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INFORMATION AND DOCUMENTATION ACTIVITIES
of the

INTERNATIONAL TRAINING NETWORK
for
WATER AND WASTE MANAGEMENT
in the
PHILIPPINES

(ITN-PHILIPPINES)

A report prepared on behalf of the LWUA Local Water
Authorities Administration/Philippines and the IHE
International Institute for Hydraulic and
Environmental Engineering/The Netherlands as a
contribution to the development of the ITN network
in the Philippines

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0.   PREFACE

This report has been prepared following a mission to the
Philippines by a consultant employed by the IRC
International Water and Sanitation Centre.

At a meeting of representatives of institutions
participating in the ITN-Philippines network held during
the mission, participants were asked to record their
opinions on various aspects of their libraries' ability
to participate in the network, using an opinionnaire
(see Appendix B.3).

1.   BACKGROUND

The ITN-Philippines project is part of the International
Training Network for Water and Waste Management, which
comprises a number of national networks, each centred on
a Training Network Centre (TNC). The TNC for ITN-
Philippines is located in the Local Water Utilities
Administration (LWUA) Water Supply Training Centre.

One of the objectives of the project is to improve the
information dissemination capabilities of institutions
participating in the network, and one of the project
activities is to assist in establishing a
documentation/information centre.

These objectives concur with those of the Environmental
Sanitation Information Centre (ENSIC) network project
(ENSICNET). The focal point of ENSICNET-Philippines is
LWUA. ENSIC has provided LWUA with equipment,
microfiche and a computerized database.

The Health Research and Development Information Network
(HERDIN) comprises three main member libraries, two of
which are members of ENSICNET. One of these two is also
a member of ITN-Philippines.

The former Water Information Centre of the Philippines
(WICEP) has ceased to function as such. A significant
proportion of the investment in WICEP must be considered
to have been wasted unless it can be reconstituted and
revitalized.

2.   INFORMATION USERS AND THEIR NEEDS

The estimated potential user population (EPUP) for
information on low-cost water supply and sanitation
appears to be very large, but we have almost no
information about its true size, characteristics and
geographical distribution. It is essential to establish

an accurate profile of the EPUP and carry out periodic assessments of its information needs. This may be combined with a survey of national sources of information supply in a comprehensive information survey.

3. THE SUPPLY OF INFORMATION

There is some divergence of opinion on how much local information is available and how easy it is to find out about both local and foreign information sources. However, there is no doubt at all about the importance of foreign information sources. An essential task should be to identify the various sources of information on water supply and sanitation which already exist in the country. This would provide the basis for the compilation and publication of a variety of guides to different kinds of information sources. Guidance on the conduct of a comprehensive information survey is provided in Appendix C.

4. THE LIBRARY INFRASTRUCTURE

The library infrastructure comprises collections of information materials, staff, physical facilities and finance. The responses to the opinionnaire in respect of every question on the infrastructure were negative. The implications of this for the successful development of the network are considerable, particularly in view of the additional demands likely to be placed on libraries by their participation.

5. LIBRARY COLLECTIONS

There is an urgent need to take action to improve library collections. One basis for doing this might be to supply participants with lists of recommended publications from which they could select titles of interest to their own users.

6. LIBRARY STAFF AND STAFF TRAINING

There is an urgent need to improve staffing levels in almost all libraries participating in ITN-Philippines. The staffing situation in the LWUA library is completely inadequate to enable it to meet the normal demands of LWUA, let alone to perform its new role as a network focal point. Experience in HERDIN has shown without doubt that the successful development of such a network is crucially dependent on the recruitment of additional staff for this purpose.

There seems to be little justification for providing
training in Mini-micro CDS/ISIS under the ITN-
Philippines project, since all participating libraries
which are using computers are using this package, and
their staff have already received training in its use.

The need for training in how to set up a library or
documentation unit on low-cost water supply and
sanitation as such appears to be limited, but there may
be a wider demand for training focusing on information
sources in this field. A draft outline of such a
training activity is provided at Appendix D.

7.   PHYSICAL FACILITIES

No attempt was made to analyze in detail the situation
in the participating libraries with regard to physical
facilities, except in the LWUA library.

The space occupied by the LWUA library is totally
inadequate for its present needs, let alone for its new
role as the focal point of ENSICNET and the
documentation activities of ITN-Philippines. When the
renovation of the Water Supply Training Centre is
completed, the library will be able to expand. More
furniture will be needed at that time.

One of the computers supplied under the project should
be allocated to library and documentation work to
supplement that supplied by ENSIC. Both should be
equipped with Uninterrupted Power Supply (UPS) units to
protect against loss of data during brown-outs. The
library should also be provided with its own
photocopier.

Other members of the network should be supplied with
microcomputers and ancillary equipment, photocopiers and
microfiche readers if they do not already have them.

8.   FINANCE

An attempt was made to estimate average prices for
publications in the water supply and sanitation sector
as a basis for estimating budget requirements.

Unless the level of financial support for library and
documentation activities from the project budget is
increased, it will not be possible for the project to
achieve its objective of improving the information
dissemination capabilities of participating
institutions.

<u>Participating libraries should be provided with lists of</u>
<u>suitable documents and given enough money to buy the</u>
<u>ones they need up to the estimated value of the revised</u>
<u>ITN basic library.</u> A total of US$54,000 (P1,240,000)
would be needed for this purpose for the institutions
now participating in ITN-Philippines over the life of
the project. Additional funds would be needed for any
new participating institutions.

A maximum of US$14,000 (P320,000) should be provided to
finance the purchase of equipment for each library in
the network which does not have the necessary items.

As far as ITN-Philippines is concerned, this support can
probably be offered only to institutions participating
in the project. It is desirable for similar support to
be offered to all members of the national water and
sanitation information network. The advisory body and
technical committee of the network will have to review
the need for additional funds and identify suitable
sources.

9.   <u>ORGANIZATIONAL STRUCTURE</u>

There does not seem to be any justification for
establishing an information network restricted to low-
cost water supply and sanitation as such. There is a
need for a national water and sanitation information
network in which access to literature on health aspects
would be provided through HERDIN, while the network
itself would concentrate on technical, managerial and
social aspects, especially of water resources and water
supply.

The main question arising from this proposal is that of
the formal relationship between ENSICNET and the
proposed national water and sanitation information
network.

The organizational structure of the network should be
modelled on that of HERDIN, with a high-level advisory
body responsible for policy formulation, and a technical
committee responsible for its implementation.

ITN-Philippines should delegate responsibility for
documentation activity among its member institutions to
the national information network, retaining
responsibility in this regard only for helping to
strengthen the library collections of its own member
institutions.

ITN-Philippines should provide financial and logistical
support to the meetings of the network's advisory body
and technical committee, and to one or more seminars on
information sources in low-cost water supply and

sanitation.

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10. TECHNICAL OPERATIONS AND ACCESS

The situation with regard to existing library catalogues appears to be very unsatisfactory. Most catalogues in the libraries of participating institutions are not up-to-date. This must seriously impede these libraries' ability to participate effectively in an information network.

As far as the establishment of the proposed information network is concerned, the main question to be resolved in respect of technical operations is that of creating and maintaining a comprehensive and up-to-date bibliographic database of water supply and sanitation literature - particularly national literature.

The main responsibility for initiating and developing a bibliographic database of water supply and sanitation literature rests with the Documentalist-Trainer of the ITN-Philippines and ENSICNET projects.

11. INFORMATION SERVICES AND USE

There is room for improvement in service provision in many libraries. It is important for the network to begin offering services to users, even on a limited scale, as soon as possible. This will enhance the credibility of the project and make it easier to obtain support from participating institutions and other sources.

Preparation of the first issue of the proposed newsletter should begin as soon as possible. The ENSIC microfiche collection should be made available to members of the network as soon as possible.

12. COOPERATION AND PARTICIPATION IN THE ITN-Philippines

There is a positive attitude among participating institutions towards library cooperation in general and to participation in the ITN-Philippines in particular. Full advantage should be taken of this in initiating positive actions to establish and develop the network as soon as possible.

A technical meeting of representatives of the institutions participating in both ITN-Philippines and ENSICNET should be called to discuss the findings and proposals of this report and make recommendations with regard to the implementation of its proposals.

13.   GENERAL CONCLUSIONS

Due to the limitations of the ITN-Philippines project
budget in respect of library and documentation
activities, it does not seem practical at present to
attempt to formulate a plan of operations for library
and documentation activities covering the whole of the
five-year period of the project.

The advisory body and technical committee of the
proposed national network will be in a better position
to prepare a plan of operations when they have been able
to evaluate the findings and recommendations of this
report.

The requirement to prepare a detailed workplan for 1990-
1991 is intended to be met by the recommendations of
this report. The implementation of these
recommendations should begin as soon as possible during
1990-1991.

14.   RECOMMENDATIONS

Thirty-two recommendations based on the above
conclusions are presented.

0. PREFACE

0.1   This report on the information and documentation activities of the International Training Network for Water and Waste Management (ITN) project in the Philippines (ITN-Philippines) has been prepared on behalf of the International Institute for Hydraulic and Environmental Engineering (IHE) by the IRC International Water and Sanitation Centre, following a mission to the Philippines by an IRC consultant.

0.2   The objectives of the Mission were:

1. to review the identified information and documentation activities in the light of the project objectives, and to suggest complementary activities;

2. to draft a plan of operations 1990-1994 and a detailed workplan 1990/91 for the identified information and documentation activities of the project. The plans must make reference to and seek optimum linkages with other relevant projects or activities, notably the ENSICNET project;

3. to identify financial, human and other resource requirements for the implementation of the workplan; to identify available resources in the project, the Training Network Centre and the Participating Institutes, IHE, and complementary resources, preferably in other local institutions and otherwise abroad;

4. to establish a good working relationship with the documentalist cum trainer of the Training Network Centre and to discuss and transfer all the Mission findings to him;

5. to design and conduct a staff development workshop for the benefit of the professional staff of the Training Network Centre. This workshop, to be conducted near the end of the Mission should relate the findings of the Mission to the staff;

6. to assist in any other project related activity requested by the head of the TNC.

0.3   The consultant arrived in the Philippines to carry out the mission on 14 May 1990 and left on 25 May.

0.4   Visits were made during the mission to eight of the twelve institutions participating in the ITN-Philippines and to a number of other institutions. The diary of the mission is attached at Appendix A.

0.5   A key event during the mission was a meeting of librarians, documentalists and other representatives of participating institutions (the ITN-Philippines Meeting on Documentation) held at the headquarters of the Local Water Utilities Administration (LWUA) on 16 May in order to discuss the information and documentation needs of the participating institutions. A brief account of the proceedings is given in section 1.4 below. The agenda and a list of the participating institutions are attached at Appendix B.

0.6   The preliminary findings of the mission were discussed with project staff and the Librarian of LWUA at a meeting on 23 May 1990, and again with the Administrator of LWUA, the Project Head, Project Documentalist and the Librarian of LWUA at a further meeting on 24 May. The results of the meetings have been taken into account in preparing this report.

0.7   The first of these two meetings perforce constituted the 'staff development workshop' referred to in the objectives of the mission. No other members of the professional staff of the Training Network Centre were available to discuss the findings of the mission at a suitable time.

0.8   In submitting this report, the consultant would like to express his sincere thanks to the Project Head, Mrs. Petronia C. Enriquez; the Project Documentalist-Trainer, Mr. Antonio M. Tabinas; the LWUA Librarian, Ms. Asuncion Endradora; the other members of the project staff and other members of the staff of the LWUA Training Section, for their generous support and hospitality during the mission.

1. BACKGROUND

1.1 Introduction

1.1.1 The aim of this section of the report is to present an overview of the present situation of the main documentation activities in the water supply and sanitation sector in the Philippines. Specific aspects of these activities are considered in more detail in subsequent sections.

1.2 The International Training Network-Philippines Project (ITN-Philippines)

1.2.1 The ITN-Philippines project is part of a global programme coordinated by the United Nations Development Programme/World Bank Water Supply and Sanitation Program, which aims to establish an International Training Network for Water and Waste Management comprising a number of national networks each centred on a national Training Network Centre (TNC). The TNC for ITN-Philippines is located in the LWUA Water Supply Training Centre in the basement of the LWUA Building in Quezon City, Metro Manila.

1.2.2 The ITN-Philippines project started on 1 January 1990 and covers the period from 1990 to 1994 inclusive. Its long-term objective is to assist in the development of local capacity to increase the effectiveness and coverage of water supply and sanitation investments for low-income groups in the urban fringe and rural areas.

1.2.3 The short-term objectives of the project comprise, inter alia, the improvement of the information dissemination capabilities of sector agencies and educational institutions which relate to the application of sustainable low-cost technologies.

1.2.4 The objectives of the project are to be realized through the creation of a network of participating institutions. One of the activities of the project will be to assist in the establishment of a documentation/information centre.

1.2.5 Among the outputs of the project will be:

(a) the training of staff of the TNC and participating institutions in library and documentation skills;

(b) the inventory and documentation of available materials and the assessment of requirements;

(c) assistance in the documentation of the participating institutions;

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(d) the augmentation of a central library;

(e) the publication and distribution of a newsletter and other information materials;

(f) the procurement of ITN and other educational materials and equipment.

1.2.6   The collection, documentation and dissemination of information is one of the three main areas of activity of the TNC, and documentalists in established sectoral and training institutions are one of its principal target groups. Among the initial activities in this field to be undertaken during the first two years of the project are the documentation of training materials and a survey of documentation and information needs. The latter is intended to reveal needs which cannot be met at present by the participating institutions, but which may be catered for from funds available within the project budget.

1.2.7   There are at present twelve participating institutions (including LWUA) involved in the project, all of which are located in Metro Manila. It is intended to expand the network to include institutions outside Metro Manila after the project has been in operation for about two years - that is, in 1992.

1.2.8   Some data on the existing documentation and information capacities of the participating institutions is provided in institutional profiles compiled by the TNC.

1.3   The Environmental Sanitation Information Centre Network (ENSICNET)

1.3.1   The ITN-Philippines workplan for 1990 points out (paragraph 6.1) that the objectives of its documentation activity concur with those of the Environmental Sanitation Information Centre (ENSIC) network project (ENSICNET) which is sponsored by the Asian Development Bank (ADB) and which aims to develop national environmental sanitation information networks in six Asian countries (including the Philippines) linked to ENSIC itself at the Asian Institute of Technology (AIT) in Bangkok, Thailand.

1.3.2   The focal point of ENSICNET-Philippines is LWUA, and the Documentalist-Trainer appointed under the ITN-Philippines project has already undergone a three-months' training course at ENSIC in Bangkok. In accordance with the terms of the Memorandum of Understanding between LWUA and ENSIC, the latter has already supplied LWUA with a microcomputer and a microfiche reader/printer, a complete set of some 6,400

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documents on microfiche from ENSIC's own collections, and a computerized database containing bibliographic records of these documents.

1.3.3   In return for this support, LWUA has identified twenty institutions in the Philippines that will form the nucleus of the national network. Six of these institutions are also members of ITN-Philippines. In two more cases, the parent institution is part of ENSICNET while a subsidiary unit is part of ITN-Philippines; in three other cases, the reverse is the case. Only one member of ITN-Philippines is not part of ENSICNET, whereas nine members of ENSICNET do not belong to ITN-Philippines.

1.3.4   As noted above (paragraph 0.2) one of the objectives of the present assignment is to prepare plans for the information and documentation activities of ITN-Philippines which will make reference to and seek optimum linkages with other relevant projects or activities, notably the ENSICNET project. The implications of the relationship between the two projects are considered in the appropriate sections below.

1.3.5   As part of the preparations for the formation of ENSICNET, a survey of the participating institutions, with the emphasis on their information and documentation capabilities, was undertaken earlier in 1990. The results of this survey are considered at appropriate points in the remainder of this report.

1.4   The Health Research and Development Information Network (HERDIN)

1.4.1   The Health Research and Development Information Network (HERDIN) comprises three main member libraries. The focal point of the network is the library of the Philippine Council for Health Research and Development (PCHRD), which is at present not a member of either ITN Philippines or ENSICNET.

1.4.2   Another member, the main library of the Department of Health, is a member of ENSICNET, but not of ITN-Philippines; the Department is represented in the latter network by its Environmental Health Service, which does not have either a properly-organized library or a librarian at present.

1.4.3   The third member of HERDIN, the library of the College of Public Health of the University of the Philippines, Manila, is a member of both ITN-Philippines and ENSICNET.

1.4.4 The Librarian of LWUA was invited to attend a meeting of HERDIN on 15 May 1990, and on 21 May a representative of PCHRD visited LWUA to discuss the possibilities of cooperation between HERDIN, ITN-Philippines and ENSICNET with the Librarian of LWUA, the Documentalist-Trainer of ITN-Philippines and the consultant. The general conclusion of this meeting was that close cooperation with HERDIN was both feasible and desirable. Specific aspects of this questions are discussed in the appropriate sections below.

1.5 <u>The Water Information Centre of the Philippines (WICEP)</u>

1.5.1 The Water Information Centre of the Philippines (WICEP) was established in 1975 as a project of the then National Water Resources Council (NWRC). Responsibility for executing the project was contracted to the National Hydraulic Research Centre (NHRC), which established a document collection comprising over 7,600 books and monographs, 229 periodicals, 30 rolls of film, 510 microfiche titles and other materials.

1.5.2 The contents of the collection were recorded, abstracted and indexed in a regular publication, <u>Philippines Water Resources Abstracts</u> (<u>PWRA</u>). A substantial proportion of the entries in this publication are for foreign documents, not all of which are directly related to water supply. Printed catalogue cards, which included the abstracts, were produced, and two card catalogues created. One of these was located at the NHRC and the other, which was updated only once a year, at the NWRC.

1.5.3 Some years after PWRA began publication, the entries began to be added to a computerized database known as the Philippines Automated Water Information System (PAWIS), using software developed in-house.

1.5.4 In October 1986, following a government reorganization, the library collection was moved to the NWRC, reconstituted as the National Water Resources Board (NWRB), where it still is today. The more up-to-date of the two versions of the card catalogue remained at NHRC. The computer tapes and disk packs were also transferred to the NWRB, and are now believed to be held by the computer section of its parent organization, the Department of Public Works and Highways (DPWH).

1.5.5 Publication of <u>PWRA</u> ceased after the transfer, and no further abstracting or indexing has been done since then. The NWRB hopes to resume this activity, and the library collection is still being added to. However, it is housed in extremely unsuitable conditions and lacks a full-time professional librarian. It is understood that the DPWH would like to take over this library, but that the NWRB is resisting this proposal.

1.5.6   From the inception of WICEP in 1975 to the transfer of
its library and database to the NWRB in 1986, it was
financed by a grant of P800,000 a year (about US$35,000
at 1990 rates) from the former NWRC. This represents a
total investment of some P8.8 million (US$385,000) over
the life of the project. Since the library and database
were transferred to the NWRB more than three years ago,
WICEP has ceased to function - if, indeed, it has not
ceased to exist. While some return on the investment,
in the form of use of the library, the abstracts and the
database, may have been achieved while the system was
operational, this is no longer the case. A significant
proportion of the investment in setting up and
developing WICEP must therefore be considered to have
been wasted unless it can be reconstituted and
revitalized.

1.6   **The ITN-Philippines Meeting on Documentation**

1.6.1   As noted above (paragraph 0.5), a meeting of librarians,
documentalists and other representatives of institutions
participating in ITN-Philippines was held at LWUA on 16
May 1990. The meeting was attended by thirteen
representatives of nine participating institutions
(including LWUA), by the Project Head and Documentalist-
Trainer of ITN-Philippines, and by the consultant, who
led the discussions. A representative of the Institute
of Library Science of the University of the Philippines
was also invited to attend. The agenda and a list of
participating institutions are provided at Appendix B.

1.6.2   The framework for discussion was provided by two IRC
documents, namely, **A Systematic Framework for the**
Description, Analysis, Planning and Evaluation of
Information Activities and **Information Users and their**
Needs, copies of which were distributed to all
participants, including staff of the TNC.

1.6.3   One of the aims of the meeting was to carry out a
'cursory appraisal' of the existing situation of
libraries and documentation centres in the institutions
participating in ITN-Philippines. A previous attempt,
under the ENSICNET project, to obtain accurate factual
information on this topic in respect of ENSICNET members
had produced somewhat unsatisfactory results. It was
therefore decided not to attempt to obtain factual
information on the libraries of ITN-Philippines member
institutions from participants in the 16 May meeting.
Instead, participants were asked to record their
opinions on various aspects of their libraries' ability
to participate in the network, using the opinionnaire
which is reproduced at Appendix B.

1.6.4   The results of this exercise are summarized in Table 1
          below and discussed in detail, in relation to the
          elements of the Systematic Framework, in subsequent
          sections of this report.

1.7 Conclusion

1.7.1   This brief outline of some of the key features of the
        background to the existing situation among member
        institutions in the ITN-Philippines network provides the
        basis for the more detailed analysis of specific aspects
        of the situation in the sections which follow. This
        analysis is based on the responses to the opinionnaire
        which was distributed to participants in the 16 May
        meeting, and on brief visits by the consultant to some
        of the libraries concerned.

2. INFORMATION USERS AND THEIR NEEDS

2.1 Introduction

2.1.1   The potential users of information in specific fields are often widely scattered and sometimes difficult to identify, especially in an interdisciplinary field such as water supply and sanitation. A thorough knowledge of the characteristics, size and distribution of the estimated potential user population (EPUP) is, however, fundamental to the successful provision of information to meet its needs.

2.2 Existing situation

2.2.1   The data on users provided in the responses to the ENSIC questionnaire survey are incomplete, inconsistent and unreliable, and it became clear, during the discussion at the ITN-Philippines meeting, that there are large numbers of potential users of water supply and sanitation information among students in academic participating institutions - a user group which was almost completely ignored in the responses to the ENSIC survey.

2.2.2   There are also many potential users in the rural areas, in local water supply and sanitation organizations, who were not covered by the ENSIC survey. It was clear also, from the discussions at the ITN meeting, that while many of the participating institutions report having very few 'experts' on low-cost water supply and sanitation on their staffs, interest in the subject among other members of staff is likely to be quite widespread.

2.2.3   There was overwhelming agreement among those responding to the opinionnaire that "many people in my institution need information on low-cost WSS" (Statement No. 1). Ten people responded 'yes' to this statement and three 'definitely yes'. All participants responded and there were no negative or 'don't know' responses.

2.2.4   These responses suggest that there is a substantial potential user population for information on low-cost water supply and sanitation in the participating institutions - and, by implication, in the Philippines in general. The exact size and nature of this population, however, cannot be determined at this stage.

2.2.5   In summary, while the potential user population for information on low-cost water supply and sanitation appears to be very large, we have almost no information at present about its true size, characteristics and geographical distribution.

2.3	Conclusions and recommendations

2.3.1   If potential users of the network are to become actual users, its information resources, products and services must be designed to meet their needs. It is therefore essential to establish and maintain an accurate and up-to-date profile of the EPUP and to carry out periodic assessments of its information needs.

2.3.2   The conduct of a survey of documentation and information needs has already been identified as one of the necessary initial activities of the ITN-Philippines project. Such a survey may also consider the information-seeking and information-using behaviour of the EPUP and be combined with a survey of national sources of information supply. A methodology for carrying out such a comprehensive information survey is outlined in section 3.3 below.

2.3.3   These survey activities should be repeated at regular intervals - say, once a year - to ensure that the system continues to respond to changes in the structure of the EPUP and in its information needs. It will be particularly important to update the initial survey findings when the ITN-Philippines itself is preparing to extend its activities to institutions outside Metro Manila in 1992.

3.   THE SUPPLY OF INFORMATION

3.1   Introduction

3.1.1   It is impossible to meet the information needs of a
            particular group of users unless the required
            information already exists and is available at the right
            levels of presentation and in the right formats and
            languages, and is appropriate, in terms of timeliness
            and of the means by which it is communicated, to the
            needs of the users.

3.2   Existing situation

3.2.1   Responses to the opinionnaire indicated some uncertainty
            as to the situation with regard to local information on
            low-cost water supply and sanitation, but overwhelming
            agreement on the usefulness in the Philippines of
            foreign information on this subject. However, there was
            also a divergence of opinion on how easy it is to find
            out what information is available.

3.2.2   Asked if they agreed that "there is plenty of informa-
            tion available about low-cost WSS in the Philippines"
            (Statement 2), five respondents said 'yes' and one
            'definitely yes'; however, there was an equal number
            (six) of 'don't know' responses, and one person re-
            sponded 'no' on this topic.

3.2.3   It is possible that those who responded positively on
            this question are correct and that there is plenty of
            information available. If so, the problem appears to be
            that an equal number of respondents are not aware of
            this fact, and that there is a need to provide them with
            more information about what information on low-cost
            water supply and sanitation in the Philippines is
            already available.

3.2.4   This is confirmed by the responses to Statement 3, "it
            is easy to find out what information is available about
            low-cost WSS in the Philippines". Two participants
            failed to respond on this topic and one gave a 'don't
            know' response, while one replied 'yes' and two 'defi-
            nitely yes'. However, seven participants took the
            opposite view and replied 'no'.

3.2.5   A similar situation exists with regard to Statement 5,
            "It is easy to find out what information is available on
            low-cost WSS in other countries". Two respondents did
            not know whether it was easy to find such information or
            not, while two replied 'yes' and one 'definitely yes'.
            However, five replied 'no' and one 'definitely no',
            again indicating a sharp divergence of opinion, with the
            majority of respondents taking a negative view.

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3.2.6   No doubts were expressed, however, as to whether or not
          "information on low-cost WSS in other countries is
          useful in the Philippines" (Statement 4). Nine partic-
          ipants responded 'yes' to this question and three
          'definitely yes'. One participant failed to respond.
          There were no negative responses to this statement.

3.2.7   In summary, these responses indicate some divergence of
          opinion on how much local information is available and
          how easy it is to find out about both local and foreign
          information sources. However, there is no doubt at all
          about the importance of foreign information sources.

3.3   Conclusions and recommendations

3.3.1   An essential task of the proposed information network
          should be to identify the various sources of information
          on water supply and sanitation in general, and on low-
          cost water supply and sanitation in particular, which
          already exist in the country. This task may be carried
          out in conjunction with the proposed survey of the EPUP
          and its information needs (see section 2.3 above) and
          would provide the basis for the compilation and
          publication of a variety of guides to different kinds of
          information sources, including not only collections of
          information materials but also key institutions and
          individuals working in the sector, research and
          development activities, training programmes and training
          materials, and so on.

3.3.2   The activities already being undertaken in this regard
          by HERDIN could provide a model for similar activities
          in the water supply and sanitation sector, and should,
          in any case, be taken into account in planning similar
          activities in this sector to avoid unnecessary
          duplication of effort in collecting information which is
          already available through HERDIN. Some of the required
          information may also be provided in the institutional
          profile forms completed by members of ITN-Philippines or
          ENSICNET. However, the reliability of this information,
          particularly as regards ENSICNET, is open to question,
          and such sources should be carefully assessed before
          being accepted in lieu of further studies.

3.3.3   For reasons explained in section 5.5 below, it is
          proposed that this activity should not be confined to
          institutions concerned only with low-cost water supply
          and sanitation but should extend to the whole of the
          water sector.

3.3.4   The main stages in such an activity would be:

1. **Inventory of institutions in the water sector**

    This would aim to identify and locate the main institutions in the sector in the Philippines and obtain basic information on: their staffs; their involvement in generating and disseminating information, including research and development and training activities and the production of information in documentary form; and whether or not they have a library or documentation centre.

2. **Profile of EPUP**

    The information on the numbers and types of staff in the various institutions, collected in stage 1, would be collated to create a consolidated profile of the national EPUP for water-related information. This would provide the basis for stage 3.

3. **Survey of information needs and information use**

    This would involve the collection of detailed information on the information needs and information-seeking and information-using behaviour of members of a stratified sample of the EPUP, drawn from the consolidated records created in stage 2. Such a survey may be carried out through questionnaires, interviews, group techniques or a combination of any or all of these.

4   **Survey of information generation and dissemination**

    This would aim to obtain, from all institutions responding positively on this subject in stage 1, full details of their activities in respect of the generation and dissemination of information, including details of current research and development projects and lists and copies of documents produced.

5   **Survey of library and documentation resources**

    This would seek to obtain, from all institutions responding positively on this topic in stage 1, further details of library or documentation units and their resources, operations and services.

3.3.5   Further guidance on the conduct of a comprehensive information survey embracing these different kinds of surveys is provided in Appendix C. It should emphasized that thorough pre-testing of all questionnaires, interview schedules and other data collection instruments is essential before each survey is launched.

3.3.6   At least some librarians in institutions participating
           in ITN-Philippines and ENSICNET, and members of the
           staff of the Institute of Library Science of the
           University of the Philippines, have had previous
           experience in the conduct of similar surveys, and it is
           strongly recommended that the fullest possible use be
           made of this existing expertise in planning and carrying
           out this task.

3.3.7   The General Information Programme of Unesco has issued
           several guidelines on the conduct of different kinds of
           surveys in the information sector, and copies of these
           should be available in the Philippines. It is
           recommended that these documents be consulted by those
           involved in carrying out the proposed information survey
           before the task begins.

3.3.8   The identification of sources of information outside the
           Philippines may be done through the use of published
           directories, bibliographies and similar works, as well
           as through the regular scanning of current periodicals,
           newsletters and current awareness bulletins. Existing
           library holdings of such materials should be determined
           in the course of the survey of library and documentation
           units referred to above.

3.3.9   Key foreign and international institutions in the field,
           such as ENSIC, IHE, IRC, WASH, WEDC (Water Engineering
           and Development Centre, Loughborough University of
           Technology, UK) may also be approached direct, both for
           information on their own publications and for
           suggestions as to other possible sources.

4. THE LIBRARY INFRASTRUCTURE

4.1   There are a number of elements of the overall structure of a library or documentation system which do not, of themselves, form part of the technical operations or services to users which constitute the essential functions of the system, but without which these functions cannot be performed. These elements constitute the infrastructure of the system and comprise the basic resources of collections of information materials, staff, physical facilities and finance.

4.2   The next group of six statements in the opinionnaire, numbers 6, 7, 9, 10, 11 and 12, dealt with the adequacy of the existing library infrastructures of members of the network. (Question 8 is considered along with the next group, dealing with technical operations, below).

4.3   Each of these elements is analyzed in turn below. It can be seen from this analysis that the balance of responses in respect of every question on the infra-structure was negative.

4.4   The implications of this analysis for the successful development of the network are considerable, particularly in view of the additional demands likely to be placed on these libraries by their participation in the network. This raises the issue of the extent to which the ITN-Philippines project could and should con-tribute directly, either in cash or in kind, to improv-ing the infrastructure in the libraries of institutions participating either in the water supply and sanitation information network as whole or only in ITN-Philippines. This question is addressed in section 8 below.

5.   LIBRARY COLLECTIONS

5.1   Introduction

5.1.1   The responses to a question in the ENSICNET survey questionnaire on the size of existing library collections on low-cost water supply and sanitation had shown how difficult it is, even for libraries with computerized catalogues, to provide accurate information on this subject.

5.1.2   Leaving aside the problem of defining the precise scope of the term 'low-cost water supply and sanitation', it must be recognized that 'information about low-cost water supply and sanitation' is not the same thing as 'information of professional interest to people working in low-cost water supply and sanitation'. The List of basic publications on community water supply and sanitation... published in 1987 by IRC, for example, contains a number of titles, such as a general manual on documentation work published by Unesco, which are not about water supply or sanitation at any level, but were considered by the compilers to be relevant to the needs of those working in the sector.

5.2   Existing situation

5.2.1   Only two of the institutions participating in the ITN-Philippines - the Project Management Office for Rural Water Supply of the Department of Public Works and Highways and the Tulungan sa Tubigan Foundation - are concerned exclusively with water supply (but not necessarily sanitation) in rural and depressed areas. Neither of these has a library as such, though the former reported having 118 documents on low-cost water supply and sanitation, and the latter, 250, in their replies to the ENSICNET survey.

5.2.2   Two other participants - the Environmental Health Service of the Department of Health and the Environmental Management Bureau of the Department of Environment and Natural Resources - are concerned with environmental issues, including water supply and sanitation, in general. The former has a small document collection which is not yet organized as a library; the other has a general environmental library containing 928 documents in all, and a separate, smaller, library on pollution.

5.2.3   Another participating institution, Kabalikat ng Pamilyang Pilipino, is a small non-governmental organization concerned with family issues, including domestic water supply and sanitation. It has no library.

5.2.4   One participating institution, the College of Public
         Health of the University of the Philippines Manila, is
         concerned with public health issues in general,
         including health aspects of water supply and sanitation.
         Its library has a total collection of some 13,000 books
         and 4,500 bound volumes of periodicals and receives 407
         current periodicals through purchase and exchange. In
         its response to the ENSICNET survey, this library
         reported that it had 353 documents on low-cost water
         supply and sanitation. If correct, this figure would
         represent less than 3 percent of the library's book
         collection and a much smaller proportion of the total
         number of documents (in the sense of bibliographical
         entities and thus including, for example, all the
         articles in the 4,500 bound volumes of periodicals) in
         the collection. It seems possible, however, that such a
         precise figure could only have been obtained from the
         library's computerized database, which at present covers
         only a small proportion of the total collection. The
         library is a member of HERDIN.

5.2.5   Another academic institution, the College of Engineering
         of the University of the Philippines Diliman, deals with
         engineering in general, including water and sanitary
         engineering. The College library has a total collection
         of some 46,000 volumes, of which about 18,000 (39
         percent) are not yet accessioned (and thus, presumably,
         not catalogued). It receives about 200 current
         periodical titles. This library reported having only 35
         documents on low-cost water supply and sanitation in its
         reply to the ENSICNET survey. This represents less than
         0.08 percent of the total collection; however, the same
         considerations apply here as in the case of the College
         of Public Health, and this figure cannot be regarded as
         reliable.

5.2.6   The School of Urban and Regional Planning of the
         University of the Philippines Diliman has a substantial
         collection of local material which may include some on
         low-cost water supply and sanitation. Three other
         academic institutions, the Mapua Institute of
         Technology, the National University and the
         Technological Institute of the Philippines, also
         participate in the network, although the first-named
         appears to be thinking of withdrawing because it is only
         concerned with high-level water and sanitation
         technologies. The amount of material of potential
         interest to those working in low-cost water supply and
         sanitation which is contained in the libraries of these
         institutions is not known and cannot be easily
         determined. In its response to the ENSICNET survey, the
         Technological Institute of the Philippines indicated
         that it had only two documents on low-cost water supply
         and sanitation.

5.2.7   The remaining participant in the ITN-Philippines is LWUA
          itself. The LWUA library contains about 3,600
          publications of various types, including local
          publications and LWUA reports. LWUA itself is not
          involved in water supply and sanitation at the lowest
          levels of service, and it is not possible to determine
          how much of the library's collection might be of
          interest to those working in low-cost water supply and
          sanitation. In its role as the focal point of ENSICNET,
          the LWUA library holds the collection of 6,400
          microfiche on environmental sanitation and related
          topics supplied by ENSIC in Bangkok. The contents of
          this collection are recorded in a computerized database
          which has also been supplied by ENSIC on diskettes. The
          microfiche have not yet been properly housed in suitable
          storage cabinets, and the collection is not being used
          at present.

5.2.8   The best library collection on water topics appears to
          be that of the former Water Information Centre of the
          Philippines (WICEP) at the National Water Resources
          Board (NWRB) (see section 1.5 above). In its former
          role, this library contained more than 7,600 volumes of
          books and monographs, 229 periodical titles, 30 films
          and 510 microfiche. In its response to the ENSICNET
          survey, the NWRB claimed to have a library collection of
          14,262 items. The accuracy of this figure and the
          proportion of material in the collection which might be
          of interest to those working in low-cost water supply
          and sanitation cannot be determined due to the fact that
          the version of the former WICEP card catalogue which is
          held by this library is not the most up-to-date one.
          The NWRB is a member of ENSICNET but not of ITN-
          Philippines.

5.2.9   Other members of ENSICNET which are not members of ITN-
          Philippines but which have collections in broader
          subject fields are the main libraries of the Department
          of Health (which reported holding 250 documents on low-
          cost water supply and sanitation in its response to the
          ENSICNET survey, and is a member of HERDIN), the
          Department of Public Works and Highways and the
          University of the Philippines Diliman, and the libraries
          of the Metropolitan Waterworks and Sewerage System
          (reporting 600 items on low-cost water supply and
          sanitation in the ENSICNET survey), the National
          Research Council of the Philippines and the Science and
          Technology Information Institute.

5.2.10   The total number of documents on low-cost water supply
          and sanitation reported by the various libraries which
          were able to provide such data is 20,198. However, for
          reasons explained above, this figure cannot be relied
          upon as providing even an approximate indication of
          their holdings of relevant materials.

5.2.11   We therefore have to rely for a general assessment on the responses to the opinionnaire distributed at the 16 May meeting. All thirteen participants in the meeting responded 'no' to Statement 6, "the collection of information materials on low-cost WSS in my library is adequate to meet the needs of users". There is clearly an urgent need to take action to improve library collections on low-cost water supply and sanitation if the aims of the ITN-Philippines are to be achieved.

5.3   Conclusions and recommendations

5.3.1   It is difficult to assess exactly what degree of strengthening of library collections is required, but it seems to be generally agreed that existing collections are inadequate. One basis for improving the library collections of ITN-Philippines participants might be to supply each of them with one or more lists of recommended publications on low-cost water supply and sanitation from which they could select titles of particular interest to their own users.

5.3.2   One such list is the List of Basic Publications on Community Water Supply and Sanitation published in 1987 by IRC for the World Health Organization and the United Nations Development Programme. This contains a total of ninety-one titles, not all of which, as noted above (section 5.1.2) are in fact about low-cost water supply and sanitation as such.

5.3.3   A separate basic library of publications on low-cost water supply and sanitation, assembled by IRC for the ITN programme, contains 80 titles. This is currently being revised to include 120 titles.

5.3.4   The financial implications of adopting such lists as guides to selecting documents to strengthen library collections are considered in section 8 below.

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6.   LIBRARY STAFF AND STAFF TRAINING

6.1   Introduction

6.1.1   No information system can function without an adequate
          supply of suitably-trained and qualified manpower.
          Creating and maintaining a cadre of competent, highly-
          motivated and well-qualified personnel is therefore one
          of the most crucial tasks to be undertaken in developing
          an efficient and effective information system.

6.2   Existing situation

6.2.1   A review of the general institutional profiles of nine
          ITN-Philippines participants shows that they employ a
          total of 68 staff engaged in library management. Among
          the three institutions for which profiles have not been
          compiled, LWUA employs two library staff and Kabalikat
          ng Pamilyang Pilipino none. The number employed by the
          Mapua Institute of Technology is not known.

6.2.2   The total number of library staff employed by the eleven
          institutions for which data are available is thus 70.
          However, it is clear that, in some cases, the figure for
          library staff given in the institutional profile refers
          to the main library of the parent institution of which
          the ITN-Philippines member is only part. In all cases,
          the total number of staff employed in the library
          provides no indication of how many of them, if any, have
          any knowledge of the literature of low-cost water supply
          and sanitation or the information needs of users working
          in this sector. It is in any case highly unlikely that
          there are any library staff working exclusively with
          low-cost water supply and sanitation information.

6.2.3   For a general assessment of the situation, we again have
          to rely on the responses to the opinionnaire. In
          response to Statement 7, "my library has enough staff to
          cope with users' demands for information on low-cost
          WSS", only one participant replied 'yes'; two replied
          'don't know', eight 'no' and two 'definitely not'.
          There is clearly an urgent need to improve staffing
          levels in almost all libraries participating in ITN-
          Philippines.

6.2.4   The staffing situation in the LWUA library calls for
          special attention since this library is the focal point
          both for ENSICNET and the documentation activities of
          ITN-Philippines. The library is at present staffed by
          one professional librarian and one library assistant.
          This is completely inadequate to enable the library to
          meet even the normal demands of providing services to
          users within LWUA, let alone to perform its new role as
          a network focal point. The requirements of the LWUA

library itself in this regard have also to be considered together with the staffing requirements and provisions of the ITN-Philippines project.

6.2.5   The LWUA Librarian has asked for the library staff to be increased by a further two professional librarians and one additional library assistant. The ITN-Philippines project calls for LWUA to supply the Documentalist-Trainer and one computer operator in the first year of the project (1990), and a second computer operator in the third year. It is not clear whether or not these computer operators are meant to be employed solely on documentation work or on other activities as well.

6.2.6   No attempt was made, either through the opinionnaire or through the ENSICNET survey, to assess the training needs of library staff in the institutions participating in either network.

6.2.7   The ITN-Philippines Workplan 1990 includes (para. 4.1) proposals for

        a 10-day course for documentalists on the establishment of a library/documentation unit for low-cost water supply and sanitation; with particular reference to the Ensic/ADB project.

        A draft programme for the proposed course is presented in Annex 4 of the Workplan. Eight of the ten days allotted to the course are devoted to a detailed study of the Mini-micro CDS/ISIS software used by ENSICNET and in most other bibliographic database and network projects in the Philippines.

6.2.8   Only four full members of ITN-Philippines - LWUA and the College of Engineering, the School of Urban and Regional Planning and the College of Public Health of the University of the Philippines - already have, or are in process of establishing, computerized library and documentation systems. In one other case, the main library of the parent institution (the Department of Health) - which is a member of ENSICNET but not of ITN-Philippines - is computerized, while that of the subordinate unit (the Environmental Health Service) is not. None of the other institutions participating in ITN-Philippines has a computerized library.

6.2.9   In addition to those mentioned above, the libraries of three institutions which are members of ENSICNET but not of ITN-Philippines - the Science and Technology Information Institute, the National Engineering Centre and the Main Library of the University of the Philippines Diliman - are using computers.

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6.2.10   All but one of these computerized libraries are using the Mini-micro CDS/ISIS software. The exception is the Science and Technology Information Institute, which is using the related and compatible MINISIS package.

6.2.11   When a library is licensed to use Mini-micro CDS/ISIS by an authorized distributor, full training in the use of the software is provided as part of the deal. More advanced training in its use is provided from time to time by institutions such as the Institute of Library Science of the University of the Philippines. In addition, there is a national Mini-micro CDS/ISIS users' group, ISISPHIL, which meets regularly to exchange information on the use of the software. A demonstration of its applications is to be presented at the ISISPHIL General Assembly on 29 June, and representatives of ITN-Philippines and ENSICNET participating institutions may attend.

6.3   Conclusions and recommendations

6.3.1   Experience in HERDIN has shown without doubt that the successful development of such a network - and, in particular, the creation of its computerized bibliographic database - is crucially dependent on the recruitment of additional staff for this purpose. The chief librarians who are involved in HERDIN are unanimous in declaring that, without the two additional staff provided with support from the International Development Research Centre (IDRC), it would not have been possible to begin developing the network. There is no reason to believe that the situation with regard to the water supply and sanitation information network is any different.

6.3.2   It is therefore recommended that LWUA take steps to recruit the additional library staff requested by the Librarian as soon as possible.

6.3.3   It is further recommended that both the computer operators provided for under the ITN-Philippines project be recruited for work on the documentation component of the project and trained by the Documentalist-Trainer in the use of the Mini-micro CDS/ISIS software as soon as possible.

6.3.4   As far as the documentation training component of the ITN-Philippines workplan is concerned, there seems to be little justification for providing general training in Mini-micro CDS/ISIS. All the libraries in the network which are using computers are using this package, and staff members in all of them have received training in its use, which they can easily update elsewhere; and

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there is no point in offering such training to staff from libraries which do not have computers, or institutions which do not have libraries.

6.3.5   The same applies to members of ENSICNET, except that staff from institutions which are not using computers and Mini-micro CDS/ISIS need training in how to prepare the systems's bibliographic worksheets manually; and such training has already been provided in an ENSICNET workshop held in the Philippines earlier this year.

6.3.6   The emphasis on Mini-micro CDS/ISIS in the draft course programme in the ITN-Philippines workplan would not, in fact, have met the requirement stated earlier in that document for a course on the establishment of a library or documentation unit on low-cost water supply and sanitation. It seems unlikely, however, that this requirement, in the form in which it is expressed in the Workplan, reflects a real need.

6.3.7   As noted above, only two of the institutions participating in ITN-Philippines are concerned exclusively with water supply (and possibly sanitation) in rural and depressed areas. Neither of these has a library as such. Another institution, Kabalikat ng Pamilyang Pilipino, also has no library and is only partly concerned with low-cost water supply and sanitation. Three institutions which are members of ENSICNET but not of ITN-Philippines (the Rural Water Supply and Sanitation Project of the Department of Local Government, the Philippines Waterworks Association and the Philippines Association of Water Distributors) may be concerned with water supply and sanitation at a similar level, but it is not known whether or not they have libraries.

6.3.8   These six institutions are the only members of either network which may conceivably be interested in establishing a library or documentation unit specifically for low-cost water supply and sanitation. All the other institutions concerned have libraries covering broader subject fields of which low-cost water supply and sanitation forms only a small part. Given their limited resources, it is unlikely - and, indeed, would be inadvisable - for these institutions to attempt to establish separate units concerned only with low-cost water supply and sanitation. The libraries of these institutions are staffed by professional librarians who have no need of the kind of basic training in library and documentation techniques which is likely to be needed by the staff of institutions in the first group.

6.3.9   If the need for training in how to set up a library or documentation unit on low-cost water supply and sanitation as such thus appears to be limited, there may be a demand for a training activity focusing on

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information sources in low-cost water supply and sanitation. This would be of equal interest to participants from both groups of institutions in both networks, and might help to resolve and remove some of the divergence of opinion as to whether or not there is plenty of information about low-cost water supply and sanitation available and whether or not it is easy to find out what information exists.

6.3.10   A seminar or workshop might provide a more appropriate format for such training than a formal course. If the positive responses to Statement 8, "some members of staff in my library have a good knowledge of information sources on low-cost WSS", gives an accurate picture of the situation, there should be a reasonably good pool of local expertise on which to draw for planning and conducting such an activity.

6.3.11   The participation of a resource person from abroad might be too expensive in relation to the relatively limited project budget. It may also not be easy to find such a person who could combine a good knowledge of information sources (particularly international and foreign sources) in the sector with the communication skills needed to participate effectively in a seminar or workshop.

6.3.12   A draft outline of the possible contents of such a training activity is provided at Appendix D. It is recommended that this be discussed and revised as necessary by the technical committee which it is proposed (see section 9 below) to establish in connection with the network. Advice on the selection of a suitable foreign resource person, if required, may be sought from regional and foreign organizations such as ENSIC, IHE, IRC, WHO, UNICEF, WASH (Water and Sanitation for Health), and so on.

7.   PHYSICAL FACILITIES

7.1   Introduction

7.1.1   An information system must provide adequate facilities to enable its staff to do their work properly and its users to make effective use of the information sources and services provided. This requires the provision of a certain minimum of furniture and equipment, which, together with the collections of information materials, the staff who maintain them and the users who consult them, must be physically accommodated in suitable premises.

7.2   Existing situation

7.2.1   In response to Statement 9 "my library has adequate accommodation for its activities", four participants replied 'yes' and eight 'no'. One failed to respond on this question. In response to Statement 10, "my library is adequately furnished three participants replied 'yes', one 'don't know' and nine 'no'. The responses to Statement 11, "my library has enough information-handling equipment to be able to provide satisfactory services to users", were less decidedly negative. Five participants replied 'yes' to this question and eight 'no'.

7.2.2   In view of the fact that most of the libraries involved in both ITN-Philippines and ENSICNET are concerned with much wider subject fields than low-cost water supply and sanitation alone, no attempt was made to analyze the situation with regard to accommodation, furniture and equipment in any more detail, except in the case of the LWUA library.

7.2.3   The space at present occupied by the LWUA library is totally inadequate even for its present needs, let alone for its new role as the focal point of ENSICNET and the documentation activities of ITN-Philippines. The main library room houses collections, readers and all staff operations; there is no separate workroom, only a very small and overcrowded storeroom. There is no space to accommodate the extra staff and equipment required both for ENSICNET and for the library itself, and accommodation for readers is extremely limited.

7.2.4   The library needs at least 300 square metres of floor space to be able to function properly and provide adequate accommodation for both staff and readers, and to allow for the expansion of the document collections to meet the increased demand which can be expected to result from its networking activities.

7.2.5   It is understood that plans are in hand to complete the
           renovation of the Water Supply Training Centre building
           behind the main LWUA building, and that the staff of the
           Centre, and of the TNC, will move there as soon as the
           work is finished - probably some time later this year.
           The library will then be able to expand into the space
           now occupied by the training staff, which should prove
           adequate for its needs for some time to come. If this
           is done, it may be necessary to establish a small
           working library of training materials in the Water
           Supply Training Centre building itself. Since this
           building is quite close to the main building, however,
           the main collections should be maintained in the main
           library.

7.2.6   The existing furniture in the LWUA library appears to be
           quite suitable in design. More furniture will be needed
           to accommodate the additional collections, staff and
           readers when the library expands.

7.2.7   The only major item of technical equipment housed in the
           library at present is the microfiche reader-printer
           supplied by ENSIC. There is no room in the library for
           the ENSIC computer and its peripherals.

7.3   Conclusions and recommendations

7.3.1   One of the two computers to be supplied under the ITN-
           Philippines project should be allocated to library and
           documentation work to supplement that already supplied
           by ENSIC. One computer should be dedicated to data
           input and the maintenance of the ENSICNET and other
           databases; the other should be used for carrying out
           literature searches on behalf of users in LWUA and the
           other institutions participating in the networks. Both
           computers should be used only by library and
           documentation staff and both should be equipped with
           Uninterrupted Power Supply (UPS) units to protect
           against loss of data during brown-outs.

7.3.2   The library should also be provided with its own
           photocopier for use in supplying copies of documents
           requested by users. A robust standard office machine
           (e.g. Xerox 1038 or similar) would probably be
           sufficient for the present. As demand increases,
           however, a higher-volume machine (e.g. Xerox 1040 or
           similar) will be needed.

7.3.3.   The successful operation and expansion of the network
           will depend to a significant extent on the availability
           of appropriate information-handling equipment in the
           libraries of participating institutions. Full
           participation in the creation and exploitation of the
           bibliographic and other databases to be developed under
           the project will require the possession of a suitable

microcomputer and ancillary equipment. Participation in document delivery activities will require access to a suitable photocopier. Use of the ENSIC microfiche collection by network members will be more economical if they have their own microfiche readers rather than depending on the production of paper copies of required documents on the microfiche reader-printer in the LWUA library. The proposed survey of library and documentation resources (section 3.3.4 above) should provide precise information on the equipment held by each of the libraries surveyed and make it possible to determine future requirements.

8.   FINANCE

8.1   Introduction

8.1.1   The provision of the other resources described above,
            the creation and maintenance of the organizational
            structure of the system and the provision of information
            services to users, all cost money. Adequate provision
            for both capital and recurrent expenditure, from both
            local and foreign sources must be made if an information
            system is to be able to function effectively.

8.2   Existing situation

8.2.1   The final statement on infrastructural elements in the
            opinionnaire was Statement 12, "my library has an
            adequate budget". One respondent replied 'yes' on this
            topic, one 'don't know', nine 'no' and two 'definitely
            not'. These responses refer to the library budget in
            general. It is impractical to try to identify the
            proportion of any library's budget which may be applied
            in acquiring information materials, employing staff,
            performing technical operations or providing information
            services, specifically in relation to low-cost water
            supply and sanitation.

8.2.2   As far as the ITN-Philippines project budget is
            concerned, the total provided under the heading
            'Library/Documentation' for the period from 1990 to 1994
            inclusive amounts to P360,000 (about US$15,700). The
            plan of operations for the project does not provide a
            detailed breakdown of how this amount is meant to be
            allocated. It is assumed that it is intended primarily
            for the acquisition of information materials, and that
            the training of documentalists is covered by the budget
            item for 'Training courses subsistence', while the
            production of the newsletter is included in the item for
            'Production of training and informational materials'.

8.2.3   The difficulties experienced by many respondents to the
            opinionnaire in acquiring the materials they need to
            meet the needs of their users suggested that this
            question called for further investigation. An attempt
            was therefore made during the mission to estimate
            average prices for publications in the water supply and
            sanitation sector as a basis for estimating budget
            requirements. Three sources were used for this
            analysis, as indicated below.

8.2.4   The List of Basic Publications on Community Water Supply
            and Sanitation ... published in 1987 by IRC for WHO and
            UNDP contains details of ninety-one titles, for
            seventeen of which no price information is available.
            Eleven titles are free. The total of the published

prices of the remaining 63 titles, converted at current Philippines rates, is P28,932 or US$1,263, giving an average price of P459 or US$20.00 per title.

8.2.5   The separate basic library of publications on low-cost water supply and sanitation assembled by IRC for the ITN programme contains eighty titles and costs US$3,000 (P68,730), giving an average price of US$37.50 (P860) per title. Air freight charges for the complete library are US$700 (P16,037), adding an average of US$8.75 (P200) to the average cost of each title. The total average cost of each title, delivered, is therefore US$46.25 (P1,060).

8.2.6   A revised basic library, now under preparation, is expected to include 120 titles - an increase of 50 percent on the original version. On the basis of these average prices, the total cost of the revised version may be expected to be about US$4,500 (P103,095) with air freight charges of US$1,050 (P24,055) bringing the estimated total cost up to US$5,550 (P127,150).

8.2.7   An analysis of the book purchase records of the LWUA Library for the years 1987 to 1989 inclusive (records for previous years are considered, for various reasons, not to provide a reliable basis for such an analysis) shows that the total local purchase cost of the 200 titles purchased during that period was P167,535 (US$7,313), giving an average price of P838 (US$36.60) per title.

8.2.8   Disregarding the air freight charges in respect of the ITN basic library, these three analyses thus produce average book prices of P459 (US$20.00), P860 (US$37.50) and P838 (US$36.60) respectively. The average of these three averages is P720 or US$31.40; however, the LWUA figure may prove to be more reliable for use in connection with the planning of the network, reflecting as it does the actual costs incurred by a local library in the sector which purchases a mixture of foreign and Filipino publications.

8.2.9   A similar analysis of the LWUA Library records for periodical subscriptions for the year 1987 to 1989 inclusive shows that, for a total of 90 subscriptions, the Library paid, to local suppliers, a total of P185,460 (US$8,095) - an average of P2,060 (US$90.00) per subscription.

8.2.10   These figures provide only a very rough indication of possible average prices for books and periodical subscriptions, but they do make it possible to get some idea of the capacity of the LWUA library budget and the ITN-Philippines project budget to support book and periodical acquisitions.

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8.2.11   On the basis of the average subscription cost noted above, the LWUA library budget of P190,000 (US$8,293) for periodical subscriptions would purchase 92 subscriptions. In 1988 and 1989, however, the library received, on average, only 58.5 percent of its periodicals budget. If a similar reduction is imposed in 1990, the library will receive only P111,150 (US$4,852) - enough to purchase only 54 subscriptions.

8.2.12   This still represents a reasonable level of increase over 1988, the year when the number of subscription reached its previous highest level of 44. It may be concluded that the general situation of the LWUA Library with regard to current periodical subscriptions is reasonably satisfactory.

8.2.13   This is not the case with book purchases. On the basis of its own average book price for 1987-89 of P836 (US$36.60), the LWUA library's requested book purchase budget of P361,468 (US$15,778) for 1990 would purchase 432 books. However, in 1988 and 1989, the library received, an average, only 16 percent of its requested budget for book purchases. If a similar reduction is imposed in 1990, the library will receive only P57,835 (US$2,524) - enough to purchase only 69 books.

8.2.14   The fact that only a small proportion of the budget requested is actually approved each year, and that the proportion approved varies greatly from one year to another makes it impossible for the Librarian to plan the development of the collections or the regular provision of information services even for the staff of LWUA itself, let alone to develop the library's role as the focal point of a documentation network in the sector.

8.2.15   The ITN-Philippines project budget includes provision of P360,000 (US$15,714) over the period 1990-94 for 'Library/Documentation'. No details of the proposed breakdown of this expenditure are provided, but it may be assumed to cover at least the

          inventory and documentation of available materials and assessment of requirements;

          assistance in the documentation of the PIs;

          augmentation of a central library

          referred to in the Plan of Operations for the project (paragraph 3.4.1, page 4).

8.2.16   If this entire amount were to be spent only on book purchases, and assuming the present LWUA library average book price to be maintained until 1994, it would be sufficient to purchase 430 books over the five-year life

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of the project - an average of 86 books a year. If the amount were to be shared between the twelve existing participating institutions, it would purchase an average of seven books a year for each institution over the five-year period. Put in another way, the amount would not be quite enough to purchase three sets of the revised ITN basic library (including air freight costs).

8.3   Conclusions and recommendations

8.3.1   It is clear from the above that, even if the entire project budget allocation for "Library/Documentation" were spent on books for the LWUA library (leaving the library to pay for periodicals from its own budget), its impact on the library's collections would be very limited. If the amount were shared between the participating institutions, its effect on any of them would be negligible. Yet, as noted above, the results of the opinionnaire survey show the thirteen respondents to be unanimous in their opinion that their libraries' collections on low-cost water supply and sanitation were not adequate to meet the needs of users.

8.3.2   If any significant change in this situation is to achieved, more money must be provided, either under the ITN-Philippines project or from some other source. Unless the level of support in this respect is increased, it will clearly not be possible for the project to achieve its objective of improving the information dissemination capabilities of sector agencies and educational institutions relating to the application of sustainable low-cost technologies.

8.3.3   It is proposed that, rather than supply libraries with complete pre-selected sets of documents, such as the ITN basic library, they should instead be provided with lists of suitable documents and given enough money to buy the ones they need up to a certain value. It is suggested that each institution participating in the ITN-Philippines should be offered the same amount, which might be equivalent to the estimated cost of the revised ITN basic library (excluding air freight charges) - i.e. US$4,500.

8.3.4   This amount should be paid in equal annual instalments of US$900 per year over the life of the project. At the current average price paid by the LWUA library, it would be enough to enable each institution to buy about twenty-five books, or pay for ten periodical subscriptions, each year. A total of US$54,000 (P1,240,000) would need to be provided for this purpose for the existing participating institutions over the life of the ITN-Philippines project. Additional funds would be needed to provide a similar level of support to any new participating institutions.

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8.3.5   A maximum of US$14,000 (P320,000) should be provided to finance the purchase of a microcomputer and ancillary equipment, a photocopier and a microfiche reader for each library in the network which does not have some or all of these items.

8.3.6   It is recognized that, as far as ITN-Philippines is concerned, this additional financial support, if it can be made available at all, can probably be offered only to institutions participating in the ITN-Philippines. It is most desirable, however, for a similar level of support to be offered to all members of the proposed national water supply and sanitation information network. The advisory body and technical committee of the network will therefore need to review the extent of the need for such additional funds and seek to identify suitable funding sources, including the participating institutions themselves, the ITN-Philippines project, international and foreign donors and other sources.

9.   ORGANIZATIONAL STRUCTURE

9.1   Introduction

9.1.1   Any library or documentation system requires an
        appropriate organizational structure through which its
        resources can be applied in the performance of technical
        operations and the provision of services to users. In
        the case of a library or documentation network, the
        organizational structure of the network overlaps and
        interacts with those of the individual units
        participating in the network and with those of various
        other networks, systems and organizations. This gives
        rise to questions of centralization, coordination and
        cooperation. The attitudes of participants in the ITN-
        Philippines Meeting on Documentation to cooperation in
        general, and to participation in ITN-Philippines in
        particular, are examined in more detail in section
        below.

9.1.2   The opinionnaire did not contain any statements specif-
        ically relating to the organizational structure of the
        network as a whole or of individual members. However,
        Statement 26, "as far as library and documentation
        activities are concerned, the ITN and ENSICNET are
        trying to do the same thing", pointed to one of the
        basic problems with regard to this question. Eight
        participants agreed with this statement, three responded
        "don't know" and two did not respond.

9.2   ITN-Philippines

9.2.1   The ITN-Philippines is coordinated by a Network Coordi-
        nating Council (NCC) comprising representatives of LWUA
        and five other members of the network. The Memorandum of
        Agreement between the NCC members states that the
        Council

            shall be the policy-making body charged with the
              responsibility to coordinate, regulate and
            supervise all activities of the network, subject to
            such rules, regulations and/or guidelines as may be
            issued or prescribed by the IHE as the network's AI
            [Associated Institution] from time to time.

        The Memorandum specifies that the LWUA Administrator
        shall act as Chairman of the NCC, which shall hold
        office at the LWUA Building.

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9.2.2   The only duty specifically assigned to NCC members is to

            meet regularly for purposes of formulating policies
            for the effective operation and management of the
            network.

            The NCC as a body is also authorized to review and
            approve in advance all fund releases for the project.

9.3   ENSICNET

9.3.1   ENSICNET has no formal organizational structure at
            present. It is coordinated by LWUA, in the person of
            the Documentalist-Trainer of the ITN-Philippines
            project. Under a Memorandum of Understanding between
            ENSIC and LWUA, the latter is required to identify
            twenty institutions in the country to participate in
            ENSICNET and to

            include the private sector, line agency, academic
               institutions and the health sector to form an
            advisory board.

            No steps have been taken to form this board as yet, nor
            has any formal agreement governing the relationship
            between LWUA, as the focal point of ENSICNET, and the
            other members of this network been formulated.

9.3.2   It would clearly be inappropriate for the documentation
            activities of members of ENSICNET who are not also
            members of the ITN-Philippines to be coordinated,
            regulated or supervised by the NCC, particularly if this
            were to be done in accordance with rules, regulations or
            guidelines issued or prescribed by IHE. On the other
            hand, it would be perfectly feasible for the
            documentation activities of ENSICNET members who are
            also members of ITN-Philippines to be so regulated,
            provided that this did not conflict with any rules and
            regulations issued by the ENSICNET advisory board.

9.4   HERDIN

9.4.1   The activities of HERDIN are regulated by a Memorandum
            of Understanding between the Philippine Council for
            Health Research, the University of the Philippines
            Manila and the former Ministry, now Department, of
            Health.

9.4.2   The Memorandum defines the objectives, organization,
            operational procedures and obligations of participants
            in much more detail than either of the similar documents
            relating to ITN-Philippines and ENSICNET. An Advisory
            Committee of senior representatives of the three
            participating institutions acts as the policy-making

body for the network, while a Joint Agency Technical Working Group, composed of the heads of the three participating libraries, is responsible for policy implementation.

9.4.3 A detailed account of the operations and achievements of HERDIN is contained in a paper by the Chief of the Research Information, Communication and Utilization Program of the Philippines Council for Health Research. Copies of this document have been supplied to TNC staff.

9.4.4 The organization and activities of HERDIN provide an excellent model for the development of a documentary information network in the water supply and sanitation sector, and it is recommended that the Memorandum of Agreement for HERDIN and the paper describing its activities be studied in detail for this purpose.

9.5. Issues and questions

9.5.1 In considering the organizational structure of a national information network dealing with low-cost water supply and sanitation, the first question to be resolved is that of the subject scope of the network.

9.5.2 Both ITN-Philippines and ENSICNET aim to support the improvement of water supply and sanitation in rural and low-income areas. However, as we have seen, information materials of interest to those working in this field are unlikely to be confined to those about low-cost water supply and sanitation in the narrow sense.

9.5.3 The broader interests of those concerned mainly with the health aspects of water supply and, in particular, of sanitation, are already catered for, in principle, by HERDIN - though not all libraries containing materials on these topics are members of HERDIN as yet. There is no comparable network dealing with the broader interests of those concerned mainly with the technical, managerial and social aspects, particularly in relation to water supply. The former WICEP aimed to meet the needs of this group from a single national centre, but is now inoperative.

9.5.4 Given the limited resources of most of the libraries dealing with these topics, the increased pressure on these resources arising from the demands of participation in any information network, and the difficulty of defining in narrow terms the information needs of those working in the field of low-cost water supply and sanitation, there does not seem to be any justification for establishing an information network restricted to low-cost water supply and sanitation as such. This would neglect both the information needs of those working in other areas in the water supply and

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sanitation sector and the broader needs of those involved in low-cost water supply and sanitation, thus requiring the establishment of yet another network to meet these needs.

9.5.5 These considerations lead to the conclusion that there is a need for a national water and sanitation information network in which access to much of the literature on health aspects would be provided through a close link with HERDIN, while the network itself would concentrate more on technical, managerial and social aspects, especially of water resources and water supply.

9.5.6 The main question arising from this proposal is that of the formal relationship between ENSICNET and the proposed national water and sanitation information network. The interests of ENSICNET are clearly subsumed under those of the national network, which could if necessary supply information to ENSIC itself on a selective basis in accordance with the latter's expressed interests.

9.5.7 The formal question of the title of the proposed national network remains to be resolved. So far, activities have been carried on under the name of ENSICNET, and ENSIC has supplied equipment, information materials and training to support them. However, the formal agreement with ENSIC expires in April 1991, after which time ENSIC will provide help to ENSICNET without any financial commitment.

9.5.6 These questions can ultimately be resolved only through discussion and negotiation between the parties involved.

9.6 Conclusions and recommendations

9.6.1 It is recommended that a national water and sanitation information network be established in which access to literature on health aspects would be provided through a link with HERDIN, while the network would concentrate on technical, managerial and social aspects, especially of water resources and water supply.

9.6.2 Whatever title is given to the network, and however its relationship with ENSICNET is defined, it is recommended that its organizational structure be modelled on that of HERDIN, with a high-level advisory body (as is also required under the ENSICNET agreement) responsible for policy formulation, and a technical committee responsible for its implementation. Before considering the formation and membership of these bodies, however, the question of the relationship between ITN-Philippines and the proposed network must be considered.

9.6.3   It is recommended that ITN-Philippines should delegate
         responsibility for promoting and coordinating
         documentation activity among its member institutions to
         the proposed national water and sanitation information
         network, retaining responsibility in this regard only
         for helping to strengthen the library collections of its
         own member institutions by supplying information
         materials specifically related to low-cost water supply
         and sanitation. ITN-Philippines would thus, in effect,
         be contracting with the national network to develop and
         organize documentation activities in and among its
         member institutions.

9.6.4   In return for this service, it is further recommended
         that ITN-Philippines should provide financial and
         logistical support to the meetings of the network's
         advisory body and technical committee, and to one or
         more seminars on information sources in low-cost water
         supply and sanitation.

9.6.5   The proposed advisory body and technical committee
         should be kept as small as possible consonant with their
         being properly representative of the main interests
         concerned. The membership of both bodies should be the
         subject of a formal recommendation to the Administrator
         of LWUA by a meeting of ITN-Philippines and ENSICNET
         participants convened to discuss the findings and
         recommendations of this report.

9.6.6   If the terms of the ENSICNET agreement are to be
         complied with, the advisory board should include
         representatives of the private sector, line agencies,
         academic institutions and the health sector. In
         addition, it seems desirable that both HERDIN and ITN-
         Philippines should be represented on the advisory board
         in view of their close relationship with the proposed
         network. It may be possible to keep the number of board
         members to a minimum by combining some of these
         requirements. It is suggested that representatives of
         LWUA, the University of the Philippines Main Library,
         the Philippines Council for Health Research and
         Development, the National Water Resources Board and the
         Tulungan sa Tubigan Foundation be considered for
         membership.

9.6.7   The technical committee need not reflect the membership
         of the advisory board. It should include
         representatives of the institutions best equipped to
         participate actively in the network (that is, those with
         computerized libraries) and at least two from less well-
         equipped institutions whose participation is likely to
         be more passive. The latter may be divided into two
         groups: first, those like the National University, which
         have professionally-run libraries using manual systems,
         and secondly, those like Kabalikat ng Pamilyang Pilipino
         which do not have libraries at present.

9.6.8   ENSICNET member institutions in the first group are: the LWUA library; the Department of Health Main Library; the Scientific and Technical Information Institute; the Philippines Council for Health Research and Development; the libraries of the College of Engineering, School of Urban and Regional Planning and College of Public Health at the University of the Philippines, and the university's Main Library; and the National Engineering Centre.

9.6.9   The number of potential committee members could be reduced by allowing HERDIN to be represented by the Philippines Council for Health Research and Development and the University of the Philippines by its Main Library. The membership of the committee would then comprise LWUA, the Scientific and Technical Information Institute, the Philippines Council for Health Research and Development and the Main Library of the University of the Philippines. The Documentalist-Trainer of the ITN-Philippines. who also heads the ENSICNET project, should be a member of the committee. With two additional members selected from among the remaining institutions (preferably the elements which are members of ENSICNET rather than ITN-Philippines in cases where different parts of the same institution are members of both networks), the technical committee would then have a total membership of seven. The committee should be able to coopt additional members and form working groups for specific purposes if required.

10.   TECHNICAL OPERATIONS AND ACCESS

10.1   Introduction

10.1.1   The main functions of a library and documentation system
          are to:

          (a) identify, locate, select, acquire, record and
              prepare for use both national and foreign documents
              of various kinds;

          (b) provide access to these documents, both:

              (i) indirectly, by means of lists of new
                   acquisitions, catalogues, indexes, etc.; and

              (ii) directly, through various arrangements for
                   access to the system and its collections;

          (c) provide an appropriate range of services to users.

10.1.2   Services to users are discussed in section 11 below.
          The present section is concerned only with technical
          operations and access.

10.2   Existing situation

10.2.1   Three of the four statements in the opinionnaire which
          dealt with technical operations (numbers 13, 14 and 15)
          focused on the identification, selection and acquisition
          of information materials in general; the statements were
          not confined to low-cost water supply and sanitation.
          Statement 8 referred specifically to low-cost water
          supply and sanitation.

10.2.2   In response to Statement 13, "my library has good access
          to sources of information about new information
          materials", seven participants replied 'yes' and two
          'definitely yes', while two replied 'no', one gave a
          'don't know' response and one did not respond.

10.2.3   In response to Statement 8, "some members of staff in my
          library have a good knowledge of information sources on
          low-cost WSS", ten participants replied 'yes', two 'no'
          and one 'definitely no'.

10.2.4   There was a clear divergence of opinion in respect of
          Statement 14, "my library finds it easy to select
          information materials to meet the needs of users".
          Seven participants responded 'yes' and five 'no', while
          one did not respond. The divergence of opinion on this
          statement may be compared with that expressed in
          response to Statements 3 and 5, where some participants
          seemed to find it easy to obtain information about

information on low-cost water supply and sanitation, both in the Philippines and abroad, while others did not. Although Statement 14 (like Statements 13 and 15) was deliberately not restricted to materials on low-cost water supply and sanitation, it seems clear that some participants have significantly better access to sources of information about new information materials than others, whether in relation to low-cost water supply and sanitation or in general.

10.2.5   The responses to Statement 15, "my library is able to acquire most of the information materials which are needed by users" were particularly revealing when seen in relation to the responses to Statements 13, 8 and 14. One participant did not respond to this statement, while three replied 'yes' and nine, 'no'. Three quarters of the participants who responded on this topic thus considered their library unable to acquire most of the materials needed by users, even though, as already indicated above, a majority had good access to sources of information about new information materials, had at least some members of staff with a good knowledge of information sources on water supply and sanitation and - though there was less agreement on this point - found it easy to select information materials to meet users' needs.

10.2.6   Seven of the nine respondents who had good access to information sources (Statement 13) also found it easy to select materials to meet the needs of users (Statement 14); nevertheless, four of them were not able to acquire the materials needed. None of the five respondents who found it difficult to select was able to acquire. Only one of those which had good access to sources did not find it easy to select, while three of those who had good access found it easy both to select and acquire.

10.2.7   It is clear that good access to sources is essential if a library is to be able to select materials to meet the needs of its users. Nevertheless, the ability to select does not necessarily mean that the library can acquire. There is a clear correlation between the adequacy of the library budget and ability to acquire. Eight of the nine participants who said their libraries could not acquire needed materials also considered their library budgets to be inadequate. The ninth member of this group was the only one to consider the library's budget adequate, perhaps indicating other obstacles to effective acquisition in this case. Conversely, two respondents who did not consider their library's budget adequate said, nonetheless, that they was able to acquire most materials needed by users.

10.2.8   With regard to the recording of the information materials acquired by participating libraries, the situation in respect of the use of computers for this

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purpose is outlined in section 6 above, while the problems arising from the arrears of cataloguing in most of the libraries concerned are discussed in section 10.3 below.

10.3   Access

10.3.1   The overall situation with regard to indirect access through the existing library catalogues appears to be generally very unsatisfactory. Only three participants replied 'yes' to Statement 16, "my library's catalogue is up-to-date". Six participants replied 'no' and three 'definitely not', while one did not respond. Nearly three-quarters of the participants responding on this topic thus considered their library's catalogue to be out of date to some degree - a situation which must seriously impede these libraries' ability to provide adequate service to their own users, and even more so their capacity to participate effectively in an information network.

10.3.2   Seven of the nine respondents who considered their library's catalogue to be out-of-date also considered its services to be inadequate. Only one of the nine respondents reporting an out-of-date catalogue considered services to be adequate; one did not respond to the statement on services. All three respondents who considered their catalogues to be up-to-date also considered services to be adequate.

10.3.3   There seems to be a clear correlation between the up-to-dateness of the library catalogue and the perceived adequacy of the services provided - that is, libraries with out-of-date catalogues are seen to be unable to provide adequate services to users. This has clear implications for the effectiveness of the network, based as it is, essentially on the exchange of bibliographic data. If a library cannot maintain its conventional catalogue up-to-date, it is unlikely to be able to maintain its contributions to a bibliographic database up-to-date either - particularly when the database covers only a small part of the subject interests of the library's users.

10.3.4   This problem is likely to be intensified in the case of libraries which are members of more than one network. The extent of the cataloguing arrears in member libraries needs to be assessed in more detail, together with the work involved in bringing and maintaining them up-to-date.

10.3.5   As far as the LWUA library is concerned, it will only be possible to make any significant progress in dealing with the arrears of cataloguing when the additional staff requested by the Librarian are appointed.

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10.3.6   A similar situation exists with regard to ENSICNET.
          Until at least one of the computer operators provided
          for in the ITN-Philippines project is appointed and has
          been trained to use Mini-micro CDS/ISIS and the ENSICNET
          input sheet, it will not be possible to input any
          substantial quantity of records to the database, which
          at present does not exist.

10.3.7   The situation with regard to direct access appears to be
          much better. Three participants did not respond on this
          topic. Of the ten who did, eight replied 'yes' to
          Statement 17, "my library is open at times which are
          convenient to users', while one replied 'no' and one
          'definitely not'.

10.4   Conclusions and recommendations

10.4.1   As far as the establishment of the proposed information
          network is concerned, the main question to be resolved
          in respect of technical operations is that of creating
          and maintaining a comprehensive and up-to-date
          bibliographic database of water supply and sanitation
          literature - particularly national literature.

10.4.2   The main responsibility for initiating and developing
          this activity rests with the Documentalist-Trainer of
          the ITN-Philippines and ENSICNET projects. While a
          significant amount of activity in this regard cannot be
          expected until the additional staff provided for under
          the ITN-Philippines project have been appointed and
          trained, it should be possible for the Documentalist-
          Trainer to make a start on creating the database by
          inputting at least some records, possibly for current
          publications of LWUA and other ENSICNET member
          institutions. He should also train the Librarian and
          the Library Assistant of LWUA in the necessary
          techniques so that they could offer some support in this
          process.

10.4.3   Two ways in which the creation of at least a preliminary
          database could be achieved with relatively little effort
          are, first, to mount the ENSIC database containing
          records of the ENSIC microfiche collection, and
          secondly, to bring together relevant records of water
          supply and sanitation literature from other computerized
          library catalogues and databases, such as that of
          HERDIN, which already exist in the Philippines. It is
          recommended that these actions be undertaken as soon as
          possible so as to be able show some visible progress on
          the creation of the network.

11.   INFORMATION SERVICES AND USE

11.1   Introduction

11.1.1   The ultimate objective of any documentary information
           system must be to provide information products and
           services that will satisfy the information needs of its
           users (and be capable also of satisfying those of
           potential users), in terms of:

           (a) current awareness

               of general developments in the sector, organized
               events, research and development projects and their
               results, new technical products and services and new
               information materials, sources, products and
               services;

           (b) literature searching

               of published and unpublished records of documentary
               production to identify specific documents or sets of
               documents with specific characteristics;

           (c) document provision

               of originals or copies of complete documents or
               parts of documents held by the information system or
               available from elsewhere;

           (d) answering enquiries

               ranging from quick reference services designed to
               provide immediate answers to simple enquiries, to
               research services designed to investigate complex
               problems, often in conjunction with technical
               assistance from subject specialists.

11.1.2   In certain circumstances, other services, such as
           translation services, may also need to be provided.

11.2.   Existing situation

11.2.1   No attempt was made to investigate library services in
           any detail at this stage. Responding to Statement 18
           "the services which my library provides to users are
           adequate to meet their needs", four participants replied
           'yes' and seven, 'no'. Two did not respond. There is
           clearly room for improvement in service provision in
           many of the participants' libraries. Despite this, the
           responses to Statement 19 show that several participants
           consider their libraries to be well used. Two
           participants replied 'definitely yes' and five 'yes' to

the statement 'my library is well used". Three participants replied 'no', one gave a 'don't know' response and two did not respond.

11.2.2   All four respondents who considered their library's services to be adequate also said their library was well-used. Among the seven who did not think services to be adequate, however, there was a divergence of opinion on use; three thought their library was well-used and three not, while one did not know.

11.2.3   The plan of operations for the ITN-Philippines project provides for the production and distribution of a quarterly newsletter, the first issue of which was scheduled to be published in April 1990. No action has been taken on this as yet, and financial provision for this activity is not separately identified in the project budget. The project workplan for 1990 suggests that the newsletter be modelled on examples such as those of IRC and ENSIC, while at the same time proposing that it should initially follow a much simpler Indonesian model which is reproduced in an annex to the workplan.

11.2.4   It is not possible for the network as such to offer either selective dissemination of information or literature-searching services until its bibliographic database has been established. However, those libraries which have computerized catalogues or participate in other networks such as HERDIN could offer such services to other members based on these sources. The ENSIC database could also be used for this purpose.

11.2.5   These existing bibliographic records would provide at least a partial source of information on the existing document collections in some of the participating libraries and thus provide the basis for the introduction of document delivery services. The ENSIC microfiche collection could be one of the best sources of relevant documents if it were made available.

11.3   <u>Conclusions and recommendations</u>

11.3.1   It is important for the network to begin offering services to users, even on a limited scale, as soon as possible. This will enhance the credibility of the project and make it easier to obtain support from participating institutions and other sources.

11.3.2   It is recommended that preparation of the first issue of the newsletter begin as soon as possible. The newsletter should aim to provide adequate coverage of the information resources, products and services of the network, as well as disseminating general information. It might include, for example:

(a) information about new and forthcoming publications;

(b) information about publications recently acquired by members of the network (including, for example, abstracts, photocopies of the contents pages of current periodicals, etc.);

(c) information about new products and services for the water and sanitation sector, especially information products and services;

(d) extracts from the text of publications recently acquired by members of the network, (including, for example, photocopies of press clippings);

(e) news of forthcoming events, including training courses;

(f) information about current research projects;

(g) general news about the ITN-Philippines, the information network and the water supply and sanitation sector in the Philippines.

The newsletter of the IRC Documentation Centre, IRC News, provides an example of the kind of product required. A sample of the latest issue is attached.

11.3.3   It is recommended that the ENSIC microfiche collection be made available to members of the network as soon as possible.

12. COOPERATION AND PARTICIPATION IN THE ITN-PHILIPPINES

12.1 Introduction

12.1.1 Cooperation may be defined as

> "working together to the same end, purpose or effect"

and the basic aim of ITN-Philippines, ENSICNET, HERDIN and any other kind of network is to attain agreed objectives through cooperative effort. For any cooperative to succeed, the costs - whether financial, human or material - of participation must be perceived as being at least equal to the benefits received.

12.1.2 It is often difficult to measure either the costs or the benefits of participating in cooperative activity in the information field, and the likelihood of success of a new cooperative venture such as the establishment of an information network can often only be assessed in terms of the participants' attitudes towards cooperation, which in turn may be influenced by their previous experience of such activity.

12.1.3 The next group of five statements in the opinionnaire were therefore concerned with libraries' involvement in library cooperation in general and with participants' attitudes towards cooperation. They were followed by a further five statements specifically relating to participation in the ITN-Philippines.

12.2 Existing situation

12.2.1 There was a marked divergence of opinion on the first statement in the group, "my library cooperates a lot with other libraries" (Statement 20). One participant replied "definitely yes" and five 'yes', but five also replied 'no', while two did not respond.

12.2.2 A further divergence of opinion - though not quite so marked - was revealed in the responses to Statement 21, "in cooperating with other libraries, my library gives more than it receives". Two participants replied 'definitely yes', three 'yes' and three 'no', while no less than five participants failed to respond.

12.2.3 In response to Statement 22, "cooperating with other libraries creates a lot of extra work for the staff", three participants replied 'yes' and two 'definitely yes', three replied 'don't know' and only two 'no', while three failed to respond at all.

12.2.4   A more uniformly positive response - though still with three 'don't knows' and two non-respondents - was obtained in respect of Statement 23, "cooperating with other libraries helps my library provide better services to users". Seven participants replied 'yes' to this statement, as compared to only one who replied 'no'.

12.2.5   The final statement in this group produced an even more uniformly negative response - which, because of the wording of the statement, in fact implies a positive attitude towards cooperation. In response to Statement 24, "cooperating with other libraries is more trouble than it is worth", three participants failed to respond and two gave 'don't know' responses. The remaining eight all replied 'no'.

12.2.6   Five of the nine participants reporting out-of-date catalogues said that their libraries do not cooperate a lot with other libraries, while three said that they do. (One of the nine did not respond to the statement on cooperation). All three respondents reporting up-to-date catalogues said their libraries cooperated a lot with others. There seems to be some degree of correlation between the possession of an up-to-date catalogue and the level of cooperative activity, though half of those cooperating with other libraries also report having out-of-date catalogues.

12.2.7   With regard to cooperation in general, five of the six respondents who said that their libraries cooperate a lot with other libraries also said that they give more than they receive through cooperative activity. These same five also considered that cooperation creates a lot of extra work for staff, but nonetheless helps their libraries provide better services to users. They did not agree that 'cooperating with other libraries is more trouble than it is worth'.

12.2.8   The five respondents whose libraries do not cooperate a lot with other libraries presented a more negative overall picture of cooperative activity. Three of them did not respond on whether or not their libraries give more than they receive, while the other two considered that they did not. As to whether or not cooperation creates a lot of work for staff, three did not know, one did not respond and one said 'no'. Despite their limited involvement in cooperative activity, two members of this group felt that cooperation did help their libraries provide better services to users, while one did not think so and two did not know. Again, while two of this group did not agree that cooperation is more trouble than it is worth, two did not know and one did not respond.

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12.2.9   This analysis seems to emphasize the existence of two
            distinct groups of participants; those who are actively
            involved in cooperative activity and consider it to be
            worthwhile, even though it creates more work and they
            feel they give more than the receive; and those who are
            not very active, or not active at all, in this respect.

12.2.10   The final group of five questions dealt with
            participants' attitudes to participating in the ITN-
            Philippines. In response to Statement 25, "I have a
            clear idea of what the ITN aims to do in terms of
            library and documentation activities", two participants
            replied 'definitely yes' and eight, 'yes', while only
            one replied 'no' and two failed to respond.

12.2.11   Eight participants again replied 'yes' to Statement 26,
            "as far as library and documentation activities are
            concerned, the ITN and ENSICNET are trying to do the
            same thing". Three participants replied 'don't know' to
            this statement, while two did not respond.

12.2.12   There was a strong consensus of opinion that "my library
            will benefit a lot from partnership in the ITN"
            (Statement 27) and that "my library can make a big
            contribution to the ITN" (Statement 28). In the former
            case, two participants replied 'definitely yes' and
            eight 'yes', with one 'don't know' response, while in
            the second case, nine replied 'yes' and two 'don't
            know'. In both cases, two participants did not respond.

12.2.13   The final statement "for my library, participating in
            the ITN will be a waste of time" (Statement 29) produced
            a strongly negative response. Four participants replied
            'definitely not' and five 'no', while one gave a 'don't
            know' response and three failed to respond.

12.3   Conclusions and recommendations

12.3.1   There is clearly a positive attitude among participating
            institutions at present towards library cooperation in
            general and to participation in the ITN-Philippines in
            particular, and it is recommended that full advantage be
            taken of this attitude in initiating positive actions to
            establish and develop the network as soon as possible.

12.3.2   It is proposed that, as soon as possible after the final
            text of this report has been received by the staff of
            the TNC, a technical meeting of representatives of the
            institutions participating in both ITN-Philippines and
            ENSICNET be called to discuss its findings and proposals
            and make recommendations to their parent organizations
            and to the NCC of ITN-Philippines with regard to the
            implementation of these proposals.

13.   GENERAL CONCLUSIONS

13.1   The terms of reference for this study required the
        consultant, inter alia, to

                draft a plan of operations 1990-1994 and a detailed
                workplan 1990/91 for the identified information and
                documentation activities of the project.

        The limitations of the existing project budget in
        respect of library and documentation activities are such
        that it does not seem practical to attempt to formulate
        a plan of operations for this aspect of the project
        covering the whole of the five-year period. Unless more
        money can be made available, particularly for the
        purchase of information materials and additional
        information-handling equipment for those participating
        institutions which lack it at present, the level of
        library and documentation activity is likely to be so
        low that a plan of operations to guide it would be
        totally superfluous. If the additional funds required
        can be made available under the ITN-Philippines project,
        they will need to be spent as and when required in
        response to the needs of individual members (both
        present and future) of the project, rather than in
        accordance with a planned schedule.

13.2   Another factor suggesting that the preparation of a
        detailed plan of operations for library and
        documentation activities is unnecessary at this stage is
        that it has been proposed that the ITN-Philippines
        should delegate responsibility for all aspects of
        library and documentation work in respect of its
        members, except for the supply of information materials
        and information-handling equipment, to the proposed
        national information network on water supply and
        sanitation. The activities of this network, in turn,
        are to be guided by an advisory body and technical
        committee who will be in a much better position to
        prepare a plan of operation for the network when they
        have been able to meet for the first time and evaluate
        the findings and recommendations of this report.

13.3   It is therefore considered both inappropriate and
        unnecessary to prepare a plan of operations as such for
        the library and documentation activities of ITN-
        Philippines at the present time.

13.4   The requirement to prepare a detailed workplan for 1990-
        1991 is intended to be met by the specific
        recommendations set out in section 14 below. These have
        been drawn from the body of the report, above, but are
        presented here in a more systematic fashion and more or
        less in order of priority. It is the intention that the
        implementation of all these recommendations should begin
        as soon as possible during 1990-1991.

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14. RECOMMENDATIONS

1. COOPERATION

It is recommended that:

1.1 the Training Network Centre take advantage of the positive attitude among participating institutions towards library cooperation and participation in the ITN-Philippines by initiating positive action to establish and develop the national water and sanitation information network as soon as possible.

1.2 as soon as possible after receiving the final text of this report, the TNC should convene a technical meeting of representatives of the institutions participating in both ITN-Philippines and ENSICNET to discuss its findings and recommendations and make proposals for their implementation.

2. ORGANIZATIONAL STRUCTURE

It is recommended that:

2.1 a national water and sanitation information network be established in which access to literature on health aspects would be provided through a link with HERDIN, while the network would concentrate on technical, managerial and social aspects, especially of water resources and water supply.

2.2 the organizational structure of the network be modelled on that of HERDIN, with a high-level advisory body responsible for policy formulation, and a technical committee responsible for its implementation.

2.3 ITN-Philippines delegate responsibility for promoting and coordinating documentation activity among its member institutions to the proposed information network and be responsible in this regard only for strengthening the library collections of its own member institutions.

2.4 ITN-Philippines provide financial and logistical support to the meetings of the network's advisory body and technical committee, and to one or more seminars on information sources in low-cost water supply and sanitation.

2.5 the proposed advisory body and technical committee be kept as small as possible consonant with their being properly representative of the main interests concerned.

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2.6 the membership of both bodies be the subject of a
formal recommendation to the Administrator of LWUA
by the meeting of ITN-Philippines and ENSICNET
participants referred to in Recommendation 1.2
above.

2.7 the technical committee be empowered to coopt
additional members and form working groups for
specific purposes.

3. COLLECTIONS

It is recommended that:

3.1 the Training Network Centre supply the libraries of
all ITN-Philippines participants with lists of
recommended publications on low-cost water supply
and sanitation for use in selecting titles of
interest to their users.

4. STAFF

It is recommended that:

4.1 LWUA take steps to recruit the additional library
staff requested by the Librarian as soon as
possible.

4.2 both the computer operators provided for under the
ITN-Philippines project be recruited for work on the
documentation component of the project and trained
in the use of the Mini-micro CDS/ISIS software as
soon as possible.

4.3 a seminar on information sources in low-cost water
supply and sanitation be organized within the ITN-
Philippines training programme.

4.4 the proposed content of the seminar be discussed and
revised as necessary by the technical committee of
the network.

5. EQUIPMENT

It is recommended that:

5.1 one of the computers to be supplied under the ITN-
Philippines project be allocated to library and
documentation work to supplement that supplied by
ENSIC.

5.2 both computers be equipped with Uninterrupted Power Supply (UPS) units to protect against loss of data during brown-outs.

5.3 the LWUA library be provided with its own photocopier for use in supplying copies of documents requested by users.

5.4 the library of each of the institutions participating in the network be supplied with a microcomputer and ancillary equipment, a photocopier and a microfiche reader, if it does not already possess these items.

6. FINANCE

It is recommended that:

6.1 the sum of US$54,000 (P1,240,000) be provided over the life of the ITN-Philippines project to finance the purchase of information materials to strengthen the library collections of existing ITN-Philippines participating institutions.

6.2 additional funds be provided for this purpose on a pro rata basis to finance the purchase of information materials to strengthen the library collections of any new ITN-Philippines participating institutions.

6.3 a maximum of US$14,000 (P320,000) be provided to finance the purchase of the equipment referred to in Recommendation 5.4 for each library in the network which does not have some or all of these items.

6.4 the advisory body and technical committee of the network review the extent of the need for such additional funds and seek to identify suitable funding sources, including the participating institutions themselves, the ITN-Philippines project international and foreign donors and other sources.

7. TECHNICAL OPERATIONS

It is recommended that:

7.1 the Documentalist-Trainer of ITN-Philippines begin inputting records to the proposed national water and sanitation database as soon as possible, and train the Librarian and the Library Assistant of LWUA in the techniques involved.

7.2 records of water supply and sanitation literature from other computerized library catalogues and databases be added to the national database as soon as possible.

7.3 the ENSIC database be made available on the ITN-Philippines computer as soon as possible.

8. <u>USER SERVICES</u>

<u>It is recommended that</u>:

8.1 the network begin to offer services to users, even on a limited scale, as soon as possible.

8.2 preparation of the first issue of the proposed ITN-Philippines newsletter begin as soon as possible.

8.3 the ENSIC microfiche collection be made available to members of the network as soon as possible.

9. <u>SURVEYS</u>

<u>It is recommended that</u>:

9.1 a comprehensive information survey, including: an inventory of institutions in the water sector; a profile of the estimated potential user population; a survey of information needs and information use; a survey of information generation and dissemination; and a survey of library and documentation resources, be carried out as soon as possible under the auspices of the advisory body and technical committee of the national water and sanitation information network.

9.2 the fullest possible use be made of existing local expertise in planning and carrying out this task.

9.3 relevant documents issued by the General Information Programme of Unesco be consulted by those involved before the survey begins.

9.4 such surveys be repeated at regular intervals to ensure that the system continues to respond to changes in the structure of the estimated potential user population and in its information needs.

DIARY OF THE MISSION

Day	Date	Time	Activity
Sun	13 May	1400	Depart Amsterdam
Mon	14 May	1410	Arrive Manila
			To Dannara Hotel
		1700	Briefing with Project Head, ITN-Philippines and IHE staff member
Tue	15 May	0730	To ITN-Philippines, LWUA
			Briefing with Project Head and Documentalist-Trainer, ITN-Philippines
		1030	To Institute of Library Science, University of the Philippines
			Discussions on training facilities and local consultancy resources
		1200	To LWUA
			Study of background documentation
		1800	To Dannara Hotel
Wed	16 May	0730	To ITN-Philippines, LWUA
			Briefing with LWUA Librarian and Documentalist-Trainer, ITN-Philippines
		1330	ITN-Philippines Meeting on Documentation, LWUA
		1800	To Dannara Hotel
Thu	17 May	0730	To ITN-Philippines, LWUA
		0900	Visit to Library, College of Engineering, University of the Philippines

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			1330	Visit to Tulungan sa Tubigan Foundation, Inc.
			1730	To Dannara Hotel

Fri	18 May	0730	To ITN-Philippines, LWUA
		0800	To Manila

Visits to:

Library, College of Public Health, University of the Philippines

Project Management Office, Rural Water Supply (Department of Public Works and Highways)

Main Library, Department of Public Works and Highways

Environmental Health Service, Department of Health

Main Library, Department of Health

1600	To ITN-Philippines

Closing ceremony, training seminar

1800	To Dannara Hotel

Sat	19 May	all day	Free

Sun	20 May	all day	Free

Mon	21 May	0830	To ITN-Philippines, LWUA

Drafting report

Tue	22 May	0830	To ITN-Philippines, LWUA

0900   Visits to:

       Library, School of Urban and
Regional Planning. University of
the Philippines

       Library, Environmental
Management Bureau, Department of
Environment and Natural
Resources

       Library, National Water
Resources Board

1230   To ITN-Philippines, LWUA

      Drafting report

1630   To Dannara Hotel

      Drafting report

Wed   23 May   0830   To ITN-Philippines, LWUA

      Drafting report

1330   Visits to:

       National Hydraulics Research
Centre

       National Water Resources Board

       APPROTECH Asia

1930   Dinner with LWUA Administrator and
ITN-Philippines staff

2100   To Dannara Hotel

      Drinks with LWUA Administrator and
ITN-Philippines staff

Thu	24 May	0830	To ITN-Philippines, LWUA
		0900	To Main Library, University of the Philippines
		1000	To ITN-Philippines, LWUA
			Meeting with ITN-Philippines staff to discuss report
		1300	Drafting report
		1730	To Dannara Hotel

Fri	25 May	0800	To ITN-Philippines, LWUA
			Meeting with LWUA Administrator and ITN-Philippines staff to discuss report
		1000	Visit to National Hydraulics Research Centre
		1330	To Manila Airport
		1630	Depart Manila
		2250	Arrive Colombo

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ITN-Philippines MEETING ON DOCUMENTATION. AGENDA

ITN-Philippines

Meeting of PI Librarians and Documentalists

Wednesday, May 16, 1990 1:30 pm - 5:00 pm

LWUA Bidding Room, Ground Floor, LWUA Bldg.,

Diliman, Quezon City

AGENDA

1. Welcome Remarks

2. Introduction of Participants and TNC Staff

3. Briefing: the ITN Project in the Philippines

4. Cursory Appraisal

    - Documentation status of the libraries of the PIs

    - Inventory of existing materials

    - Assessment of documentation requirements

    - Recommendations

5. Discussion of Plans

    - Course on documentation

    - Organizational linkages

    - Publication of newsletter

ITN-Philippines MEETING ON DOCUMENTATION.
LIST OF PARTICIPATING INSTITUTIONS

1. Department of Health. Environmental Health Service

2. Local Water Utilities Administration

3. College of Engineering, National University

4. College of Engineering, Technological Institute of the Philippines

5. College of Engineering, University of the Philippines

6. School of Urban and Regional Planning, University of the Philippines

7. College of Public Health, University of the Philippines

8. Tulungan sa Tubigan Foundation

9. Kabalikat ng Pamilyang Pilipino

ITN (PHILIPPINES)

OPINIONNAIRE ON DOCUMENTATION

The questions of the opinionnaire are to be replied according to varying degrees of "agreement" with the statement proposed.

Reply categories are: Definitely not
No
Don't know
Yes
Definitely yes
Not relevant

Table 1 (page 8/9) shows the columns used to display the results of the opinionnaire on documentation.

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1. Many people in my institution need information on low-cost WSS.

2. There is plenty of information available about low-cost WSS in the Philippines.

3. It is easy to find out what information is available about low-cost WSS in the Philippines.

4. Information on low-cost WSS in other countries is useful in the Philippines.

5. It is easy to find out what information is available about low-cost WSS in other countries.

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6. The collection of information materials on low-cost WSS in my library is adequate to meet the needs of users.

7. My library has enough staff to cope with users' demands for information on low-cost WSS.

8. Some members of staff in my
   library have a good knowledge
   of information sources on
   low-cost WSS.

9. My library has adequate accom-
   modation for its activities.

10. My library is adequately furnished.

11. My library has enough information-
    handling equipment to be able to
    provide satisfactory services to
    users.

12. My library has an adequate budget.

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13. My library has good access to
    sources of information about new
    information materials.

14. My library finds it easy to select
    information materials to meet the
    needs of users.

15. My library is able to acquire most
    of the information materials which
    are needed by users.

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16. My library's catalogue is up-to-date.

17. My library is open at times which
    are convenient to users.

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18. The services which my library
    provides to users are adequate to
    meet their needs.

19. My library is well used.

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20. My library cooperates a lot with
    other libraries.

21. In cooperating with other libraries,
    my library gives more than it
    receives.

22. Cooperating with other libraries
    creates a lot of extra work for
    the staff.

23. Cooperating with other libraries
    helps my library provide better
    services to users.

24. Cooperating with other libraries
    is more trouble than it is worth.

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25. I have a clear idea of what the ITN
    aims to do in terms of library and
    documentation activities.

26. As far as library and documentation
    activities are concerned, the ITN
    and ENSICNET are trying to do the
    same thing.

27. My library will benefit a lot from
    partnership in the ITN.

28. My library can make a big
    contribution to the ITN.

29. For my library, participating in
    the ITN will be a waste of time.

OUTLINE METHODOLOGY FOR A COMPREHENSIVE INFORMATION SURVEY

C.1.   INTRODUCTION

C.1.1   Basic methods of data collection for any kind of survey include:

(a) a review of existing sources

(b) the conduct of original investigations

C.2.   REVIEW OF EXISTING SOURCES

C.2.1. Existing sources of data may include:

published statistics
unpublished records
reports on previous studies and surveys
books and periodical articles
maps, charts, plans
audio-visual materials, etc.

C.2.2   A review of existing sources can be very time consuming and unproductive unless sources are carefully selected on the basis of the accuracy, reliability, relevance and date.

C.2.3   Data provided by the selected sources must be carefully checked:

(a) internally - for arithmetical errors and other inconsistencies

(b) externally - against other selected sources for reliability.

C.2.4   Data from various sources may be combined to give a more comprehensive picture of the existing situation provided that they have been checked, internally and externally verified and assessed for compatibility and consistency.

C.2.5   The existing presentation of some data elements may have to be revised in order to ensure overall consistency.

C.3.   ORIGINAL INVESTIGATIONS

C.3.1 A review of existing sources should be undertaken before any decision is made with regard to the conduct of original investigations. Such investigations are expensive, time-consuming and difficult to organize and carry out, and it is important to ensure that they are not undertaken in order to obtain data which is already available from existing sources.

C.3.2 The basic steps in planning and carrying out any kind of investigation are:

(a) determine its objectives and scope;

(b) select data collection methods;

(c) assess the resources available for carrying out the investigation;

(d) prepare the design of the investigation;

(e) test design;

(f) carry out investigation;

(g) collate data;

(h) analyze data;

(j) publish results.

C.4. INVENTORY OF INSTITUTIONS IN THE WATER AND SANITATION SECTOR

C.4.1 This should aim to identify and locate the main institutions in the sector in the country and obtain basic information on: their staffs; on their involvement in generating and disseminating information, particularly in documentary form; and on whether or not they have a library or documentation centre. This information would provide the basis for the remaining stages of the survey, which are described below.

C.4.2 In view of the difficulty of obtaining a satisfactory level of response to postal questionnaire surveys, the most reliable way of collecting data on these institutions will usually be through personal visits. It will therefore be necessary to impose some limitations on the coverage of the inventory to ensure that all institutions which it is decided to include can be visited in a reasonable period of time.

C.4.3 One of the main difficulties in deciding on what institutions should be included is that many of them are only partly concerned with the water and sanitation sector; most of them are also active in other areas. It

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will be necessary to organize the inventory so as to focus only on those elements which are concerned with the water and sanitation sector.

C.4.4   The inventory might, for example, be restricted to appropriate elements of central government ministries, major parastatals, non-governmental organizations and major education and training institutions, rather than attempting to cover every institution, no matter how small, with responsibilities in the sector. The inventory should aim to include regional and local offices of these bodies, though it will probably not be possible to collect data on all these organizations through personal visits.

C.4.5   The principal actions involved in the conduct of the inventory are:

(a) identify and obtain copies of existing lists of the names and addresses of units of the parent organizations to be covered by the directory;

(b) identify the specific units to be included;

(c) define the categories of data to be collected; these might include:

   i)   name of unit, street address, postal address, telephone, telex, fax numbers;

   ii)   institutional affiliation (to ministry, parastatals, etc);

   iii) date founded;

   iv)   changes of name since foundation;

   v)   nature of governing body, if any;

   vi)   internal organization (principal departments, substations, etc, including existence or otherwise of a library or documentation unit and basic information on its holdings);

   vii) numbers and types of professional and technical staff, (including library and documentation staff);

   viii) summary of objectives and activities, including details of any products or services available, publications issued, regular events (conferences, seminars, etc.) and training activities;

   ix)   formal links with other organizations in the country and abroad;

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(d) design data collection instrument (interview schedule/questionnaire);

(e) test data collection instrument and revise as necessary;

(f) reproduce final version of data collection instrument in quantities required;

(g) plan conduct of inventory, including:

    i)   proposed programme of visits;

    ii)   arrangements for informing intended interviewees in advance about the inventory and the types of data to be collected, and for confirming dates and times of interviews;

    iii)   arrangements for travelling to interviews;

    iv)   arrangements for recruiting, briefing, supervising and paying any assistants required;

    v)   arrangements for return visits or other follow-up in case of difficulties or queries;

(h) carry out inventory;

(j) check data and initiate follow-up procedures in case of queries;

(k) compile and edit individual entries, including assignment of subject descriptors, if appropriate;

(l) input edited entries to computer.

C.4.6 If it is desired to publish the results as a directory, it will also be necessary to:

(a) compile and edit complete text and indexes;

(b) proofread and correct text and indexes as required;

C.5. ANALYSIS OF EPUP

C.5.1 The data on number and types of professional and technical staff collected in the course of the inventory should be collated to create a consolidated profile of the estimated potential user population (EPUP) showing the numbers of staff of different types working in different organizations and different geographical locations. This will:

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(a) provide a basis for the selection of a stratified sample of potential information users for further study under stage 3 below;

(b) provide a first source of information on the professional expertise available in the country for use in compiling a directory of water and sanitation professionals;

(c) make it possible to identify the main concentrations of potential users of different types, as an aid in planning the future development of the system and the various kinds of information services to be provided.

C.6. SURVEY OF INFORMATION NEEDS AND INFORMATION USE

C.6.1 This involves the collection of detailed information on the information needs and information-seeking and information-using behaviour of a members of a stratified sample of the EPUP, drawn from the consolidated records. Such a survey may be carried out through questionnaires, interviews, group techniques or a combination of any or all of these.

C.6.2 The use of questionnaires alone, however, is not recommended as it rarely produces satisfactory results. It is preferable to distribute questionnaires in advance, together with an explanatory covering letter, so that respondents may be forewarned about the kind of information required. This should be followed up by an interview in which the questionnaire is completed by the interviewer and the respondent working together. If it is not possible to interview all members of the sample, an attempt must be made to interview at least a representative sample of the sample.

C.6.3 The main features of a suitable questionnaire are outlined below. The actual design of the questionnaire should be done by the project team with advice from local consultants, including, if necessary, social scientists with experience in questionnaire design.

C.6.4 Where appropriate, respondents may be asked to rank certain items in order of importance.

C.6.5 Outline of questionnaire

A. Personal details of respondents

name, title, etc.

B. Work

place of work, address, main function of the
organization and the nature and extent of its
involvement in the water and sanitation sector;

respondent's job title, profession, nature and
extent of involvement in the water and sanitation
sector. This may be assessed in terms of the
primary roles of learning, practice, communication,
management and policy making or planning (see the
IRC document Information Users and Their Needs) and
their relative importance in the respondent's work,
and in terms of the main technical areas in which
these roles are performed - e.g. hydrology,
drilling, water quality, etc.

C. Information needs

the respondent's needs for information related to
his primary work roles and in terms of :

(a) subject content

e.g. about slow sand filtration techniques

(b) purpose

e.g. whether designed to communicate facts,
change attitudes or inculcate skills

(c) orientation

e.g. whether practical or theoretical

(d) level

e.g. whether elementary or advanced, designed
for students or for research workers

(e) language

e.g. whether the language in which the
information is presented can be understood by
its intended users

(f) currency or timeliness

e.g. how up-to-date the information is in
relation to how up-to-date it needs to be.

D. Information use

the main kinds of sources from which the respondent
obtains - or tries to obtain - the information he
needs, i.e.

(a) documentary records

including written and printed documents (correspondence, reports, books, etc.) and audiovisual media (sound recordings, films, slides, etc.)

(b) mass media

including radio and television broadcasts

(c) formal personal contacts

including training courses, conferences, seminars, etc.

(d) informal personal contacts

including extension work, community meetings, individual conversations, etc.

the main specific sources which the respondent uses to obtain information e.g.

(a) private purchase of books or periodicals;

(b) specific libraries, documentation centres or information systems in the country or elsewhere;

(c) specific radio or television programmes;

(d) recent or regular attendance at specific courses, conferences, etc.

(e) specific examples of the use of personal contacts, e.g. membership of professional societies, correspondence with other specialists in the country or elsewhere, etc.

relative success of the respondent's efforts to obtain the information he needs.

E. Information generation and dissemination

the extent and nature of the respondent's involvement in generating and disseminating information both in the country and elsewhere, through

(a) documentary records

including production of regular reports, periodical articles, conference papers, books, slides, films, etc. (with bibliographic details or actual copies, if possible);

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(b) **mass media**

including appearances on, writing for, or
producing radio or television broadcasts;

(c) **formal personal contacts**

including regular or occasional participation
in, or organization of, training courses,
conferences, etc.

(d) **informal personal contacts**

including participation in extension work, etc.

This information could be used to supplement the
survey of institutional activities in this regard
which is outlined below.

F. **General comments**

Respondents should be given an opportunity to make
general comments and suggestions with regard to
their need for information and the problems they
experience in obtaining, using and generating it.

C.7. **SURVEY OF INFORMATION GENERATION AND DISSEMINATION**

C.7.1 This survey will be carried out by correspondence and
would aim to obtain, from all the institutions
responding positively on this subject at the inventory
stage, full details of their activities in respect of
the generation and dissemination of information,
including lists and copies of any documents produced.
It will be supplemented by information on the activities
of a sample of individual users collected under the
survey of information needs and information use, above.

C.7.2 Since institutions will be asked, in the course of the
inventory, to supply details of any publications issued,
the present survey will have to be carried out on an
institution-by-institution basis, seeking further
information, checking bibliographical details,
requesting copies of the publications listed, etc. The
survey will provide information both for general
planning purposes and as an aid to building library
collections and a collective database.

C.8. **SURVEY OF LIBRARY AND DOCUMENTATION UNITS**

C.8.1 This would be carried out by questionnaires and
interviews and would seek to obtain, from all
institutions responding positively on this topic at the
inventory stage, further details of their library or
documentation units and their resources and services.

C.8.2   An important aim of this activity will be to collect
        water-related data on holdings of national documents,
        including:

        (a) documents published in the country;

        (b) documents by nationals published abroad;

        (c) documents about the national water and sanitation
            sector by non-nationals, published abroad.

C.8.3   The main actions to be taken are:

        (a) identify libraries, documentation centres and other
            document collections in the institutions included in
            the inventory; this will be done in the course of
            the inventory;

        (b) collect general data on the contents of these
            collections, including:

            i)   numbers of bound volumes of books, periodicals,
                 etc.

            ii) number of current periodical titles received;

            iii) quantities of other types of material held
                 (audiovisual aids, maps, etc);

            iv) nature of the records of the collections
                 (catalogues, etc.);

            v)   numbers and types of staff employed;

            vi) equipment;

            vii) special collections;

            viii) information products and services available.

        When the system is functioning properly and ready to
        develop the national database to include items in other
        libraries in the sector, the nature and extent of the
        holdings of national literature in these other libraries
        should be assessed as far as possible, with a view to
        determining whether they are sufficient to justify
        recording in detail. If so, it will be necessary to
        visit these libraries and collect data on their national
        collections for inclusion in the national database.

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C.9. CONCLUSION

C.9.1 It will be evident, from the above, that the conduct of these various surveys is a major task which must be carefully planned and allocated adequate human, material and financial resources if it is to be successfully carried out.

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OUTLINE PROGRAMME FOR A SEMINAR
ON INFORMATION SOURCES IN LOW-COST WATER SUPPLY AND SANITATION

Day 1   am   Introduction to the seminar

Introduction of speakers and participants

Warm-up exercises

Introduction to low-cost water supply and
sanitation

> Definition of terms, nature of the
> sector, relationship with other
> sectors, major international programmes
> in the sector, etc.

pm   The information users' viewpoint

> Presentations by representative local
> users of information on low-cost water
> supply and sanitation e.g.
> administrators, engineers, health
> workers, village leaders

National sources, 1: overview

> Report on the comprehensive information
> survey

Day 2   am   National sources, 2: institutional sources

> Information, research and training
> activities of the major sectoral
> institutions in the country

pm   National sources, 3: library and
documentation units

> Identification of major libraries and
> documentation units serving the sector,
> including short presentations by their
> managers

Day 3   am   National sources, 4: publications

> Review of principal sectoral
> publications, including periodicals,
> newsletters, report and book series,
> audio-visual materials, etc., produced in
> the country

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pm   National sources, 5: secondary sources

      Review of principal bibliographical
      sources covering national sectoral
      literature, including published and
      unpublished current and retrospective
      bibliographies, bibliographical
      databases, library catalogues,
      abstracting and indexing services, etc.

Day 4   am   Regional sources, 1: institutional sources
               and library and documentation units

      Identification of major sectoral
      institutions, libraries and documentation
      units in the region

      Regional sources, 2: publications and
      secondary sources

      Review of principal sectoral publications
      and secondary sources produced in the
      region

      pm   International sources, 1: institutional
            sources and library and documentation
            units

      Identification and description of major
      sectoral institutions, libraries and
      documentation units outside the region

      International sources, 2: publications and
      secondary sources

      Review of principal sectoral publications
      and secondary sources produced outside
      the region

Day 5   am   Production and distribution of guides to
               information sources

      Techniques of producing and distributing
      guides to sectoral information sources,
      including current awareness bulletins,
      bibliographies, databases, etc.

      Education and training of information
      users

      Techniques for training information users
      to use sectoral information sources

pm   Assessment and recommendations

        Assessment of local situation with regard
        to sectoral information sources and
        recommendations as to necessary
        improvements

     Final round-up and evaluation session

     Closing of seminar