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for community water supply
and sanitation

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INFORMATION EXCHANGE IN THE WATER DECADE AND BEYOND

Paper
prepared for the 14th meeting of the
Inter-Agency Steering Committee for Co-operative Action
International Drinking Water Supply and Sanitation Decade
Geneva, 4-5 September 1986.

The Hague, 25 August 1986

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Together with this paper the following documents are supplied:

(i) on IRC's operations:

- IRC and its work in the IDWSSD
- IRC's role in the second part of the Water Decade
- Indicative Medium Term Plan 1986-1988
- Annual Report 1985

(ii) on information in general:

- Who is doing what in the IDWSSD on information generation and transfer.

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INFORMATION EXCHANGE IN THE WATER DECADE AND BEYONDINTRODUCTION

1. The first half of the International Drinking Water Supply and Sanitation Decade (IDWSSD) has seen the introduction of a range of new approaches, technologies and methodologies, and new knowledge on "software" and institutional aspects. The increased emphasis at the national level on this sector in the Decade has also led to increased demand for published information on developments and experience in neighbouring countries and from other sectors.
2. For decision makers, planners, research and development staff, engineers and operational staff involved in water supply and sanitation technical information is a valuable tool to more rapid and effective implementation of country programmes. In many cases availability of information has contributed significantly to optimum use of scarce resources which may otherwise have been wasted. Readily available information has been essential in finding solutions to newly occurring problems. Yet most of those involved in water supply and sanitation programmes in developing countries do not have access to such essential information.
3. Although various initiatives have been taken on information exchange at both national and international level, developments in information support have not been as significant as developments in other areas. While acknowledging that information exchange should never become a goal in itself, a number of specialists meetings (including the Task Force Meetings on Information Exchange) have identified the complexity of this issue, and have made recommendations to facilitate information and exchange.

THE PROBLEM IN A NUTSHELL

4. Many working in the water supply and sanitation sector continue to complain that information does not reach them, and if it does, not at the right time, or in usable forms. In many cases potential users are not even aware of the existence of information. Organizations do not have the staff to screen the information that does reach them. Universally finance is reported to be a constraint in the recording, translation, printing and dissemination of vital information.
5. It is not sufficient merely to distribute available information in large quantities, in one of the world's major languages, to head offices in capital cities in developing countries.

6. Effective information exchange requires that users clearly perceive the information required; find out whether the required information is available and where and how it can be obtained; arrange for the ways (communication channels) and means (finance) to obtain it; and take the necessary action to obtain it.
7. Effective information exchange also requires that producers know exactly what information is needed, and develop products accordingly; ensure that potential users become aware of its availability; ensure that there is a mechanism to deliver information to potential users and deliver what is required in terms of substance, format, and language.
8. An often overlooked aspect of information exchange for both users and producers is that once the potential user has received the information he (or she) must be able to apply it. This may require back-up service or training to be provided either directly or indirectly to the users by the information producers or others. This may preferably be incorporated in the context of wider water supply and sanitation programme and project activities. It may also require the change of codes and regulations which sometimes hamper application of new information.

ACTION FOR SUPPORT

9. While the international community cannot solve the information problem as a whole it can contribute to making conditions for improved information exchange more favourable.
10. Better information exchange cannot be achieved by ad-hoc efforts and short term successes alone. Support should be directed to both the short and longer term. These considerations, arrived at by IRC through its earlier information work, have led to the following main categories of activity which deserve attention.
11. Firstly, market analysis should ensure better match of demand to production. Many information products do not appear to meet the demand of a particular market, but instead are produced because some interest has been shown in the subject. Assessment of demands should be fed back to those who are concerned with developing know-how and monitoring research, to enable them to modify information programmes and products such as publications and journals, and request handling services. This analysis is indispensable in a process of bridging the gap between what is needed and what is available.
12. Secondly, those ready to co-operate in information production should match their information products and services to the analysed demands and should co-ordinate their efforts as much as possible to fill gaps and avoid duplication.

13. Thirdly, awareness activities should ensure that the availability of information is made known widely to the potential users. This can be done through local information extension services as well as through various regional and global networks or mechanisms including those of United Nations organizations, donors or others, through office announcements, leaflets, periodicals and also during training courses.
14. These actions can not only increase awareness of the inevitable cost of the information product itself but also of its dissemination. In principle these costs should be borne by the user. Through various awareness activities, potential users can also be informed that the benefit of appropriate information may greatly outweigh the cost. Furthermore, policy makers need to be made aware of the impact that adequate information facilities within their country can have to finding effective and efficient solutions to problems.
15. Fourthly, matching information products to the need for such products requires compatibility of terminology and format. Thesauri, glossaries and adequate annotations in bibliographies, information handling guidelines, and advisory support services regarding the best options for format and compatible equipment will go a long way in resolving this problem.
16. Fifthly, the preferred long-term option for in-country handling and local production of information materials are without doubt facilities, which should be entirely a national responsibility. In order to develop such facilities in the course of time, training of library and information extension staff should be initiated as soon as possible as a first step to institutional development in this area.
17. For the short term, each country should use its existing mechanisms and channels of communication of technical information. These may range from small documentation units within national institutions, entities in the framework of projects, and UN and donor agency offices, through university libraries and research centres, bookshops and mail services. These centres of information should be fed through various channels such as communications through mail (written and via microfiche), telex and tele-communications. In other sectors several of such initiatives have been developed with which co-operation should be considered.
18. Finally, to ensure follow-up and a lasting effect, information exchange activities where possible must be made an integral part of the programmes they aim to support. Therefore ideally information exchange should be incorporated or integrated in water supply and sanitation programmes and projects. This may also help to facilitate the defrayal of their costs.

19. Application of information by supporting local translations should also be encouraged. Sometimes it will be required to adapt information materials to suit local needs or to demonstrate their applicability in field situations. Exchange of information in TCDC can play a catalytic role in information application.

IRC CONTRIBUTIONS

20. Information is the core of IRC's work, and against that background it is focussing an important part of its resources on information exchange. Its activities concern components of each of the categories mentioned above, viz:
market analysis, production, awareness, compatibility; and training, institutional development and application.
21. Details of specific ongoing activities and envisaged activities in the second part of the Decade have been listed in Annex 1.
22. IRC intends to continue to perform a global role in technical information exchange, and will be available, where requested and possible, to support and further initiate additional information activities.

ANNEX 1

IRC's contribution in Information Exchange in the Water Decade and beyond.

(i) Marketing analysis

- identify areas requiring information support; present examples include hygiene education, renewable energy sources for water pumping, and community based financial management;
- market analysis efforts at regional and national level to increase distribution of information products to various user categories in developing countries;
- on request assess information needs at national level in selected countries and possibly initiate limited market analysis as financially feasible

(ii) Production

- continue production and distribution of the IRC Newsletter in English and French, expanding its platform function and explore collaboration with other periodicals;
- where possible increase production and distribution of IRC publications, including distribution on microfiche;
- continue existing translation arrangements with CEPIS;
- increase co-publication arrangements with other national agencies in developing countries to translate, publish and disseminate (key) documents and publications selected by these agencies;
- arrange for updating and possible distribution of the Standard Library including its distribution on microfiche if possible and finalization of the glossary of commonly used terminology;
- strengthen product delivery and information exchange with the existing network of collaborating institutions, through current awareness services, abstract services, and supply of microfiche;
- collaborate in request handling with other institutions;
- facilitate matching of demands and products, and co-operation between information producers through annotated address systems;
- investigate options for exchange of automated information;
- develop if feasible a state-of-the-art on Decade issues.

(iii) Awareness

- promote the awareness of potential users for information products through announcements in periodicals and brochures;
- increase awareness of the importance of proper information use among potential users through audio-visual aids, and as part of training courses, among others in collaboration with the World Bank;
- promote the information exchange issue at national, regional and international conferences, seminars and workshops.

(iv) Compatability

- contribute to information exchange between regional centres in Africa, Asia and Latin America, by maximizing the degree of compatability of exchange between data bases, using IDRC's MINISIS software programme; for this purpose IRC will improve its own automated data base accordingly;
- develop and maintain information tools for specialists working in documentation centres and libraries, including a multi-lingual thesaurus in the major world languages (in co-operation with AIT, AFEE, CEPIS, CIEH and WRC and supported by IDRC); glossaries of terms, reference manuals; and training materials and guidelines for information handling;
- maintain a directory of information sources, as support to information exchange efforts between centres;
- assist efforts to bring together information specialists to arrive at co-operation in information exchange, where feasible.

(v) Training, Institutional Development and Application

- support training in effective information handling at regional level for documentalists/librarians and at national level for support staff;
- contribute to the International Training Network for Water and Waste Management (UNDP Project INT/82/002) with the design and preparation of a training module on how to obtain and use technical information;
- continue to support where feasible information capacities in interested countries;
- continue to support national organizations to adapt and apply available information and to demonstrate its effectiveness through development and demonstration projects.

Check against delivery

INFORMATION EXCHANGE IN THE WATER DECADE AND BEYOND

Statement by Mr. Hugo Scheltema

Chairman

International Reference Centre for Community Water Supply and Sanitation

The Hague.

Prepared for the 14th meeting of the
Inter-Agency Steering Committee for Co-operative Action,
International Drinking Water Supply and Sanitation Decade,
Geneva, 4-5 September 1986

The Hague, 3 September 1986

STATEMENT BY MR. HUGO SCHELTEMA

Chairman

International Reference Centre for Community Water Supply & Sanitation

Mr. Chairman,

First of all I would like to thank you for your kind invitation to attend this 14th meeting of the Steering Committee. We feel honoured to be here and to participate in the deliberations on information exchange.

When we received this invitation in the Governing Board of IRC, it was unanimously felt that this was a fine opportunity for IRC to express its continued wish to support the work of the Steering Committee and of the agencies. Indeed it has been the intention of IRC since its inception, as well as that of the Netherlands Government, that it play a role for and with the agencies in its work for developing countries. It was also felt in the Governing Board that we should try to present to you an up-to-date picture of necessary and possible actions on information exchange.

In the annotation to the current agenda item it has been indicated that we shall describe how IRC sees information exchange contributing to the Decade, and that we shall outline our own foreseen role.

I hope that members have been able to read the paper we have submitted, the contents of which has been based on our experiences in information exchange, i.a. in the context of the POETRI-programme. We have made an attempt to sketch the essence of the problem and have outlined necessary actions IRC is currently undertaking in five different aspects of this problem. I will come back to this point shortly.

I now take this opportunity to go a little deeper into the aims and the work of IRC. General information can be found in the documentation we have attached to our paper:

Annual Report 1985, and the document bound together:

- IRC and its work
- IRC's role
- Indicative Medium Term Plan 1986/1988

On the work carried out in different agencies on information exchange we have added a document "Who is doing what in information generation and transfer?"

IRC was started as an organization following an agreement between the W.H.O. and the Netherlands Government in 1968, at that time as part of a government institution with a subsidy from the Netherlands Government and an annual contribution from W.H.O. The aim was to establish a co-ordinating centre for water supply including research, technology, information exchange and training for both industrialized and developing countries.

Over the years IRC has specifically focussed on information oriented activities, including documented information, demonstration projects, training courses and seminars, and more recently also advisory and evaluation activities.

We have also gradually focussed on rural areas in developing countries, integrating hardware and software issues, with a gradually increasing emphasis on software aspects such as community participation, hygiene education, the role of women and recently maintenance.

Over the years IRC has directed part of its efforts towards publications on current issues such as those on Hand Pumps, Slow Sand Filtration, and Public Standpost Water Supplies. The bibliography on Participation and Education in Community Water Supply and Sanitation in 1979 has been an early contribution to create necessary awareness in this area.

This brings me to highlight some more recent activities of IRC for Steering Committee members:

For W.H.O. these include:

- Preparation of a paper on research needs for community participation for a conference in Amman;
- organization of a consultation on technology for water supply and sanitation in developing countries in preparation for a larger study group meeting at W.H.O. Headquarters;
- a contract on regional collaboration with the Western Pacific Centre for Promotion of Environmental Planning and Applied Studies (PEPAS) in Kuala Lumpur on information exchange.

With the Pan American Centre for Sanitary Engineering (CEPIS) in Lima, IRC has gone into a co-publication arrangement under which five IRC Technical Papers have been translated.

For UNDP, IRC has prepared and published a comprehensive literature review of the participation of women in community water supply and sanitation. At the May OECD-DAC meeting, in which a number of Steering Committee members also participated, IRC presented a paper on the role of women as one of the factors in the success of water supply and sanitation projects.

At the request of W.H.O. and in the framework of the UNDP international project support to the Decade Implementation and Co-ordination, IRC has prepared first drafts on the Decade expression list and standard library, of which you all received copies, and which are subject for further discussion this morning.

For UNICEF, IRC prepared course modules on evaluation of water supply and sanitation programmes, and provided inputs during the field testing in Nigeria. The feedback is now shaping the next version which will be further field tested.

At the request of UNICEF Vietnam, IRC did a consultancy to develop a proposal to add an information and training component to the Water and Sanitation Programme.

At the request of UNICEF Kampuchea two IRC staff members will perform a baseline study for the rural water supply and sanitation project in that country.

For the World Bank IRC will be involved in the Bank's Water and Waste Management Training Network, including organization of a regional workshop in Indonesia in October, design and preparation of a module on awareness and practical use of information and also News from the Network in the IRC Newsletter.

As a member of the advisory panel of the UNDP/World Bank Hand Pump Testing Project IRC will continue its support to this practical research.

IRC, together with the International Development Research Centre (IDRC), has nearly completed a new publication on Hand Pump Programmes.

IRC is also completing the multilingual Interwater Thesaurus (in English, French and Spanish) with financial support of IDRC.

With its activities, IRC aims to contribute to bridging the gap between practical knowledge and experience and needs at the operational level. Since this approach particularly emphasizes exchange of experiences between the developing countries themselves, we feel that it is also in tune with the spirit of technical co-operation among developing countries (TCDC).

As a continuation of this line of approach we intend to emphasize three components of our programme over the years to come:

- i) information exchange and reference (publications and reference materials); Newsletter, Decade listings, request handling services);
- ii) development work in selected issues (community participation, integration of hardware and software aspects); and
- iii) advisory support to programmes and projects of third parties.

Within the limitations of our 1.5 to 2 million dollar budget and 30 staff members we realize that IRC is a small centre and can play only a modest role among other organizations, many of which are much larger in size and impact. We trust nevertheless that with the above programme we make a contribution which is meaningful.

Furthermore I realize that the issue of information exchange has been discussed in this committee several times already. If we are to suggest a few steps which might be taken from here on it is only since we have been able to participate in two sessions of the Task Force for Information Exchange of this Committee, and have worked on a specific project on this issue (POETRI).

With your permission, Mr. Chairman, in a moment IRC's Director Mr. van Damme will add a few examples of activities IRC is undertaking, and which it envisages to undertake.

In conclusion Mr. Chairman, I leave with you a few suggestions for the consideration of the Committee.

- It may be worth considering to strengthen information activities in a few selected countries which have already expressed a desire to do so. This should include production of immediately required materials as well as activities aimed at the longer term. Care should be taken that such an effort be based on co-operation between existing structures and facilities and require only marginal additional funding.
- It may also be worth considering to study options for practical activities in information exchange in co-operation between the agencies and possibly others. To prepare this, a small working group of experts on information in the field of water supply and sanitation could be convened to discuss this and to report to the Steering Committee on the feasibility of a plan of action. This could only be successful if this is done in co-operation with the agencies around this table. If this can be worked out, IRC would gladly host such a meeting.

We hope, Mr. Chairman, that the future may reconfirm recognition of the value of information exchange and the financial basis to develop more adequate information activities. To that effect IRC intends to continue to perform a role in global technical information exchange, and will be available to the international community.

We look forward to discussing with you how IRC can be of further service to the Steering Committee on this important subject.

**IRC AND ITS WORK IN THE
INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE**

The Hague, 19 August 1986

**IRC and its work in the International
Drinking Water Supply and Sanitation Decade**

1. The International Reference Centre for Community Water Supply and Sanitation (IRC), established on the basis of an agreement between the World Health Organization and The Netherlands Government, is dedicated to information support to rural and urban fringe water supply and sanitation programmes in developing countries. It is one of several organizations working in information support and is part of a whole range of agencies supplying information supporting the concept of technical cooperation among developing countries (TCDC). Over the years, IRC has developed into a practice-directed organization which endeavours to bridge the gap between new developments and available knowledge and experience on the one hand, and practical situations at the country level on the other.

IRC's overall strategy to achieve its stated objective is the generation and transfer of information. In this context, information is defined as knowledge and experience; technology and methodology; intelligence and public information. The two main components of the overall strategy are:

- generation of information, that is, the collection, processing, screening and integration of information in an information base;
- transfer of information, that is, making information readily available and accesible, and used.

Information is disseminated to the target groups through four strategies, which are listed here in order of increasing impact, but decreasing geographic coverage:

- information dissemination and exchange
- training and education
- evaluation and advice
- development and demonstration

These strategies are implemented through projects which are developed in response to requests from or together with "clients" or their support agencies. When required, clients are assisted in submitting these proposed projects to donor agencies for funding. In this project development cycle, IRC has to determine where it can best render assistance, and then develop potential projects for which it can acquire the necessary funding.

Concentrating on innovation and action as a catalyst, IRC operates through a worldwide network of national and regional institutions both in developing and industrialized countries. It cooperates closely with, and renders information support to WHO and other United Nations agencies participating in the Decade Steering Committee, as well as other international organizations bilateral donors and non-governmental organizations. IRC is the WHO Collaborating Centre for Community Water Supply and Sanitation.

IRC has developed three assets to enable it to effectively carry out work in the context of the Decade:

- an extensive network of contacts;
- an overview of available information and information sources;
- access to expertise in the field of rural and urban fringe water supply and sanitation.

2. SPECIFIC ACTIVITIES RELEVANT TO THE DECADE

Information Services

- IRC's general information services have been geared to Decade goals.
- Since 1980, IRC has published 10 titles in the Technical Paper Series which provide expertise on selected topics on community water supply and sanitation in developing countries. Wherever possible in these publications, an integrated approach incorporating technical, economic, social, and organizational aspects is developed to address pressing problems in this area. These publications are produced jointly by consultant specialists and IRC staff. They are widely used in many countries by staff at all levels, from decision-makers and engineers at the national level to public health officials and technicians at the community level. IRC also publishes the Bulletin Series (3 titles since 1980) comprising reports of international meetings organized both by the Centre and jointly with participating institutions in developing countries. The Occasional Paper Series, 4 titles since 1980, presents ongoing work at IRC and related organizations. Many of these publications are available in French and several are now available in Spanish. A full list of publications is given in section 4. In the first half of the Decade an average of 4,000 IRC publications per year have reached various target groups on request of which 70 percent comes from developing countries.
- The IRC Newsletter provides regular information support to the Decade in English and French editions to nearly 5,000 readers. Part of the Newsletter also reaches Latin America water and sanitation people through incorporation in the CEPIS Newsletter. Free upon request, the IRC Newsletter aims to provide a range of concepts and ideas on water/sanitation/ health as well as the news to a wide readership of engineers, public health staff and social workers.
- IRC's Documentation Unit, which presently contains about 7,000 documents, reports, unpublished material, and 240 journal volumes, has the largest single collection on water and sanitation in and for the developing world. In addition to servicing in-house needs, IRC documentalists also handle enquiries from all over the world; about 300 external requests for information are processed annually. To increase access to this specialized holding (many of which are "grey literature" with limited circulation) the unit is being computerized. Efforts to make exchange possible with the databases in Latin America (CEPIS), Asia (ENSIC) and Africa (CIEH) are underway. For this IRC plans change to the special designed MINISIS software of the Canadian IDRC.

Information Networks

- Since 1979 the centre has been responsible for the Programme on Exchange and Transfer of Information. In this context improvement of information exchange knowledge and strengthening of national systems in selected developing countries was encouraged. Following the 1984

evaluation of the project, activities have further concentrated on continuation of development and maintenance of tools, product development and implementation of information dissemination activities on selected scale. With financial support from IDRC a multi-lingual thesaurus has been produced in English, French and Spanish. Other important tools for information exchange prepared are a Directory of sources (with a first complete update this year), a draft glossary of CWSES terms and the POETRI Reference Manual. IDRC and IRC are also supporting national information exchange activities in Sri Lanka, Thailand and Indonesia, where country progress has been successful. In the final extension of POETRI for 1985 a link has been established with the Training Network for Water and Waste Management (the World Bank/UNDP INT/82/002 project). IRC's contribution will include three Newsletter supplements with News from the Network, design and preparation of a training module on the use of information and organization of a regional workshop in Indonesia.

Training and Education

Community Education and Participation can help solve problems such as poor maintenance and breakdown, thus ensuring a better functioning of the facilities. There is also a potential for cost savings. With several publications in this field, IRC has established a knowledge base for support programmes.

- There is strong evidence that engaging communities to deal with technical interventions can make a positive impact. The enthusiasm for a participatory approach has been generated faster than progress in understanding how to implement it. The theory and practice of local participation in water and sanitation were the subjects of two groundbreaking studies undertaken by IRC. In co-operation with USAID/Water and Sanitation for Health Project, IRC compiled the Directory of Sources of Information on Community Participation, mapping out who's doing what, where, and how in community participation.
- IRC is assisting a pilot project in Tanzania to develop a community participation component in the national rural water supply programme. On the initiative of the Tanzanian Prime Minister's Office, IRC is advising on the design of field-workers and educational material, the training of field-workers and the translation of field experience into policy recommendations. The centre participated in the implementation which started in 1986 and will also be involved in evaluation of the programme.
- The role of women in community water supply and sanitation is receiving priority attention. Through the preparation of a literature review and a selected and annotated bibliography, IRC has contributed to the interregional UNDP project "Promotion and Support for Women's Participation in the IDWSSD". This was published in 1985 in the Centre's TP series.
- In mid 1984 the symposium "The Local Decade, men, women and agencies in water and sanitation" was organized on the same subject, marking IRC's 15th anniversary. This has resulted in a publication identifying practical ways as to how the involvement of communities works out.

- For WHO a Draft Guidance Document for the Training of Community Motivators was produced in 1984. In early 1985 IRC, also under WHO-contract, reviewed background material on community education and participation and prepared a discussion paper identifying specific research needs on the subject. At the request of the Netherlands Government, IRC delivered a paper on community participation to the meeting of the Development Assistance Committee of the Organization of Economic Co-operation and Development.

Human Resources Development

- Apart from operation problems, water agencies in developing countries must also overcome structural constraints, of which the shortage of manpower may be the most serious one. In co-operation with others IRC attempts to support the development of manpower planning, personnel management and training in a number of countries. Through seminars, meetings and publications, and in helping countries in exchange personnel and experience, IRC helps to develop national capacities in this important field. In the Sri Lanka project a national workshop at the end of 1984, seven district workshops and a final one in October 1985 have contributed to a project for more effective planning of human resources development in the country in the water supply and sanitation sector from 1986-1990. It includes analysis of tasks involved in preparation, planning, construction, operation, and maintenance of various types of water supply facilities.
- IRC is also producing training materials in support of training. To overcome the problems resulting of shortage of skilled trainers the publication "Training Skills for Supervisors" has been prepared. It has been translated and successfully field tested in Egypt under USAID funding.
As an illustration to guidelines on human resources development, IRC has produced a number of case studies with experiences from selected countries.
- In 1985 and 1986 IRC inputs in international training courses through lectures and publications have increased. Recently introduction courses have started at the centre for Dutch volunteers and individual consultants in preparation of their fieldwork.

Evaluation and advice

- Evaluation and advice activities have since 1984 increased substantially. The Centre's expertise has been used in evaluation mission in the Yemen Arab Republic (for the Netherlands), Togo (for the Commission of the European Communities), in Colombia and in Burkina Faso (for the Netherlands). UNICEF commissioned IRC expertise to develop training modules and a training course on evaluation of water supplies and sanitation. First tests in Nigeria in 1986 were successful in guiding further improvements in this area. Two advice projects for UNICEF country programmes are emerging. IRC will perform a two phase socio-cultural survey and base line survey and a sanitary engineering survey in Kampuchea in 1986. For the UNICEF Vietnam programme an proposal on institutional support for training and information is in the pipeline. For WHO, IRC organized a consultation with specialists on Technology for Water Supply and Sanitation in

developing countries in early 1986 in preparation of the Study Group Meeting in April.

Demonstration Projects in Low-Cost Technology

- Slow Sand Filtration. In developing countries, hundreds of millions depend for their daily water supply on contaminated surface water. Slow sand filtration offers an effective low-cost, easy to operate and maintain purification process. In five developing countries (Colombia, India, Kenya, Sudan and Thailand) village demonstration plants have shown the efficiency of the system in the first half of the Decade. Through publications, articles and national training seminars the SSF knowledge is transferred to other countries. Operation and maintenance manuals have been translated into Spanish, Arabic and Thai. Being a relatively inexpensive and viable method, and increasing number of international agencies and institutions in developing countries have incorporated slow sand filtration in water treatment programmes of small and medium sized communities. In its extension year 1986 the SSF project concentrated on follow-up activities in Colombia and India, and finalization of a revised more simple and better illustrated caretakers manual and a complete revision of the IRC Technical Paper on SSF.
- Public Standposts. For many years to come public standposts will be one of the few feasible water supply in many parts of the world. IRC is developing appropriate strategies, methods and techniques for the planning, implementation and management of community water supply systems including a considerable number of public standposts. Apart from publications, in four countries development and demonstration projects are the vehicle of information transfer. In Indonesia, Sri Lanka, Malawi and Zambia integrated demonstration projects started in July 1981. In these projects, the essential technology is integrated into wider community-based framework for water supply and sanitation which includes practical finance, administration and organization, and community education and participation. The project aims to develop and promote improved approaches to public standpost systems through demonstration projects and studies and also by the publication of guidelines and the results of field experience. An interim evaluation in 1985 involved national staff and showed that the programme was scoring well in relation to project objectives. Building on expressed interest in extension and improving schemes from participating countries the Netherlands Minister for Development Co-operation has funded an extension of the project for 1986. With regard to a possible second phase of the project the Ministry has indicated interest in Zambia, Malawi and possibly Zimbabwe.

Other projects

Other subjects on which information exchange and dissemination activities concentrate include:

- Handpumps- with a consolidated information base to support government agencies and other organizations in the proper selection of handpumps for their rural water supply programmes. IRC in this context assists the UNDP World Bank project for testing and development of handpumps.

Together with IDRC a revised, updated and expanded edition of the earlier highly successful Hand Pump (TP10) publication is being produced. IRC published a users' manual for the Volanta handpump in a Netherlands supported project in Burkina Faso.

- Alternative Renewable Energy Sources for water pumping- on which an information base has been developed. A publication providing state-of-the-art on the subject is scheduled for late 1986.
- Technical Information Support of Village Health Workers- compilation of a document which provides village health workers with technical information on simple and practical solutions for water supply and sanitation problems at household level is in the final stage of production.
- On drinking water quality and treatment- an IRC study on standard treatment plants for Indonesia has resulted in construction of prototype plants with local materials. On disinfection the centre is promoting (through information exchange and initiation of testing programmes) on-site hypochlorite generation with maximum use of local skills and materials. In Indonesia this has resulted in construction of a generation unit for local hypochlorite production.
- On maintenance systems development, community-based financial management, hygiene education, artificial recharge of groundwater and sanitation- IRC has expanded its information base, resulting in drafts of annotated bibliographies and guidelines in various production stages.

3. List of Publications

Technical Papers

- Handpumps for Use in Drinking Water Supplies in Developing Countries, 1978 (TP10)*)**)
- Slow Sand Filtration for Community Water Supply in Developing Countries, A Design and Construction Manual, 1978 (TP11)*)**)
- Participation and Education in Community Water Supply and Sanitation Programmes, A Literature Review, 2nd revised edition 1981 (TP12)**)
- Public Standpost Water Supplies, 1980 (TP13)**)
- Public Standpost Water Supplies, a Design and Construction Manual, 1980 (TP14)**)
- Evaluation for Village Water Supply Planning, 1980 (TP15)
- POETRI Reference Manual, Volume I, 1981 (TP16)*)
- Community Participation in Water Supply and Sanitation: Concepts, Strategies and Methods, 1981 (TP17)
- Small Community Water Supplies in Developing Countries, Technology of Small Water Supply Systems in Developing Countries, enlarged edition 1983 *) (TP18)

* also available in French

** also available in Spanish from CEPIS, Casilla Postal 4337, Lima 100, Peru.

- Guidelines on Health Aspects of Plumbing, 1982 (TP19)
- Practical Solutions in Drinking Water Supply and Wastes Disposal for Developing Countries, 1982 (TP20)
- A Groundwater Primer (TP21)
- The Buba Tombali Water Project, Rural Water Supply Development in Guinea-Bissau (1982)
- Participation of Women in Community Water Supply and Sanitation, 1985 (TP22)

Bulletins

- Global Workshop on Appropriate Water and Waste Water Technology for Developing Countries, Voorburg, The Netherlands, Report on Proceedings, 1973 (B7)
- Slow Sand Filtration for Community Water Supply in Developing Countries a Selected and Annotated Bibliography, 1977 (B9)
- Public Standposts for Developing Countries, Proceedings of an International Expert Meeting, Achimota (Accra), Ghana, 1978 (B11)
- Participation and Education in Community Water Supply and Sanitation Programmes, a Selected and Annotated Bibliography, 1979 (B13)
- Community Education and Participation in the IRC Slow Sand Filtration Project, Voorburg, The Netherlands, Report of Proceedings, 1979 (B14)
- Slow Sand Filtration for Community Water Supply in Developing Countries Report of an International Appraisal Meeting, Nagpur, India, 1981 (B16)
- Report of a Global Seminar on a Modular Approach in Small Water Supply Systems Design, Jakarta, Indonesia, 1981 (B17)

**IRC's ROLE IN
THE SECOND PART OF THE WATER DECADE**

The Hague, 10 April 1986.



irc

international reference centre
for community water supply
and sanitation

who collaborating centre

cir

centre international de référence
pour l'approvisionnement
en eau collective et l'assainissement

centre collaborant de l'oms

IRC's Role in the Second Part of the Decade

1. In general terms IRC will continue its contributions through knowledge generation and transfer. The strategy has been further detailed in Indicative Medium Term Plan 1986-1988 para's 1 through 10. The points hereunder present an addition and extrapolation thereto.
2. IRC intends to emphasize three components over the years to come:
 - (i) information exchange and reference (publications and reference materials; Newsletter; Decade listings; request handling services).
 - (ii) development work in selected issues (community participation; integration of "hardware" and "software" aspects; elements of organization in rural and urban fringe water and sanitation programmes).
 - (iii) advisory support to programmes and projects of third parties (evaluations/appraisals, community participation inputs, information services, training activities).
3. Through these components IRC will further aim to act as a bridge between needs/demands and available (or to be made available) knowledge. IRC will continue to work in partnership with UN agencies and donors in a tuned contribution to governments in developing countries. Emphasis will be on multidisciplinary approaches, tailor-made contributions, and support to local work in developing countries by local staff. Facilitated by the rolling Indicative Medium Term Planning process, a flexible response to changing needs will be pursued.
4. Specific attention is planned to be given to:
 - ° training efforts in rural water supply/sanitation;
 - ° development of evaluation capacity;
 - ° elaboration of "software" aspects as potential contribution to UN/donor projects;
 - ° information exchange (and transfer) including strategy development;
 - ° automation of documentation and addresses for the Decade;
 - ° comprehensive publication series;
 - ° contribution to knowledge development in:
 - maintenance/rehabilitation;
 - community based financial management;
 - inventory of training courses and materials;
 - community participation, role of women, health and hygiene education;
 - urban fringe issues.
5. General issues which will receive attention:
 - ° improving the quality of IRC project outputs in terms of substance and management;
 - ° systematic recording of basic organizational principles at IRC (strategies, job descriptions, etc.).
6. In general, during the second half of the Decade, IRC will strive to integrate community water supply and sanitation activities with health oriented (primary health care) programmes, general development programmes (such as rural development programmes, including micro irrigation for food production), and/or environmental programmes, including alternative energy.

**INDICATIVE MEDIUM TERM PLAN
1986 - 1988
(IMTP/86-88)
NOVEMBER 1985**

The Hague, November 1985.

Addendum to Indicative Medium Term Plan 1986-1988

NOTE FOR THE READER

Since the establishment of IRC as an independent organization in 1981, a continuous planning process has been developed. As a step in this process, indicative medium-term plans for the three-year period following the current year are prepared each year, indicating in qualitative terms the general direction and emphasis of IRC's programme.

Since IRC's potential activities are strongly influenced by the availability of extra budgetary resources, the medium-term plans are necessarily of an indicative nature; they are midway between two components which influence each other:

- (i) concrete planned operational programmes (based on committed funds, including annual core subsidy) and
- (ii) proposed programmes (to be carried out if funding comes available).

The present plan is for the period 1986 to 1988. As compared to the preceding plan for 1985 to 1987, apart from some minor updating and editorial changes, the following major adaptations have been made.

Introduction

- a para has been added on IRC's role (vis a vis specific roles) in information (para 6);
- a general para has been added on co-operation (para 9).

Programme 1986-1988

- the organization of the chapter has been modified in the sense that a division has been made between predominantly output oriented projects (under transfer strategies; para's 12 to 34) and predominantly knowledge base oriented projects (para's 35 to 42);
- a para has been added regarding programme emphasis (para 11);

- the para on POETRI has been updated (para 13);
- para's have been added on publications (15), the Newsletter (16), and networks (18);
- the para dealing with aspects of human resources development/training has been modified (para 22) and another para has been added (26);
- the title of the third transfer strategy has been changed from "advice and consultancy" to "evaluation and advice"; under this section a para on "community education and participation" has been added (para 34);
- a para has been added on possible relationships regarding evaluation and advice (para 25);
- the explanatory para regarding development and demonstration projects has been modified (para 28);
- the para's on "slow sand filtration" and "public standpost water supplies" have been updated in view of termination of the preceding projects (para's 29 to 33);
- planned activities on handpumps and on drinking water quality have been scaled down (para 39).

Organization

- the para's regarding cooperation, relationships and acquisition of funds have been strengthened (para's 46 to 50).

INTRODUCTION

- (1) Drinking water supply and sanitation is the overriding concern of millions of people who do not have these facilities, and also of the thousands who dedicate their lives to establishing such facilities. The more knowledge and experience available to the latter group, the more efficiently and effectively they can work, and the sooner those in the first group can be served.
- (2) IRC is dedicated to information support to rural and urban fringe water supply and sanitation programmes in developing countries. It is one of several organizations working in information support and is part of a whole range of agencies supplying information supporting the concept of technical co-operation among developing countries (TCDC). IRC carries out its work in the belief that transfer of knowledge and experience to those responsible for the provision of water supply and sanitation facilities will help to increase their working efficiency. Over the years, IRC has developed into a practice-directed organization which endeavours to bridge the gap between new developments and available knowledge and experience and the prevailing needs in practical situations at the country level.
- (3) IRC is an independent, non-profit organization. According to its statutes, its general goal is to initiate and to develop, through international co-operation, activities directed to the improvement of public water supply and sanitation. Its focus is water supply and sanitation programmes in rural and urban fringe areas in developing countries. IRC's primary target group consists of managers, professionals and sub-professionals in government organizations concerned with planning and execution of programmes for the installation, management, and use of water supply and sanitation facilities. IRC co-operates with UN agencies, financial donors, and other organizations, including non-government organizations (NGOs) who support the various agencies comprising the primary target group, and who will use IRC's output in their work.

- (4) IRC's overall strategy to achieve its stated objective is the generation and transfer of information. In this context, information is defined as knowledge and experience; technology and methodology; intelligence and public information. Consequently, IRC is an information-oriented organization. The two main components of the overall strategy are:
- generation of information, which is the development, collection, screening and integration of information;
 - transfer of information, which is making information readily available and accessible.
- (5) Information is transferred to the target groups by four main transfer strategies, which are listed here in order of increasing impact, but decreasing geographic coverage:
- publications;
 - training and education;
 - evaluation and advice;
 - development and demonstration.
- Closely related to these strategies is the knowledge base development at IRC which aims to support all IRC's functions, and also indirectly, IRC's target groups and other contacts.
- (6) IRC also has a broader role in providing general information support which includes the following:
- information documentation;
 - general information exchange;
 - reference and referral functions;
 - information networks.
- (7) The projects, which in principle require external funding, are developed based on consultations with "clients" or their support agencies. This approach requires the following steps in the overall work process:
- identification of needs;
 - development and maintenance of knowledge base;
 - development and realization of projects for transfer of knowledge.

In project development, IRC has to determine where it can best render service, and subsequently, prepare proposals for projects for which it can acquire the necessary funding.

- (8) All IRC activities are basically information projects in which knowledge and experience are generated and transferred. An overriding consideration in IRC's projects is the integration of various technical and non-technical aspects ('hardware' and 'software') through one or more subject areas which constitute entry points. In most cases, the projects include a strong component of generation of information.
- (9) As much as possible, activities are carried out and supported by staff in the countries concerned. In the spirit of Technical Co-operation among Developing Countries (TCDC), IRC aims to establish links between the countries with which it works. It is a collaborating centre for WHO and maintains close links with UNDP, UNICEF, and the World Bank. It also co-operates with other UN agencies, bilateral donors and non-governmental organizations.
- (10) As a step in IRC's continuous planning process, indicative medium-term plans for the three-year period following the current year, are prepared each year, indicating in qualitative terms, the general direction and emphasis of IRC's Programme. Because of their dependency on requests from third parties, such plans cannot be drafted in advance with considerable certainty. The present plan is for the period 1986 to 1988, and on the basis of this, the annual plan for 1986 is being prepared.

PROGRAMME 1986-1988

- (11) In the Programme 1986-1988, IRC, in an attempt to put its limited resources to best use, plans to emphasize the integration and balance of the following specific aspects:
- community participation including the role of women;
 - health and hygiene education;
 - human resources development and training;
 - appropriate technology;
 - operation and maintenance;
 - financial management;
 - programme evaluation.

Publications and general information support

- (12) An important part of IRC's work concerns the exchange and dissemination of bibliographic information, and clearing-house functions. This work also provides the necessary basis for, and is an essential component of, IRC's activities under its other strategies, which in turn are essential extensions to publishing and dissemination. In order to consolidate its unique position as a specialized information centre, IRC will continue to contribute to the equally important functions of acquisition, classification, storage, repackaging and dissemination of information.
- (13) Since information exchange and dissemination is only purposeful if information reaches potential users and is actually used by them, the UN Water Conference (1977) adopted a recommendation to establish an effective clearing-house mechanism. The Programme on Exchange and Transfer of Information (POETRI) was developed to implement this recommendation. Based on the findings and developments under this programme, IRC will continue to stimulate communication of information among and to its target groups. With WHO, consultations are underway regarding the dissemination of technical information on a wide scale. It is envisaged that as from 1986 support will be provided to the World Bank's International

Training Network for Water and Waste Management. As much as possible the POETRI achievements will be incorporated in the Network activities. IRC will further continue to stimulate direct dissemination of information, the development of regional and national focal points, and in co-operation with national and international organizations, endeavour to act increasingly as intermediary to develop greater co-operation in information exchange and dissemination.

- (14) IRC will increase its output of information "products" and "tools". Attention will continue to be focussed on four aspects:
- production of information products, such as publications, references and training materials;
 - production of information tools, such as guidelines for information handling;
 - strengthening of national and regional information capacities, including training of information extension workers;
 - promotion of information support.

IRC will continue specifically with development of:

- microfiche services;
- integrated data base;
- a multilingual thesaurus;
- a directory of sources;
- training materials for information services;
- demonstration sets on the use of information services.

- (15) The development and wide distribution of publications, both on request and on IRC's own initiative, has always been an important IRC activity because it is one of the essential outlets of integrated knowledge and experience available to IRC. Publishing will continue to be a major area of work and will be improved upon wherever possible. Reflecting the issues chosen by IRC for continued or future attention, emphasis will be given in its publications not only to technology but also to 'software' aspects and organizational issues. A topic which will receive closer attention in the immediate future is sanitation; a handbook on sanitation options will be developed.

- (16) Regular production of the Newsletter will receive priority. The content mix will continue to be adjusted to client needs. Co-operation with other agencies to strengthen content and production will be explored. Continued co-operation with WHO will be strived for, and if possible, contacts also established with UNICEF. The Newsletter will also be used as a basis for information about the World Bank's International Training Network for Water and Waste Management. The mailing list, which is being computerized and updated at present, will be extended further.
- (17) In order to be able to continue the dissemination of information on a wide scale, the marketing approach initiated in 1985 to increase revenue from clients who can afford to pay for the "commodity" information, will be developed further. At present this concerns the IRC publications series, which will be diversified further and professionalized on the basis of signals from the market. In 1986 and in subsequent years, other services which will be rendered against payment include request handling and exchange of documents on microfiche.
- (18) The information networks developed and used in past and present projects include:
- Solidarité Eau under agreement with EEC and VROM;
 - International Training Network for Water and Waste Management of the World Bank;
 - POETRI network;
 - IRC network of country contacts under various project agreements.

IRC will endeavour to co-ordinate efforts among the various partners of these networks.

Training and Education

- (19) In line with previous years, activities under the strategy of training and education are gradually expanding, and this trend will be continued. Organization of seminars, workshops and working

meetings, for a long time a conspicuous activity of IRC, particularly in the generation and development of new ideas and strategies, will be actively pursued where appropriate and feasible.

- (20) Following soundings in 1985, the development of training courses and the co-operation with other institutions, either on specific topics or on the wider topic of rural water supply and sanitation, will be considered further. A training course for evaluation of water supply and sanitation projects will be field-tested. Some progress has also been made in community education and participation. Special activities will concern training for technical assistance workers. If feasible, some of these courses will be organized at country level. The expected co-operation with the World Bank on the International Training Network for Water and Waste Management will be an important stimulus to these training activities. In these activities every effort will be made to benefit the World Bank project.
- (21) IRC will continue to co-operate with WHO in the human resources development strategy being developed by them.
- (22) Other aspects of human resources development which will be given emphasis include the following:
- recording of experience in this area, based on IRC projects and contacts in these fields over the past few years;
 - support to activities regarding training of trainers at country level;
 - inventory of available training courses and materials on selected subjects.

Evaluation and Advice

- (23) Evaluation and advice, includes more or less formal advice on a person-to-person basis or person-to-organization basis by IRC staff and consultants engaged by IRC; longer term assignments in individual countries by staff and consultants (including local staff

of the countries concerned); and advisory teams to national programmes. Since this strategy can have an effective impact, plays an important role in the development of contacts and generation of information, and may be important from a financial/organizational point of view, all options for evaluation and advice will be followed up.

- (24) Several evaluation missions have been carried out by IRC staff and consultants in the past few years. Efforts will be directed to continuation of such activities as a logical part of IRC's information and advisory role. Planned activities include:
- literature review and preparation of a bibliography on evaluation;
 - development of practical evaluation methodology;
 - training course development.
- Co-operation will be maintained with WHO, in particular, on the Minimal Evaluation Procedures.
- (25) In the past, IRC has carried out evaluations and provided advisory services for DGIS, WHO, EEC, and other bilateral agencies either under contract or on a less formal basis in meetings at IRC or elsewhere. IRC will strive to strengthen and formalize these contacts as part of the working relationship with these organizations.
- (26) Up until 1986 activities under this strategy, which comprised a major component of IRC's external budget, concerned projects for institutionally oriented work in manpower development and national training delivery systems. Lack of funds to continue these and similar activities means that IRC will have to phase out work in this area.

Development and Demonstration

- (27) The strategy development and demonstration, has many practical advantages. It comprises elements of all of the other strategies, including document development, and training and advice. It is the

most comprehensive and effective strategy in which, through various types of entry points, the IRC-supported integrated approach to problem-solving can be implemented. This development and demonstration will remain an essential part of IRC's work, for which funding needs to be safeguarded.

- (28) In its two present development and demonstration projects, which have a technological entry point, IRC will continue to follow an integrated approach. This approach combines technical aspects such as designs and the use of local materials, with the equally important organizational aspects and socio-cultural factors involved in the selection and application of technology.

Slow sand filtration

- (29) This development and demonstration project emphasizes strongly the integration of technical and non-technical components of slow sand filtration. In its final phase, major emphasis will be placed on the development of tools and techniques to stimulate wide-scale application of this technology, which will require little or no aid from specialists. The planned activities, for which funding has been secured up until 1987, include:

- preparation of manuals on design and construction, operation and maintenance, costing and pre-treatment;
- finalization and field-testing of training materials;
- development and testing of a methodology for evaluation and rehabilitation of existing slow sand filtration plants.

In addition, it is intended to develop further the community participation and hygiene education components.

- (30) IRC will take it upon itself to do what it can to promote the appropriate use of slow sand filtration in the developing countries, and to ensure that the knowledge and experience gained in the project will be available to planners and implementers of national programmes and projects. Experience gained in the project, regarding wider aspects of community water supply development, will be applied in subsequent demonstration projects with other technological entry points or, if possible, non-technical entry points.

Public standpost water supplies

- (31) The current planned activities and funding for the Public Standpost Water Supplies Project comes to an end in December 1985. The project, IRC's second major development and demonstration activity, has been carried out simultaneously in Indonesia, Malawi, Sri Lanka and Zambia over the period 1983-1985.
- (32) New proposals for follow-up activities are being discussed on the basis of the interim evaluation carried out in mid-1985, the interests of the participants, and IRC's awareness of the need for further work. During the period 1986-1988, it is hoped that these can be developed further and that they will attract funding for early implementation. Follow-up projects are felt to be needed:
- to consolidate, monitor, record and share developments in the project;
 - to demonstrate whether the community-based approaches already developed can be applied to other types of water supply and sanitation technologies and in other parts of the participating countries;
 - to promote wider use of the approaches developed, both in other programmes and as part of future national policies;
 - to enable other interested countries in Africa and Asia to participate in multi-country development and demonstration activities, and thus to promote technical co-operation among developing countries.
- (33) Two possible directions for the development of follow-up projects are under discussion:
- piped supplies for small communities with the objectives of:

- ° widening the scope and objectives of the present PSWS project to cover piped supplies in general, including house connections, yard connections and group connections as well as standposts;
 - ° promoting levels-of-service which are mixed and which can be extended with time.
- community-based development of water supply and sanitation with the objectives of:
- ° developing the current work to allow a flexible approach to the level of water supply and sanitation technology used;
 - ° increasing the focus of local organization and financial management as important cornerstones of community-based water supply and sanitation.

Community education and participation

- (34) In Tanzania, IRC has been requested to assist in the development of a pilot training programme on community participation in water and sanitation for technical health and community development staff in two regions. Co-ordination with national training institutes and other regional water programmes will be included to integrate training in community participation in the national programme.

Knowledge Base Development

- (35) Knowledge base development - and initiatives under internal funding in relation to it - include community education and participation, human resources development and training, appropriate technology, maintenance systems development, financial management, and evaluation.
- (36) The approach to knowledge base development will be structured and priorities set in relation to needs in the field and requirements within IRC. Urban-fringe water supply and sanitation will receive specific attention.

- (37) Knowledge base development in community education and participation includes:
- further development, structuring and review of the CEP data base with special emphasis on hygiene education and the role of women;
 - collection of information on the effectiveness and cost-benefits of community education and participation;
 - field-testing in selected countries of the guidelines for the training of community motivators;
 - further development and field testing of the methodology for hygiene education used in the project in Tanzania;
 - support to the development of methodologies to help communities to improve their water supply and sanitation facilities;
 - assistance to national and international agencies to review and to develop the CEP methodology used in water and sanitation programmes.
- (38) Knowledge base development in human resources development and training includes:
- inventory of available training courses in rural water supply and sanitation and aspects thereof in different countries;
 - inventory of training materials on related subjects, in the major world languages and also in local languages.
- (39) Knowledge base development in appropriate technology includes:
- cost data and information on low-cost construction of slow sand filters;
 - information on pre-treatment of water prior to slow sand filtration;
 - information collection on various aspects of piped water supply systems;
 - compilation of information and development of a publication, if feasible, on local manufacture and assembly of handpumps;
 - further development of the information base on sanitation with emphasis on low-cost, on-site technology and practical information and communication support;

- preparation of selected package and references on low-cost sanitation;
 - compilation of a manual on practical aspects of disinfection of community water supply for use also in training courses;
 - compilation of a manual on practical aspects of the development of local level maintenance systems on the basis of a maintenance oriented technology choice.
- (40) Knowledge base development in maintenance systems development includes:
- development of an information base on practical maintenance systems in rural water supply programmes;
 - organization of a working meeting to consider development of action points in support of country activities.
- (41) Knowledge base development in financial management includes the development of an information base on this topic, with the focus on community-based financial management, and aspects of local organization. Special attention will be given to appropriate and efficient revenue collection methods adapted to local circumstances.
- (42) Knowledge base development in evaluation includes the development of a general information base, which is to be developed to support evaluation activities, and for broader applications.

ORGANIZATION

- (43) In order to guarantee its continuity and to harness what has been built up over the years, careful consideration has been given in 1985 to how IRC can best serve its target groups and what organizational measures are required regarding:
- extension of the project portfolio;
 - increase of the staff potential;
 - improvement of internal efficiency.
- As a result the following have been developed:
- a set of strategies;
 - a matching organizational structure;
 - detailed function descriptions;
 - a staffing plan and policy;
 - financial plans and policies;
 - a well-established planning process;
 - efficient work monitoring.
- (44) Following these internally directed efforts, the result of which will be extended and detailed, it is now time to direct efforts primarily to the outside, to strengthen existing contacts and working opportunities and to develop new contacts.
- (45) On the basis of the analysis of experience and achievements, which began in 1985, activities will be developed and/or undertaken in the following areas:
- continued monitoring of IRC's programme orientation in multi-disciplinary and innovative work based on need and demand;
 - more precise definition of target groups;
 - overview of funding opportunities for activities under IRC's potential role;
 - a "marketing strategy" to investigate IRC's opportunities, including approaches to clients and donors at various levels, and related service packages;
 - a public relations approach in promotion of IRC's potential role.

- (46) In addition to responding to the expressed needs of the target groups, it is important to work towards establishing closer relationships with a variety of agencies and organizations. IRC's potential role vis-a-vis the Netherlands Government and WHO, and UNDP, UNICEF and the World Bank will be further investigated. Possible options for co-operation with other UN agencies and also other internationally oriented agencies will be screened on their potential. Following developments in 1985, special efforts will be made to strengthen relationships with these organizations in connection with the aforementioned actions.
- (47) Efforts will be made to strengthen client relationships with government agencies in developing countries, UN agencies at local levels, country offices of bilateral donors, and relevant NGOs. Client relationships in the Netherlands and other industrialized countries will also receive more attention.
- (48) Regional representation and an increased orientation in French-speaking countries, especially in Africa, will further be investigated.
- (49) For the acquisition of funds for IRC's activities with and for the developing countries, it is essential that bilateral donors and development banks are acquainted with IRC's work, and have a degree of confidence in that work. Close links with these agencies will be developed, and where appropriate, project proposals submitted. Both multi-country and bilateral funds, the latter preferably as part of country projects, will be sought.
- (50) Where feasible, services will be rendered against payment. Options for sponsorship of IRC activities by industry will be investigated.
- (51) Efforts to increase the staff potential will be directed to:
- arrangements regarding the further development of the team of programme officers and programme assistants on a permanent or semi-permanent basis;
 - further improvement of personnel policies;

- training and staff development;
- exploration of staff exchange and attachment of staff from other agencies at IRC;
- international staff recruitment, where possible.

On the basis of additional external core funding and extra budgetary resources for at least three continuous projects, IRC will continue to strive for the employment of 27 staff members.

- (52) Financial management and management tools will be developed to achieve greater internal efficiency. This includes automation, which will receive increasing emphasis not only for financial administration but also for addresses and information holdings.
- (53) Emphasis will be placed on quality control of outputs, internal co-ordination and co-operation, and maintaining an integrated approach to project execution, leading to greater impact and improved performance by IRC.
- (54) A well-considered approach to information, wide availability of knowledge, and an extensive network of contacts with others working in the same field, are IRC's strengths to be built on in the future.

**WHO IS DOING WHAT IN THE IDWSSD
ON INFORMATION GENERATION AND TRANSFER**

The Hague, 15 August 1986.

WHO IS DOING WHAT IN THE IDWSSD ON
INFORMATION GENERATION AND TRANSFER

1. There is a great variety of information sources for drinking water supply and sanitation improvement in developing countries. IRC's forthcoming publication "Directory of Information Sources" lists over 250 international, regional and national agencies which have reacted to a questionnaire updating the relevance of the current data on these information centres. In IRC's library holdings alone, more than 400 agencies are listed as corporate authors of books and documents.

These agencies range from specialized information centres on the subject and departments of UN agencies or bilateral donors, to research and training institutions, sections of appropriate technology or health agencies. They also vary in quantity of holdings on water supply and sanitation and in number of specialized documentation staff they employ. Some of them are not open to the public or have other restrictions. Appendix 1 has a list of information products and services which are provided by a selection of some 40 key agencies in information transfer. (1^a for informational centres, and 1^b for the regional centres).

2. There is also a great variety in number of subjects covered by the agencies involved, quantity and quality of products and services, dissemination mechanisms and number of clients served. Among the least covered services are:
 - state of the art and synthesis reports
 - development of tools
 - on line literature searching
 - directory of sources
 - clearing house
 - networking and development and demonstration.
 The best covered activity is periodicals and publication dissemination.
3. The question still is: "are the intended target groups of all these information and documentation activities and products reached, and what is the impact of products and services?" Another question is what the continuity is in the services provided and especially what services will continue after the Water Decade ends.
4. Not only information suppliers and their services vary, but target groups and their information needs differ as well. Key target audiences include: developing countries' policy makers and specialist categories, and institutional target groups. There is also variation in (unmet) information needs at central, regional, district and lower levels in developing countries. Similarly key audiences can be identified in the developed world, international or bilateral, institutional and individual (see Appendix 2).

5. Ideally the users' list should be matched with the suppliers and their services to determine which information needs are met and which are not. The difficulty is that the ultimate answer to this question and the additional one of how effective felt needs have been met has to come from individual requestors. One can say that payment by a requestor to obtain a certain publication is the result of a reasoned decision, but even then feedback on effective use of information remains limited. It is even more difficult to try and expand information supply to those audiences who so far have not been reached and/or who may not be aware of what their needs are.
6. IRC's experience can illustrate a number of interesting examples as to how various target groups can have different information needs. The first one stems from the conclusions on information transfer as arrived at in the study group meeting on Technology for Water Supply and Sanitation in Developing Countries held in April 1986 at WHO - Geneva. The group advocated identification of the market, based on assessment of needs in information transfer activities, with identification of information best suited to the different target groups at the national level.

The second example concerns the effort on behalf of the Steering Committee to provide various target groups with guidance and reference in the form of a standard library with selected materials.

The third example comes from recently expressed needs by a planner in Indonesia: "Much of the cost can be reduced and efficiency can be achieved through a properly organized bibliographical and study reports system in Indonesia. We learned by experience that:

- a. consultants recommend solutions which have been tried and failed elsewhere;
- b. consultants/experts develop pilot projects and test without basic knowledge elsewhere;
- c. in many cases study reports have been produced of which not a single copy can be found after some time".

A final example came from the Water Engineering Department in Malawi which requested IRC assistance when it was confronted with an overly high iron content in drinking water in certain areas of the country.

An interesting example of effective request handling including referral, networking and feedback from a requestor in Sudan is given in Appendix 3.

7. Now an overview will be given of recent developments on a number of key issues which will also hold some lessons for future plans of action. They include:
 - a. selected periodicals
 - b. technical digests/briefs
 - c. translations
 - d. data bases.

A. Periodicals

Since the last overview about periodicals in 1983 (see Appendix 4) a great number of developments have occurred which give cause for concern:

- Earthscan's "Waterlog" finished in 1984;
- the "Asian Water and Sewage" journal started publication in 1984; it soon merged with the African edition. The publisher recently ceased publication of the journal altogether;
- "Waterlines" funding has been extended for 1986 and part of 1987; it has now reached 2,000 of the target circulation of 4,000 and it is yet uncertain whether it will see the end of the Decade;
- "World Water" increased its circulation to over 18,000, added a Spanish edition, and started charging US\$ 35 (reduced rate) for developing country subscribers. World Water recently saw its circulation drop to 13,500;
- in 1984 IRC undertook a quantitative analysis on subject coverage of nine relevant periodicals, which identified a number of gaps;
- links were established between the World Bank Training Network for Water and Waste Management and "Waterlines" and the IRC Newsletter. These periodicals regularly disseminate "News from the Network".

Rather than establishing new journals efforts should aim at strengthening existing periodicals.

B. Technical Digests

Specialists in certain areas feel a need to have quick and detailed information available on specific subjects; more information than general periodicals can give and quicker than publications with long editing and production schedules. At the end of 1985 B&R Consultants from the Netherlands launched the Handpump Development News with a target group of 200 to 300 engineers, sociologists and economists interested in developments in handpump programmes. It aimed to trigger discussions on hot issues with contributions from the field. Two issues were attempted, but they did not trigger the expected outcome from the field.

These quick and specialist-oriented current development exchanges seem to have better potential than the Technical Notes, Digests or Briefs which are being published to date. The biggest problem with these digests is effective distribution to various target groups. This is one of the reasons why certain agencies combine technical digests with newsletters. But then it remains to be seen what percentage of the target group is actually reached.

C. Translations

The language problem inhibits the dissemination of improved water supply and sanitation technology in developing countries, where thousands of languages are spoken. Educational materials published only in English bypass millions of engineers, extension workers, scientists, educators, and fieldworkers in Africa, Asia, Latin America and the Middle East.

Most international agencies hire professional translators at great expense and publish only in English, French and Spanish. Few organizations have the funds, expertise and equipment to publish in languages such as Arabic, Bengali, Chinese, Indonesian and Swahili. An answer to this problem is co-publication, or co-operative endeavors whereby the original publisher grants a second agency permission to translate, publish and disseminate a book or document in another language. The water sector could learn a great deal from the experiences in agricultural extension work like the International Rice Research Institute. By 1984 over 600,000 copies of non-English IRRI books had been printed in 32 languages.

IRC has taken up co-publication with CEPIS, the Pan-American Centre for Sanitary Engineering and Environmental Science in Peru. So far four titles of the TP series have appeared in Spanish and five more are in the production pipeline. For two of the IRC manuals co-publication in Thai, Arabic, Singhalese and Spanish versions has been done by national agencies in Thailand, Egypt, Sri Lanka and Colombia. These manuals present basic information with simple texts, are highly illustrated and designed for easy co-publication.

Co-publication also offers an effective screening mechanism. National agencies will not take the time and expense of translating and co-publishing materials unless they really want that information in their local language. They can usually handle distribution of local language publications better than international organizations.

D. Data Bases

There are a number of computerized data bases available with reference to water supply and sanitation in developing countries (see Appendix 5). With IRC most likely changing to the "MINISIS" software from IDRC, exchange between the holdings of CEPIS, ENSIC, CIEH and IRC will become possible.

INFORMATION GENERATION AND EXCHANGE

A. Dissemination of primary products
(documents and periodicals)

- on site consultation documentation
- provision of photocopies
- provision of microfiches
- clearing house
- newsletter/journal
- publications

Dissemination of secondary information

- referral services
- current awareness services
- list of acquisitions
- abstract bulletins
- indexes
- on line searching

Selected dissemination of information

- reference services
- question-answer services
- synthesis reports
- state-of-the-art reports } (tert.doc)
- directory of sources
- networking
- development of tools

B. Conferences/workshops

C. Advice/evaluation

D. Development/demonstration
facilitate absorption (impl.)

	WHO/HQ	UNDP *	UNICEF/HQ	FAO/AGRIS	UNEP/Infoterra	World Bank	IRC/WD	CEFIGRE *	US-AID	WRC/Aqualine	IDRC	ITDG/IT Publ.	VITA	ICE/World Water	SATIS	AHRTAG	GRET	AFEE	Exfam.	WEDC *	ENSIC/AIT	UN/DTCO *	IWSA	UNESCO/HQ	IRC/CNSS	WASH
on site consultation documentation							•		•	•					•		•				•			•	•	•
provision of photocopies	•	•	•	•	•		•		•	•					•	•	•	•			•			•	•	•
provision of microfiches				•					•		•		•								•				•	•
clearing house																										
newsletter/journal	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
publications	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
referral services		•	•	•	•		•			•	•		•		•	•	•	•	•	•	•			•	•	•
current awareness services		•	•	•	•					•			•				•	•	•	•	•			•	•	•
list of acquisitions											•										•			•	•	•
abstract bulletins				•					•	•	•		•					•		•	•			•	•	•
indexes										•	•							•		•	•			•	•	•
on line searching				•						•	•		•					•		•	•			•	•	•
reference services				•						•		•	•					•		•	•			•	•	•
question-answer services	•	•	•	•	•		•	•	•	•	•	•	•		•		•		•	•	•	•		•	•	•
synthesis reports																										
state-of-the-art reports } (tert.doc)	•	•				•	•			•	•	•	•						•		•			•	•	•
directory of sources					•																					
networking				•		•					•		•		•		•	•			•			•	•	•
development of tools				•						•	•		•		•		•	•			•			•	•	•
Conferences/workshops	•		•	•		•	•	•			•	•	•	•						•	•		•	•	•	•
Advice/evaluation	•		•			•					•	•	•								•				•	•
Development/demonstration	•					•					•	•	•						•						•	•
facilitate absorption (impl.)		•	•								•		•								•				•	•

* entry restricted

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- facilitate absorption (impl.)

* entry restricted

19/08/86

	CIEH	INADES	PAID	AMREF	CAR.METEO. ORGANIZ.	CAR. DEV. BANK Techn.&Energ. Unit	CIDIAT	CEMAT	CEPTS	NEERI	WHO/SEARO	WHO/WPRO	WHO/PEPAS *
on site consultation documentation	•	•			•	•	•	•	•		•	•	•
provision of photocopies	•	•	•	•	•	•	•	•	•		•	•	•
provision of microfiches	•		•						•			•	
clearing house													
newsletter/journal	•	•	•	•		•			•				
publications	•	•		•	•	•			•	•			•
referral services	•	•	•		•	•		•	•		•	•	•
current awareness services	•	•				•		•		•	•	•	•
list of acquisitions		•				•			•		•	•	•
abstract bulletins	•	•			•	•			•		•	•	•
indexes												•	•
on line searching											•	•	
reference services										•			
question-answer services	•		•	•	•		•	•			•	•	•
synthesis reports (tert.doc)													
state-of-the-art reports (tert.doc)													
directory of sources													
networking	•				•			•	•		•		•
development of tools	•								•				
Conferences/workshops	•						•		•	•	•	•	•
Advice/evaluation			•						•	•	•	•	•
Development/demonstration								•		•			
facilitate absorption (impl.)													

French
only

Eng
trai

Health
trai

Hydr.
trai

Techn.
co-op

KEY AUDIENCES IN COMMUNITY WATER SUPPLY
AND SANITATION INFORMATION TRANSFER

In developing countries:

- policy/decision makers
- programme planners
- engineers
- sanitarians
- village health workers
- researchers
- information specialists
- trainers
- community development specialists

individuals

- Ministries of Works/Water libraries
- National Planning Offices
- schools of higher learning
- specialized UN-agencies
- NGO's
- consultant firms

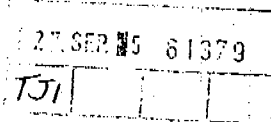
institutions

International:

- regional development banks
- international UN-agencies
- donor agencies
- bilateral donor/development agencies
- research institutions
- technical university libraries
- consultant firms

institutions

Rudi Gumberger
c/o SCC
P.O. Box 209
Juba, SUDAN



13.9.85

IRC
P.O. Box 93190
2509 AD The Hague
THE NETHERLANDS

*Cor
pls send
article from
in IRCTD newsletter
3-2-85*

Dear Sir,

we wonder, whether your organisation could help us with information concerning the following problem:
We are working in a small scale water and sanitation project in Juba, Sudan, dealing with shallow wells/boreholes and construction of latrines. The groundwater table in the area concerned is between 1.5 and 7 metres, what means that pitlatrines often reach the watertable or go into it and therefore are - especially in rainy season, flooded. Against the mosquitoes and flies people use old engineoil or DDT, pouring it into the latrines and therefore into the groundwater. Water for consumption is taken from nearby waterholes/shallow wells/boreholes.

In connection with this situation we have the following questions:

- 1) How can the permeability of the soil be found out?
- 2) How far and how deep do germs/engineoil/DDT reach in which soil? Are data available for certain soils ~~reacting~~ reacting to certain pollutions?
- 3) What is considered to be a 'safe' distance between
 - a flooded latrine and a shallow well
 - a flooded latrine and a borehole
 - a dry latrine and a shallow well
 - a dry latrine and a borehole?
- 4) Does an increasing number of latrines increase the danger of pollution or is the soil permeability ~~not~~ and natural 'cleaning' capacity not influenced by the number of sources of pollution?

Answers to these questions could help us a great deal in our work. Thanks.

Yours Sincerely



Rudi Gumberger
Community Development Coordinator
Munuki Water and Sanitation Project
Sudan Council of Churches



244

international reference centre
for community water supply
and sanitation

who collaborating centre

centre international de référence
pour l'approvisionnement
en eau collective et l'assainissement

centre collaborant de l'oms



international reference centre
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and sanitation

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centre international de référence
pour l'approvisionnement
en eau collective et l'assainissement

centre collaborant de l'oms

to/a

Rudi Gumberger, Community
Development Coordinator
Muniki Water and Sanitation
Project
c/o Sudan Council of Churches
P.O. Box 209
Juba, Sudan

date 19851010
ref./réf. 36.069 IS/Die
your ref./votre réf.

Dear Sir,

Thank you for your letter of 13 September 1985, concerning groundwater pollution by latrines. Enclosed you will find background information on the questions you asked:

1. To calculate the soil permeability, see ref. (a)
2. Although, through soil, the great majority of bacteria and viruses are retained in the 1st meter, a small fraction is able to travel more than 10m with a maximum of 30m (through soil and rock) - ref. (b). Concerning engine oil and DDT, I have added a list of references which might help you further - ref. (c).
- 3 a-b. In the literature there is no safe distance given between a flooded latrine and a well, since the bottom of the pit should be at least (for suitable soil types) 1m above the groundwater table - ref. (d). It has furthermore been observed that bacteria and viruses have travelled several hundred meters with the groundwater - see ref. (e). If possible another site or an alternative system should be chosen - ref. (f) - such as a raised improved pit latrine - ref. (e) - or a compost latrine - see ref. (g)-(i). You should also consider disinfecting the wells as described in (j) and (l).
- 3 c-d. A safe distance between a dry latrine and a well is usually considered to be 20m - see ref. (d) - although in some cases 7.5m is sufficient - see ref. (l)
4. I couldn't find any mention of a relationship between the number of latrines and the degree of pollution. In (e) it does state however that the hydraulic loading should not exceed 50mm/day.

I hope you find the above useful and will let us know how you have tackled the problems in your project. For your information, I have also included the full list of "Water for the world technical notes" - (m). I have also passed your letter with our reply to the International Reference Centre for Wastes Disposal, Duebendorf, who may be able to help you further.

Yours sincerely,


Cor Dietvorst
Documentalist

cc: Ir. T.K. Tjiook
IRCWD

- encl.:
- a. Determining soil suitability (Water for the world technical note no. SAN 2.P.3)
 - b. Peachem et al. Sanitation and disease : health aspects of excreta and wastewater management. P. 60, 111-112
 - c. List of references from Aqualine on groundwater pollution by oil and DDT
 - d. Designing pit privies (Water for the world technical note no. SAN 1.D.2)
 - e. Lewis et al. The risk of groundwater pollution by on-site sanitation in developing countries. P. 13-14, 53-68
 - f. Simple methods of excreta disposal (Water for the world technical note no. SAN 1.M.1)
 - g-i. Designing, Constructing, Operating and maintaining compost latrines (Water for the world technical notes SAN 1.D.6, SAN 1.C.6, SAN 1.O.6)
 - j. Designing a small community disinfection unit (Water for the world technical note no. RWS 3.D.4)
 - k. Disinfecting wells (Water for the world technical note no. RWS 2.C.9)
 - l. Wagner and Lannoix. Excreta disposal for rural areas and small communities. P. 32-33
 - m. List of "Water for the world technical notes on sanitation"

Mail: P.O. Box 93190, 2509 AD The Hague
Offices: Prinses Margrietplantsoen 20,
The Hague, The Netherlands
phone: 070-814911
telex: 33296 irc nl
cables: worldwater the hague

Courrier: B. Postale 93190, 2509 AD La Haye
Bureaux: Prinses Margrietplantsoen 20,
La Haye, Pays-Bas
téléph. (070)-814911
téléx 33296 irc nl
télégr. worldwater the hague

TYPE 6/4/1

82A02877 AQUALINE

Groundwater pollution from gasoline.

KRAMER W. H.

Ground Water Monitoring Review, 1982, Spring, 18-22. Country of Origin: U.S.A. WRC Information Vol. 09

The author discusses measures taken to monitor and control pollution of groundwater caused by a spill of petroleum fuel at a service station at Cresskill, N.J., in 1979, including the construction of monitoring wells to trace the movement of the contaminated plume. Since the volume spilled was considerable, a recovery well was constructed, and about 75 per cent of the spilled material was pumped out and recovered.

Classification Codes: 8, Effects of pollution
Geo-Terms: CRESSKILL, N.J.

TYPE 6/4/2

80A01990 AQUALINE

Protection of ground water from oil pollution.

DE PASTROVICH T. L.; CHIARELLI A.; FUSSELL D. R.; BARTHEL R.; BARADAT Y.

CONCAME, The Hague, Report No.3/79, 1979. 61 pp. (32689). Country of Origin: Europe WRC Information Vol. 07

The nature and mechanism of ground water pollution with petroleum hydrocarbons following spillage or release of petroleum into the environment are discussed. The actions necessary to predict the consequences and extent of migration of an oil spill in permeable water-bearing strata are defined. The various types of aquifer are considered and the influence of ground water flow and fluctuating water tables on the dispersion of the petroleum constituents are discussed. Finally preventive and remedial measures designed to limit the spread of contamination and, where possible, to recover the oil or oil-contaminated water are outlined.

Classification Codes: 1, Water resources

TYPE 6/4/3

80A00777 AQUALINE

Ground-water pollution by transfer of oil hydrocarbons.

ZILLIOX L.; MONTZER P.; FRIED J. J.

Ground Water, 1979, 17, No.6, 586-594. Country of Origin: France WRC Information Vol. 07

A systematic study of the transfer of soluble substances from oil to the ground water has been performed with an experimental device made up of a porous matrix containing the oil phase, through which is passed a unidirectional flow of water. The theoretical concepts for the resulting transfers are discussed and modelled for determining the extent of aquifer contamination in actual ground water conditions.

TYPE 6/4/4

78A02745 AQUALINE

Large-scale experiments on ground-water pollution by oil spills: interim results.

DIETZ D. N.

H.20, 1978, 11, No.4, 77-80 (in English). WRC Information Vol. 05

When oil is spilled on land it sinks and an oil-polluted layer spreads as a pancake over the ground water. It was believed that pollution was mainly due to hydrocarbons dissolving in the percolating rain water. Experiments have now shown that partial oxidation of hydrocarbons occurs within the pancake and that the oxygen containing compounds resulting may be the main cause of the offensive taste imparted to the ground water. Most of these compounds have been consumed by aerobic reactions within 2 years but the last stage of degradation gives particularly offensive compounds and the taste of the ground water has not yet improved. The experiments are still in progress.

TYPE 8/4/1

83A00847 AQUALINE

Approximating pollutant transport to ground water.

ENFIELD C. G.; WALTERS D. M.; PHAN T.; CARSEL R. F.; COHEN S. Z.

Ground Water, 1982, 20, No.6, 711-721. Country of Origin: U.S.A. WRC Information Vol. 10

The study reported here concerns the feasibility of using simple modelling approaches to estimate the impact on ground water of organic chemicals applied to the land. Current field data on aldicarb and historical field data on DDT are used to evaluate three methods for projecting transport and transformation of nonionic organic chemicals through the soil; modelling results gave a lower mobility for DDT than was observed in the field.

TYPE 8/4/2

76A01372 AQUALINE

Analysis of various Iowa Iowa waters for selected pesticides: atrazine 1974.

AVERY M. J.; FRITZ J. S.; MEHRING M. L.; RICHARD J. J.; JUNK G. A.; SVEC H. J.

Pesticides Monitoring Journal, 1975, 9, No. 3, 117-123. WRC Information Vol. 03

Tabulated results are given of studies on the occurrence of atrazine, DDE, and dieldrin in surface and ground waters and water supplies in Iowa. Every major watershed in the state showed some degree of contamination, and seasonal variations were consistent with agricultural run-off models. Atrazine showed the highest concentrations, reflecting its widespread use in the corn belt; DDE also appeared in substantial quantities, confirming the persistence of DDT and its metabolites. Water from several shallow wells and

finished water from many water-treatment plants were also contaminated, indicating that current treatment processes are not effective for removing these pesticides.

Geo-Terms: IOWA

TYPE 8/4/3

70A00221 AQUALINE

A case of far-reaching ground-water pollution caused by pesticides and detergents.

STROHL G. W.

Gesundheitsingenieur, 1966 87, 108-1 14. Water Pollution Abstracts Vol. 43

A detailed report is given of extensive ground-water pollution which occurred in Transvaal, South Africa, between Pretoria and Johannesburg from chemical works manufacturing DDT, BHC (benzene hexachloride), and raw products for detergents, without adequate waste-treatment facilities. The author discusses the various aspects of this pollution, the specific incidents of pollution and their effect on vegetation and woodland (shown in photographs), and the type of contaminants which were discovered over the period of 20 years (1945-1965) since the chemical works were first opened. Systematic investigations carried out by the Bureau of Standards included geological tests to assess the ability of rock materials to absorb contaminants; hydrological tests to determine the polluting effect of underground movement of these waste waters on the water-bearing stratum and on water wells with special reference to the deterioration of the ground water quality; biological tests revealing the migration of micro-organisms (Esch. coli), determining the degree of contamination in connexion with health HAZARDS; and regular bacteriological tests to assess the movement of bacteria and viruses in areas contaminated by synthetic detergents. The tests showed that organic chemicals, although easily decomposable, travelled long distances once they had reached ground-water level, while inorganic compounds are indestructible and therefore caused persistent pollution. Special reference is made to the pollution of ground water by pesticide residues and their resistance to biochemical decomposition, and the toxicity of chlorinated hydrocarbon pesticides as an increasing danger to public health is emphasized. The extent of pollution which has been estimated is shown in charts, including the point at which the largest amount of damage is caused. Immediate steps have been taken to prevent further pollution of ground water in this area by prohibiting the discharge of industrial waste waters into the ground and by compulsory closure of abandoned wells. Incineration plants have been installed as a temporary MEASURE for the disposal of concentrated effluents until the main treatment works are completed, and evaporation ponds are used for less polluted effluents.

TYPE 8/4/4

69A02317 AQUALINE

Fate of DDT and nitrate in ground water.

HAUSER V. L.; DUNLAP W. J.; SCALE M. R.; KEELEY J. W.; McMILLION L.

G.

Fed. Wat. Pollut. Control Admin., U. S. Dep. Int., Robert S. Kerr Wat. Res. Centre, Okla., 1968; Publ. Wks. N. Y., 1969, 100, No. 5, 152-154 and 156. Water Pollution Abstracts Vol. 42

Nitrate, DDT, and tritium were added to water used to recharge an aquifer in Texas by means of an injection well. Although subsequent pumping of the injection well resulted in the recovery of 94 per cent of tritiated water and a similar percentage of nitrate, only a small percentage of DDT was recovered, the major amount remaining adsorbed in the aquifer.

Geo-Terms: TEXAS

TYPE 8/4/5

67A01301 AQUALINE

Characterization, treatment and disposal of urban storm water.

ANDERSON R. J.; WEIBEL S. R.; CHRISTIANSON A. G.; WEIDNER R. B.

Proc. 3rd Int. Conf. Wat. Pollut. des., Munich, 1966, 1967, 1, 329-352 Water Pollution Abstracts Vol. 40

The authors give further results of studies at Cincinnati, Ohio, on the polluting effect of run-off from urban areas (see Wat. Pollut. Abstr., 1965, 38, Abstr. No. 643), including investigations of the chemical composition of the rain falling on the study area. The rain water was found to contain, on average, 0.69 mg of inorganic nitrogen and 0.24 mg of hydrolysable phosphate, per litre; these concentrations exceed the threshold values found by other workers for the development of algal blooms. The rain water also contained about 0.28 ug of organic chlorine compounds per litre; DDT, DDE, and benzene hexachloride were identified. Analyses of the run-off, as reported previously, showed its pollution potential, and the concentrations of coliform organisms exceeded the criterion of 1000 per 100 ml recommended for bathing waters. Preliminary laboratory experiments on treatment of the run-off showed that sedimentation alone was not effective in reducing the BOD and suspended-solids content. Sedimentation for 20 min combined with chlorination at a dose of 4.62 mg of chlorine per litre killed more than 99 per cent of the bacteria; when the supernatant liquor was dechlorinated, however, and kept at room temperature for 24-72 hours, there was aftergrowth of coliform organisms, though not of faecal coliform bacteria or faecal streptococci. This work is still being continued. On Long Island, N.Y., storm run-off is being disposed of successfully by infiltration through the sandy sub-soil to recharge the groundwater resources in the area.

Geo-Terms: CINCINNATI, OHIO

TYPE 8/4/6

67A00529 AQUALINE

Organic insecticides in various soils, with particular reference to possible ground-water pollution.

BERAN F.; GUTH J. A.

Pflanzenschutzberichte, 1965, 33, 65-117; Chem. Abstr., 1966, 65, 17635. Water Pollution Abstracts Vol. 40

Appendix 3

Rudi Gumberger
c/o SCC
P.O.Box 209
Juba, SUDAN

05.FEB.86 62120			
DE			

Mr. Cor Dietvorst
IRC
P.O.Box 93190
2509 AD The Hague
NETHERLANDS

22.1.86

Your Nr. 36.069 IS/Die
Your Date: 19851010

Dear Mr. Dietvorst,

thank you very much for the detailed answer to my letter.
It is of great help to us.

We are planning to compile all available information about
the problem after our annual leave in April. We shall send
you a copy of it as soon as it is ready..

Many thanks.

Yours Sincerely



Rudi Gumberger
Community Development Coordinator
Munuki Water and Sanitation Project
Sudan Council of Churches

MOST RELEVANT PERIODICALS ON WATER SUPPLY AND SANITATION (received by IRC)*

Title, publisher, address	scope	annual subscr.	issues per yr.	circulation
<p>+ASIAN- 1. <u>AFRICAN WATER AND SEWAGE</u> Marketing Department, African Water & Sewage, Queensway House, 2 Queensway, Surrey RH1 1QS United Kingdom</p>	<p>The water industry in Africa. Meant for the engineer in Africa; and for contractors and manufacturers in the developed world.</p>	<p>Free for those involved in the water industry, based in Africa. Others: £ 19.00</p>	<p>4</p>	<p>Was: ± 5,000 (Controlled.) Stopped since March 1985!</p>
<p>2. <u>AGUA</u> the journal of the Mexican and Latin American water industries. Agua Corporation Grand Cayman, Cayman Islands Publication Office: 2650 Fountain View, Suite 120 Houston, Texas 77057, U.S.A. (Spanish)</p>	<p>The water industry in Mexico and Latin America. Editorial topics include: water well drilling, water supply, sanitation, desalination, pipe laying, pumps, valves, meters, water storage, sewage treatment and filtration.</p>	<p>\$ 45.00 outside Latin America</p>		<p>5,917</p>
<p>3. <u>DECADE WATCH</u> Published by the UNDP, Division of Information, in co-operation with the Decade Steering Committee for Co-operative Action - UN, UNICEF, World Bank, WHO, ILO, FAO, UNESCO, UNEP, HABITAT. UNDP, Division of Information, 1 UN Plaza, New York, N.Y. 10017 U.S.A.</p>	<p>Offers short essays on Decade themes, e.g. sector planning and strategy, financing, appropriate technology, new research. Aims at Government and UN-agencies.</p>	<p>Free</p>	<p>4</p>	<p>11,000 20,400 English 6,600 French 2,000 Spanish 1,1000 Arabic 10,700</p>

* based on an informal survey among agencies concerned.

<p>4. <u>FROM THE UNICEF WATERFRONT</u> a note from the UNICEF and Environmental Sanitation Team (WET). Ms. Doreen Canas, UNICEF Water and Environmental Sanitation Team (WET), Programme Development and Planning Division 866, UN Plaza, Room A415 New York, N.Y. 10017, USA</p>	<p>Newsletter, in the first place meant for UNICEF field workers. Contains "local" news on water supply, sanitation, community motivation and training. Also book reviews.</p>	<p>Free</p>	<p>± 3</p>	<p>12,000</p>
<p>5. <u>IRC NEWSLETTER</u> International Reference Centre for Community Water Supply and Sanitation, P.O. Box 3000, 93190 2500 AD The Hague The Netherlands. (English; French edition: Faits Nouveaux)</p>	<p>Short descriptions of news from IRC, the latest technical innovations, new books and upcoming conferences. Emphasis on the "news" of the Decade</p>	<p>Free</p>	<p>11</p>	<p>5,000 (total) English + French 4,000 in Spanish 4,300 English 700 French 1,000 Spanish (through "Noticias"/CEPIS)</p>
<p>6. <u>WORLD HEALTH</u> the magazine of the World Health Organization. World Health, WHO, Avenue Appia, 1211 Geneva 27, Switzerland. (English; also editions in Arabic, French, German, Italian, Persian, Portuguese, Russian and Spanish)</p>	<p>Non-technical, illustrated magazine, written for the lay reader with a general interest in public health.</p>	<p>1 yr. \$ 15.- 2 yrs. \$ 27.- 3 yrs. \$ 36.-</p>	<p>10</p>	<p>125,000 in 7 languages</p>

<p>7. <u>WATERLINES</u> the journal of appropriate water supply and sanitation technologies. Intermediate Technology Publications Ltd. 9 King Street, London WC2 8HN, United Kingdom.</p>	<p>Water supply and sanitation in developing countries. Information from the field on simple technologies.</p>	<p>Individuals: £ 7.00 (\$ 14.-) Organisations: £ 8.00 (\$ 16.-)</p>	<p>4</p>	<p>± 2,000</p>
<p>8. <u>WATERLOG</u> Earthscan, 10 Percy Street, London W1P 0DR, England</p>	<p>News and information service on global development and environment issues. Emphasis on water and sanitation, progress of the "Decade", to help journalists keep track.</p>	<p>Free to journalists, 4 otherwise £ 15.- for 8 issues.</p>	<p>4</p>	<p>± 350 Stopped in 1985</p>
<p>9. <u>WORLD WATER</u> World Water, Subscription Department, P.O. Box 101, 26/34 Old Street, London EC1B 1DP, England (English; starting from 1983: Spanish edition).</p>	<p>Supply, treatment, storage, desalination, control and pollution of water and its use as a power source, in irrigation or as a means of transportation. News on projects, technical developments and research; exhibition and conference reports.</p>	<p>Individuals: £ 18.00 (\$ 35.-) Organisations: £ 28.00 (\$ 55.-) (air mail) as of Jan. '83 free to developing countries. * New subscribers from D.C.'s pay reduced fee \$35.-</p>	<p>12</p>	<p>14,000 18,000 13,500</p>

Appendix 5

MOST RELEVANT INFORMATION SYSTEMS AND DATA BASES ON COMMUNITY WATER SUPPLY AND SANITATION

Host institution	Association française pour l'Etude des eaux (AFEE)	Asian Institute of Technology (AIT)	Centro Panamericano de Ingeniería Sanitaria y Ciencias del Ambiente	Comité Inter-africain d'Etudes Hydrauliques
Acronym	*AFEE	ENSIC/AIT	CEPIS/REPIDISCA	CIEH
System	-	Environmental Sanitation Information Centre (ENSIC)	Red Panamericana de Información y Documentación en Ingeniería Sanitaria y Ciencias del Ambiente REPIDISCA	-
Field(s) of activity	Water pollution etc.	Low cost sanitation	Environmental health	Hydrology
Year established	1970	1979	1979 (operational 1981)	1971
Size of database	63,000	4,300	12,000	12,000
Growth rate of database/year	5,000	600 (approx)	4,000	1,000 (approx.)
Data processing - manual/computerized - hardware - software	computerized available on-line through ESA/IRS	computerized IBM 6032 ISIS	computerized HP 3000 series MINISIS	manual - (MICROISIS envisaged for 1987)
Major publication	Information eaux	Environmental Sanitation Abstracts	Repindex	CIEH Bulletin
Total staff	8	4	5	2

Appendix 5

MOST RELEVANT INFORMATION SYSTEMS AND DATA BASES ON COMMUNITY WATER SUPPLY AND SANITATION

Host institution	International Development Research Centre (IDRC)	IRC International Reference Centre for Community Water Supply and Sanitation	International Reference Centre for Wastes Disposal	London School of Hygiene & Tropical Medicine
Acronym	DEVSIIS Experimental	IRC	IRC/WD	-
System	Development Sciences Information System (Canada)	Documentation Unit	-	-
Field(s) of activity	Economic and social development	Water and sanitation for developing countries	Sanitation for developing countries	health, esp. for tropical countries
Year established	1975	1971	1969	1908
Size of database	6,100	3,000 computerized 4,000 manual	6,000 (1983)	450,000 (1983)
Growth rate of database/year	1,000	500	500	7,000
Data processing - manual/computerized	computerized	-manual (KEYDEX/peek-a-boo systems) -computerized -Philips-3500	manual	computerized since end 1982
- hardware	HP 3000		-	digital PDP 1123
- software	MINISIS	-Mikropolydoc	-	(data entry only)
Major publication	Devindex	IRC Newsletter 3 publication series	IRCWD News	Tropical Diseases Bulletin, Abstracts on Hygiene
Total staff	3	3	1	3

Appendix 5

MOST RELEVANT INFORMATION SYSTEMS AND DATA BASES ON COMMUNITY WATER SUPPLY AND SANITATION

Host institution	Sahel Institute	Volunteers in Technical Assistance	Water and Sanitation for Health Project	Water Research Centre (WRC)
Acronym	RESADOC	VITA	WASH	WRC
System	Réseaux Sahélien d' Information et de Documentation Scientifique et Techniques	-	-	Aqualine*
Field(s) of activity	Science and technology (in the Sahel)	Appropriate technology	Water and sanitation for developing countries	water and wastewater technology
Year established	1979	operational 1983	1979	1974
Size of database	1100 (1985)	28,000	3,800	100,000 total (1,200 on app. technology)
Growth rate of database/year	?	?	600 (approx).	8,000
Data processing - manual/computerized	computerized	computerized	computerized	computerized
- hardware	HP 3000	Apple II Plus (micro)	DIGITAL RX02 (hooked to USAID Main-frame)	available on-line through Pergamon Infoline
- software	MINISIS	?	?	ASSASSIN
Major publication	RESADOC PST Information RESINDEX	VITA News	Library Holdings List	Aqualine abstract
Total staff	2	8	1	?