on the edge of Mt. Marsabit establishment of a four-hectare tree nursery with a capacity of 400,000 seedlings of indigenous, tree varieties.

Information Manpower

This Appendix sets out the desirable features of a job description and qualifications for the proposed position of Information Manager at the IWSD. In the event that it is not possible to recruit someone meeting all these requirements, it may be necessary to appoint an Information Management Adviser for a certain period of time to provide guidance, support and backup to the Information Manager. The Adviser, who may be an individual or a firm, should be required to advise and assist the Director of the Institute and the Information Manager in carrying out the duties of the position as set out below.

Information Manager

Job description

The Information Manager will be directly responsible to the Director, IWSD, for the overall planning, development, coordination and management of all information and data systems and services in the Institute. The specific responsibilities of the position will include:

- formulating information policy and strategy for the Institute
- preparing guidelines, methodologies and regulations for the collection, processing, storage and retrieval of information
- developing, maintaining and managing effective mechanisms for the dissemination of data and information to users, including the Institute's:
 - publications
 - newsletter
 - library
 - website
 - internal information network
- selecting and procuring information management hardware and software for the Institute
- identifying the information training needs of Institute staff and users
- identifying and organizing appropriate training activities to meet these needs
- promoting effective coordination and collaboration in information management between the Institute and other institutions and organizations
- ensuring the active participation of the Institute in appropriate local, regional and international information networks and programmes
- promoting the compatibility and standardization of systems of the collection, storage and retrieval of information within the Institute and among other institutions and organizations

Specification

The Information Manager should have:

Either:

a university degree or the equivalent, preferably in a scientific or technical subject

and

postgraduate qualifications in information science or librarianship

Or

a university degree or the equivalent in information science or librarianship

Plus

- substantial practical experience in the development and management of information systems and networks
- a good knowledge of the information sector in Zimbabwe
- preferably, some knowledge and experience of the water and sanitation sector.

The person selected should have the necessary communication skills and personal qualities to enable him or her to work effectively with colleagues and information users at all levels.