

622.2

IRC 79

WFO
International Reference Centre
for
Community Water Supply

Rijswijk (The Hague), The Netherlands

Annual Report 1979

J. C. van Markenlaan 5, Rijswijk (The Hague)

Postal address:

P.O. Box 5500, 2280 HM Rijswijk,

The Netherlands

622.2 - IRC 79 - 1-11

The International Reference Centre for Community Water Supply (IRC) is based on an agreement between the World Health Organization and the Netherlands' Government. The general objective of the IRC is to underpin information and technology support programmes in developing countries in the field of community water supply and sanitation and to promote international cooperation therein. Acting as a catalyst, the IRC operates through a worldwide network of regional and national institutions, as well as with international agencies, bilateral donors, non-governmental organizations and individuals.

Requests for information on the IRC, or enquiries on specific problems may be directed to the International Reference Centre for Community Water Supply, Information Section, P.O. Box 5500, 2280 HM Rijswijk, the Netherlands.

I. 1. 11

622.2
NL-IR 79

WHO INTERNATIONAL REFERENCE CENTRE
FOR
COMMUNITY WATER SUPPLY

LIBRARY
International Reference Centre
for Community Water Supply

ANNUAL REPORT 1979

J. C. van Markenlaan 5, Rijswijk (The Hague)

Postal address:
P.O. Box 5500, 2280 HM Rijswijk
The Netherlands

TABLE OF CONTENTS

	INTRODUCTION	5
1	THE INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE AND IRC	7
	Decade preparation and approach	11
2	IRC'S PROGRAMME APPROACH	15
3	PROGRAMME AREA (A): TECHNOLOGY DEVELOPMENT AND TRANSFER	17
	Hand Pumps	17
	Public Standpost water supply systems	20
	Slow Sand Filtration*	21
	Modular approach in the design of small water supply systems	24
	Modular treatment units for Indonesia	26
	Practical solutions	27
4	PROGRAMME AREA (B): MANPOWER DEVELOPMENT AND TRAINING	29
	Multi-country manpower development project	29
	Manpower development in Indonesia	31
	Further manpower development activities	31
5	PROGRAMME AREA (C): COMMUNITY EDUCATION AND PARTICIPATION	33
	Analysis of community education and participation literature	33
	Action plan for community education and participation	34
6	PROGRAMME AREA (D): EVALUATION	37
	Evaluation for village water supply planning	37
7	PROGRAMME AREA (E): INFORMATION SUPPORT	39
	POETRI: Programme on Exchange and Transfer of Information	39
8	INFORMATION SERVICES	43
	Newsletter	43
	Integrated information package	43
	Library and Documentation	44
	ANNEXES	
I	Financially-supporting organizations (since 1968)	49
II	Visitors to IRC in 1979	51
III	IRC Staff	55
IV	List of IRC Publications*	57
V	Abbreviations	63
VI	Current and planned involvement of IRC in country-based projects on information and technology support	65



Earthscan-photograph by Félix Tisnés

INTRODUCTION

IRC was established in 1968 by an agreement between the World Health Organization and the Netherlands Government. It provides information and technological support in community water supply and sanitation to developing countries. IRC also promotes international cooperation in this field. Acting as a catalyst, IRC operates through national and regional institutions, in developing and industrialized countries. It works closely with WHO and other UN agencies, as well as with other international organizations, bilateral donors and non-governmental institutions. The centre was based at the Netherlands National Institute for Water Supply.

IRC is an information-oriented organization. Its programmes concern the development and application of relevant knowledge and expertise on technology and methodologies. They include cooperation in information programme development at the national level, as well as the delivery of input to national support programmes, in the fields of appropriate technology, manpower development and training, community education and participation, and project evaluation. Support is provided through both guidance and training material, seminars and courses, research and demonstration projects, as well as general support to the development of national facilities.

This Annual Report, the eleventh of a series, will be the last one of the WHO International Reference Centre for Community Water Supply.

IRC will become an independent foundation in 1980, to be known as the:

INTERNATIONAL REFERENCE CENTRE
FOR COMMUNITY WATER SUPPLY AND SANITATION

This new status will give IRC greater flexibility from an institutional and financial point of view, particularly in its relationship to collaborating organizations and donors.

The Centre will still be known as IRC, and will strive for the same objectives.



UNICEF-photograph by Bill Campbell

1. THE INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE AND IRC

One wonders why - in the era of microchips and moon rockets - relatively simple facilities for drinking water supply and sanitation are not available to most people.

For political leaders, drinking water and sanitation development are often of little concern; economic development tends to be measured by gross national income rather than by the well-being of the population.

Several UN conferences have influenced thinking on this issue. One of the first was the Punta del Este Conference (1961) supported by the Pan American Health Organization. Then, Latin American countries agreed upon goals for community water supply, a considerable step forward. In 1972, the UN Conference on the Human Environment in Stockholm urgently called upon governments to devote serious attention to water supply problems. The Habitat Conference in 1976 was the first to propose international action, with the ultimate objective:

"CLEAN WATER AND ADEQUATE SANITATION
FOR ALL BY 1990 IF POSSIBLE".

Subsequently, the UN Water Conference (1977) recommended that 1981 - 1990 be designated the International Drinking Water Supply and Sanitation Decade and should be devoted to implementing the national

plans for drinking water and sanitation .

In other conferences these issues were also dealt with: the Employment Conference (Geneva, 1976), the Primary Health Care Conference (Alma Ata, 1978) and the Rural Development Conference (Rome, 1979). These stimulated much priority planning.

Many countries may not be able to reach all the goals of such planning, but each serious attempt will pave the way for a better future.

The question may be asked "Why this priority?". The answer is: the provision of safe water is an essential requirement for the improvement of the health and well-being of mankind.

Safe water is a primary human need and ought, in modern conditions, to be thought of as a basic right.

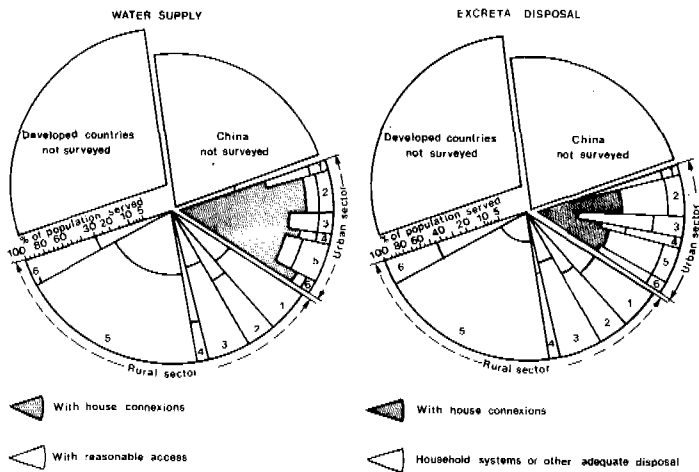
In the mid-seventies about only 30 per cent of the population of developing countries had reasonable access to safe water, that is, about 14 per cent of the rural population and about 70 per cent in urban areas. At present 1,500 million people have no proper water supply and must rely on contaminated water. Their sanitary situation is even worse. (See figure 1)

In many countries many people, especially women, have to walk long distances every day to get water for the family. Many people, due to lack of clean water, are unfit to work, and many suffer from chronic water-related diseases. Biological pollution of water (such as faecal contamination) is a

major cause of death among poor people. Diarrhoeal diseases, caused by the lack of clean water for drinking and washing, is the most common cause of death for children.

25,000 deaths a day are the probable consequence of intestinal diseases due to drinking polluted water. Perhaps 80 per cent of all diseases in the world are related to a shortage of reliable water for drinking, bathing and swimming. One out of four hospital beds in the world are occupied because people drank

Fig. 1 Percentage of urban and rural populations of the developing countries with reasonable drinking water supply and excreta disposal systems, 1975. *



*The radial scale adopted for percentages is such that the areas in the charts are proportional to population. The numbers refer to WHO Regions as follows: 1: Africa. 2: The Americas. 3: Eastern Mediterranean. 4: Europe (Algeria, Morocco, Turkey, and Malta only). 5: South-East Asia. 6: Western Pacific. (Figure taken from "Sixth Report on the World Health Situation", World Health Organization, Geneva, 1980)

unsafe water. Child mortality could be halved with good water supplies. Similar statistics on sanitation are difficult to find - itself a serious comment - but it is certain that they paint as black, or even blacker, a picture.

EEC* experts, at a meeting in Bamako (November 1979), which evaluated urban and village water supply projects (mainly in West Africa), stated: Experience has shown that " . . . action to improve health (combat endemic and epidemic disease, cut infant mortality, etc.) or to improve labour productivity cannot be really effective without adequate water supplies". The improvement of existing water supplies is frequently a prerequisite of economic development.**

A panel of experts identified the problem just prior to the UN Water Conference:

"The issue before us is not one of fundamental physical constraints, or technological gaps; it is clearly not one of lack of available material and financial resources, or the absence of potential human resources. It is mainly one of awareness, imagination and political will". ***

The world seems to be aware of 'the issue'. The question remains as to how policies and action can be promoted best.

*See Annex 5 for listing of abbreviations

**"Sectorial Evaluation ex-post of Urban and Village Water Supply Projects." Vol. 1 (Summary) & 2 (Conclusion) Commission of the European Communities, Directorate General Development, Brussels 1978.

***"Water for All", statement of the International Institute for Environment and Development, Earthscan, Symposium on Water, Washington, 1976.

DECADE PREPARATION AND APPROACH

Seven UN agencies have established a Steering Committee to stimulate and coordinate Decade action; this group is chaired by the United Nations Development Programme (UNDP). In addition, a consultative group of donor countries has been formed. A field structure for national implementation exists through UNDP resident representatives who are given support by WHO and other agencies. National Action Committees (already established in several countries) or similar bodies are promoting Decade objectives.

For the Decade to be a success, planners and policy makers must realize that more is needed than a mere increase of construction programmes to bring about a lasting improvement in the water and sanitation situation.

In the past, many construction programmes could neither maintain the planned pace nor absorb the available funds, due to a serious shortage of manpower or inadequate support. Often inappropriate technologies were selected and local people were neither consulted nor took part in planning and construction. Many installations fell into disrepair and disuse through faulty operation and maintenance. Programmes to solve these fundamental problems are still inadequate or non-existent in many countries.

Gradually, planners have come to realize that:

- there is a need to go beyond sector programmes by considering the development process as a whole;

- systems should satisfy real needs;
- the local people must be involved at each stage.

It is important to look to the longer term, perhaps even beyond the Decade, to develop programmes and programme approaches which lead to self-reliance.

As a consequence of failures in sector development, it is increasingly realized that in support of construction programmes, each country has to provide a framework within which water supply and sanitation facilities can be planned, operated, and maintained effectively.



UNICEF-photograph by Bill Campbell

The UN Water Conference urged the creation of programmes to train manpower, as well as to build organizational support. In addition, planners should concern themselves with programmes for: education and community involvement; technology; health and water quality supervision; ground water studies; operation and maintenance of installations; and development of information services.

IRC hopes to contribute in a concrete, a practical way: locating existing knowledge and expertise, and making it freely available and accessible to developing countries.



Earthscan-photograph by Santay Acharya

2. IRC'S PROGRAMME APPROACH

IRC promotes information and technology support in community water supply and sanitation to developing countries; the kind of assistance is determined by the problems and needs of those countries. These programmes are developed in collaboration with agencies in the countries concerned and carried out by national bodies.*

IRC's role is: the collection of existing information; the development of new knowledge, including the initiation of research and the "translation" of this knowledge into an accessible form, and its transfer to those needing it most. The aim is not simply to prepare publications but also to provide training and information exchange and, when required, assistance in making this knowledge work in practice. To accomplish this, IRC has developed demonstration (pilot) projects in several of its programmes.

*Besides taking part in country-based projects and programmes, IRC staff are frequently consulted on Decade policy in other institutional frameworks. In this capacity, the deputy-manager recently spent two months at WHO headquarters in Geneva. Other staff members have paid shorter visits to the UNDP, World Bank, UNICEF and to WHO's Regional Offices. The Manager took part in planning and evaluation in Brussels and Bamako, and the UN Committee of Natural Resources in New York was included in his travel agenda.

IRC concentrates in five major areas:

- (A) technology development and transfer;
- (B) manpower development and training programmes;
- (C) community education and participation programmes;
- (D) evaluation and
- (E) information support.

Programme areas (A) to (D) concern the transfer of scientific and technological knowledge, as well as the sharing of experience in methods and techniques; information support (E) means the development of an information exchange and transfer mechanism at the national and international level.

In its work in developing countries, IRC

- gives priority to rural and urban-fringe areas;
- stimulates collaboration between institutions and agencies within countries
- promotes technical cooperation between these countries.

IRC's main contacts are: (1) national and local institutions in developing countries, (2) UN agencies and other international organizations, (3) financial organizations and donor countries, and (4) professional institutes.

The following chapters detail the extent of IRC's role. In addition, Annex 6 presents current and planned project involvement at country level.

3. PROGRAMME AREA (A): TECHNOLOGY DEVELOPMENT AND TRANSFER

Technological alternatives are developed, tested, and transferred to potential users, and are viewed from many angles: planning; operation and maintenance; finance and administration; organization and management; as well as institutional, infrastructural and sociological factors, such as manpower development and community participation.

Following this approach, a series of integrated demonstration projects is being developed. Basic elements, such as hand pumps, public standposts, and slow sand filtration are used to show the importance of integrated programme development, ultimately leading to an accelerated improvement of the community water supply and sanitation in the developing world.

HAND PUMPS

Protected wells or boreholes fitted with hand pumps are being installed, in rapidly increasing numbers, in many developing countries. In response to the goals set for the International Drinking Water Supply and Sanitation Decade, governments are expanding their hand pump installation programmes, with assistance from international and bilateral agencies.

In 1979, IRC further developed its hand pump programme in liaison with WHO, the World Bank, UNICEF and several bilateral development agencies.

IRC invited a number of countries, and the international agencies concerned, to participate in the development of a common methodology of hand pump testing and evaluation. For this purpose a working meeting was organized by IRC and the Consumers' Association Laboratory and held in Harpenden Rise, United Kingdom, 29th May - 1st June 1979; 33 delegates from 21 different countries, international organizations and research institutes participated. Based on draft contributions from consultants and the results of the meeting, a manual on hand pump testing and evaluation was prepared and, in October 1979 was circulated, and received generally favourable review.

IRC also completed and distributed a world-wide survey of current hand pump testing and evaluation projects.

Hand pumps are used under a wide range of conditions. A careful assessment needs to be made as to which pump represents a suitable choice or warrants further development. IRC has accumulated extensive data on handpumps and in 1979 support was given to those concerned with hand pump design, testing, maintenance and manufacture in India, Bangladesh, Thailand, Indonesia, the Philippines, Ghana, Kenya, Malawi, and in several countries in Latin America.

Besides a Spanish version ("Bombas de Mano", 1978),

a French translation of IRC Technical Paper No. 10 on hand pumps was prepared by the Institut du Génie de l'Environnement at the Ecole Polytechnique Fédérale de Lausanne. Distribution of "Pompes à Main" to the French speaking countries of Africa and elsewhere began in December, 1979; many there consider the manual very useful.

The impact of community water supply in irrigation schemes and the potential role of hand pumps were



United Nations-photograph

studied in a workshop on water-lifting devices organized by FAO in Bangkok, December 1979. Delegates from 12 countries from Asia and the Middle East attended. IRC stressed the importance, at this workshop, of using renewable power resources, (such as human and windpower) for water lifting, both for drinking water supply and small-scale irrigation purposes.

In 1979, IRC further developed systems of hand pump maintenance, especially tooling requirements and instruction materials (such as for caretaking).

IRC promotes the local manufacture of hand pumps, where appropriate, through production technology, workshop layout and quality control projects.

To stimulate hand pump selection, preparations were made for a comprehensive manual which will combine the available technical information, newly-developed testing and evaluation methods, and guidelines for maintenance systems and local manufacture of hand pumps.

PUBLIC STANDPOST WATER SUPPLY SYSTEMS

Water supply by means of public standposts is often considered an appropriate, low-cost system, a 'halfway' step towards a totally house-connected water supply. For many people in rural and low-income urban areas, however, public standposts will be the only feasible system for a long time.

The first phase of IRC's work on this subject was the identification of the major problems of public standposts. This has resulted, among other things,

in a publication dealing with several economic, organizational, socio-cultural and technical aspects of public standpost water supplies (IRC Technical Paper No. 13) and is of special use for policy makers, planners and chief engineers. To complement this, a companion document was published which includes design criteria, a calculation model, and standard designs (IRC Technical Paper No. 14). This publication assists design engineers, drawing office and construction supervising staff and technicians. A second phase of the programme, initiated in 1979, centres on demonstration projects in a number of countries in which public standpost schemes are planned for both rural and urban-fringe areas. Preliminary consultations have begun in Egypt, India, Indonesia, Kenya, Malawi, Mexico, The Philippines, Sri Lanka, Tanzania, Thailand and Zambia.

SLOW SAND FILTRATION

The Research and Development Project on Slow Sand Filtration has shown tangible progress in 1979. Twelve of the sixteen village demonstration plants are now complete (see Table 1). Reliable information on the design, construction, operation and maintenance of slow sand filters under local conditions is generated by applied research field investigators and literature studies.

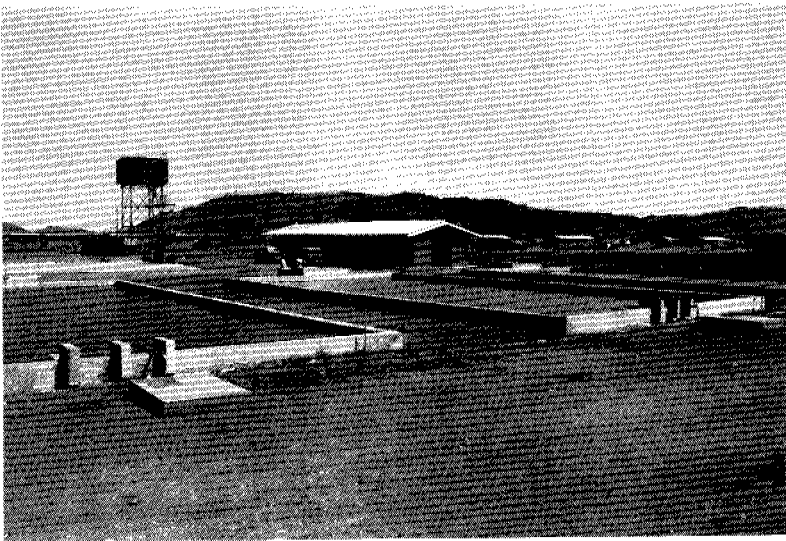
*Slow Sand Filtration is a purification process that simultaneously improves the biological, chemical and physical characteristics of water by allowing it to slowly pass through a layer of sand. Because of its simple operation and maintenance it is very well suited for the rural areas in the developing countries, while at the same time, it can provide a virtually safe drinking water at low recurrent cost.

Table 1. Summary of demonstration villages with completed SSF plants.

Participating Countries	Demonstration Villages with completed Slow Sand Filtration Plants
India	Kamayagoundapatti Pothunuru Borujwada Abubshahar
Colombia	Altos de los Idolos Puerto Asis (under construction)
Kenya	Kisekini (West Karachuongo)
Thailand	Ban Tha Din Dan Ban Chung
Sudan	Rahad Scheme Villages 18 and 19
Jamaica	Endeavour

The planning, implementation and evaluation of these village demonstration plants is carried out in and by the participating countries. The general responsibility in each country lies with a Programme Managing Committee, composed of agencies specializing in water supply, health service, and community development, as well as of research institutions in the field of public health and environmental engineering. These committees have selected villages for the development, field-testing and appraisal of typical designs for small slow sand filtration plants - including suitable pretreatment systems. These villages provide a variety of geographical, meteorological, cultural and economic features. Various types of slow sand filters have been constructed, including circular masonry and rectangular reinforced concrete types.

For programme support purposes, IRC published a manual on small slow sand filters. The manual includes a step-by-step description of design procedures and methods, specifications and a number of typical designs, including construction drawings and bills of quantities (IRC Technical Paper No. 11). This document is being translated into Spanish by the Pan American Centre for Sanitary Engineering and Environmental Sciences (CEPIS) in Lima, Peru, and will be available by the end of 1980. Translation into French is also planned.



IRC-photograph by Han A. Heijnen

Inadequate operation and maintenance often hinder the functioning of a rural water supply system. IRC has, therefore, prepared a manual for operators of slow sand filtration schemes, which will be published at the end of 1980. This manual deals extensively with training methods, background knowledge required by the operator, maintenance procedures, and community management skills. It should be a valuable guide for the preparation of locally adapted training courses.

Most participating countries have completed the baseline surveys which preceded the implementation of slow sand filtration plants. These surveys assessed local health conditions, water consumption pattern, and environmental sanitation behaviour. Evaluation will identify deficiencies in health and sanitation education which need the attention of local agencies. IRC is reviewing the methodology, in this context, which has been adopted by various countries. So far, India's approach has been evaluated; an internal report is now available on request (ref.: "CEP Interim Report", India).

In order to provide organizational and programmatic assistance for this project, missions were undertaken by IRC staff to Colombia, Peru, Jamaica, Egypt, Sudan, Kenya, India and Thailand.

MODULAR APPROACH IN THE DESIGN OF SMALL WATER SUPPLY SCHEMES

Two necessary reasons for innovative design and construction in rural water supply are:

- the need to construct - too often, and with too few engineers - a great number of supply facilities;

- the faulty design and operation of many existing systems.

Standardized pre-designed units (modules) - such as storage reservoirs, pumphouses, filtration units, etc., could help overcome the above constraints. Subprofessionals, trained in a relatively short time, could design and construct complete systems without relying on large numbers of professionals.

Standardization simplifies construction work, allows for a much faster project completion; standard material is used; procedure is repeated; and a smaller assortment of spare parts (which could be manufactured locally) is needed.

IRC intends to publish a manual which will provide a solid basis for decision-makers faced with the task of choosing such systems. It will catalogue successful types of technical components for small water supply systems and will indicate a range of construction materials ('type designs').

Activities in 1979 related to the preparation of the manual included:

- a mail survey, inviting agencies in numerous countries to report typical designs, case histories, etc. The reactions reflected the need for national design manuals and for standard-design components as well as revealing great interest in the projects.
- short missions to identify existing standard designs and implications. As consultant to IRC, Dr. F. McJunkin visited Brasil and Peru; Ing. O. Cordon undertook similar studies in Mexico, Guatemala, Honduras and Colombia. The assistance of PAHO during these missions was greatly valued.

MODULAR WATER TREATMENT UNITS FOR INDONESIA

In the context of technical cooperation between the governments of Indonesia and the Netherlands, IRC has been requested to conduct a study on the feasibility and design of modular treatment units to purify surfacewater.

Standard water purification plants are a composite of modules for various treatment functions. These modules are prefabricated and assembled, or even partly constructed, on site. To cope with an increased demand for water, additional units can be integrated with the originals.

Locally-made modules in concrete or steel will assist the Indonesian government to provide numerous small towns with a public water supply system and in a relatively short time-span.

TECHNOLOGY MANUAL ON SMALL COMMUNITY WATER SUPPLIES

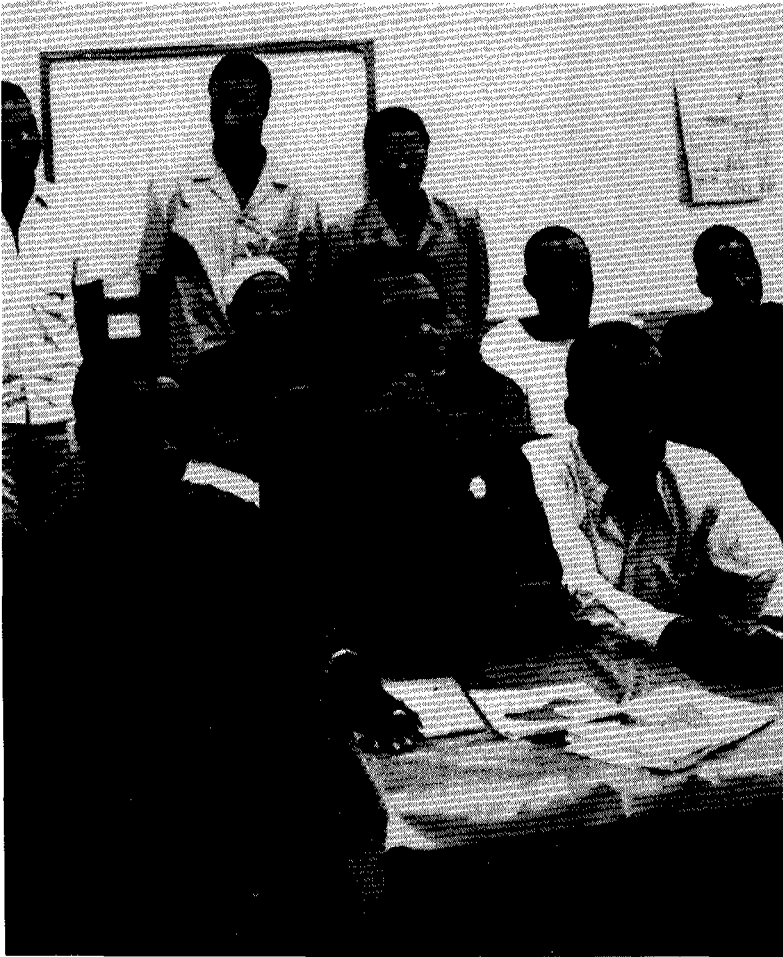
One common constraint to progress in most developing countries is the lack of suitable technology. More support has to be provided to government departments, water supply agencies and other institutions. In particular, the capability to formulate and implement needs to be strengthened. This need is being met by preparation of a reference source for small community water supplies. This document is being developed under the direction of several prominent authors including: L. Huisman, J.M. de Azevedo Netto, B.B. Sundaresan, and J.N. Lanoix; it also features a number of special subject contributions from other experts. Publication is expected in late 1980.

PRACTICAL SOLUTIONS

The demand for an earlier published mimeograph "Practical Solutions in Community Water Supply and Sanitation" has been so strong that IRC plans to publish a revised edition. Fresh data to be included are:

- new information received in a mail survey;
- an in-house literature study; and
- recent findings, in the water supply and sanitation field and related areas, supplied by VITA.

The Civil Engineering Department of Loughborough University (U.K.) was contracted to update the first edition; they are putting more emphasis on sanitation and waste disposal techniques. The second edition of "Practical Solutions" will be published in 1980 and will serve IRC in its transfer of technology.



International Labour Office-photograph

4. PROGRAMME AREA (B): MANPOWER DEVELOPMENT AND TRAINING

MULTI-COUNTRY MANPOWER DEVELOPMENT PROJECT

An IRC proposal for a multi-country manpower development project has been accepted for funding by the Netherlands Government. This project will develop manpower and improve staff competency at all levels in rural and urban situations. In such IRC projects, the development of self-reliance is a primary goal.

Agreements were reached with 10 Caribbean countries* through the PAHO Caribbean Basin Water Management Project, as well as with Sri Lanka.

The objectives of this 30 month-project are:

- to identify training needs;
- to create effective national training delivery systems;
- to design and implement training programmes;
- to stimulate and arrange the exchange of experiences and expertise between participating countries;
- to make available information generated in the project to all interested countries and organizations.

* Anguilla, Antigua, Barbados, BVI, Dominica, Grenada, Montserrat, St. Kitts, St. Lucia, St. Vincent.



ENDA-photograph by Philip Langley

During the first phase, a wide range of training manuals and job aids were developed*. A second phase will start in 1980, co-funded by CIDA (Canada) and IRC (using Netherlands project funds).

In Sri Lanka the workplan was the result of the co-operation between IRC and the National Water Supply and Drainage Board. Collaboration is planned with a WHO/UNDP assisted project.

*including: Training of Trainers; Standard Detail-Drawings; Waterworks; Installation, Operation and Maintenance of a Floating Chlorinator; Water Meter Re-pay Flow-chart; Leak Detection in a Water Distribution System; Water Main Laying; Maintenance and Testing of Domestic Water Meters; and Public Education.

MANPOWER DEVELOPMENT IN INDONESIA

A second IRC project in this field is the Manpower Development Programme for the urban water supply sector in Indonesia. In 1979, a consultants' team of the Training Division of the National Water Council (U.K.) was commissioned to prepare a project document with the Directorate of Sanitary Engineering of the Department of Public Works in Indonesia. On the basis of this work, a project implementation plan for a three-year period has been submitted for approval and funding to the governments of the Netherlands and Indonesia. In its emphasis on training, the plan recommends that a "central training development unit" be set up to create training programmes and materials for use in decentralized field training and in training courses on special subjects.

FURTHER MANPOWER DEVELOPMENT ACTIVITIES

A close link was maintained with the WHO/World Bank Cooperative Programme in West Africa on manpower and training surveys that were carried out in a number of countries.

Late in 1979, WHO asked IRC to prepare manpower development and training strategies in the context of the International Drinking Water Supply and Sanitation Decade. This is being developed in 1980 with advice from external experts.

Throughout 1979, the IRC manual "Suggested Steps for the Development of a National Training Delivery System" was distributed (in draft form) and was well received. Much positive response came from

training officers who had used it in their own countries. IRC will update the manual and publish it in due course.



Earthscan-photograph by Mohamed Amin

5. PROGRAMME AREA (C): COMMUNITY EDUCATION AND PARTICIPATION

In 1977, IRC began a study for a programme on community education and participation in water supply and sanitation. The first two parts were finished in 1979 and comprise:

- (A) An analysis of literature on community participation and education by Drs. Christine van Wijk-Sijbesma; and
- (B) an appraisal study of an action plan for this programme area by Dr. Anne Whyte (Institute for Environmental Studies, Toronto).

ANALYSIS OF COMMUNITY EDUCATION AND PARTICIPATION

The literature study on education and participation resulted in a literature review (IRC Technical Paper No. 12) and a selected and annotated bibliography (IRC Bulletin Series No. 13).

The literature review presents an analysis of the role that community participation and education can play in the various stages of a water supply and sanitation programme. The author distinguishes planning, collection of information about the community, joint decision on facilities to be constructed, implementation, operation and maintenance, and joint evaluation. Much attention is given to the essential subject of health education.

The bibliography, the second part of the study, contains 145 detailed, annotated abstracts of documents; 10,000 references in wide-ranging fields were examined, of which about 800 were reviewed in detail. As a result, a strong information base on the social aspects of water supply and sanitation now exists. Because of the high number of requests for this review, IRC will publish a second revised edition in 1980. Translation of the document into French and Spanish is planned.

In September 1979 the final draft report on an action plan for community education and participation was ready. It now serves as a tool for accelerated communication and coordination among different organizations and agencies involved in the Decade programmes.

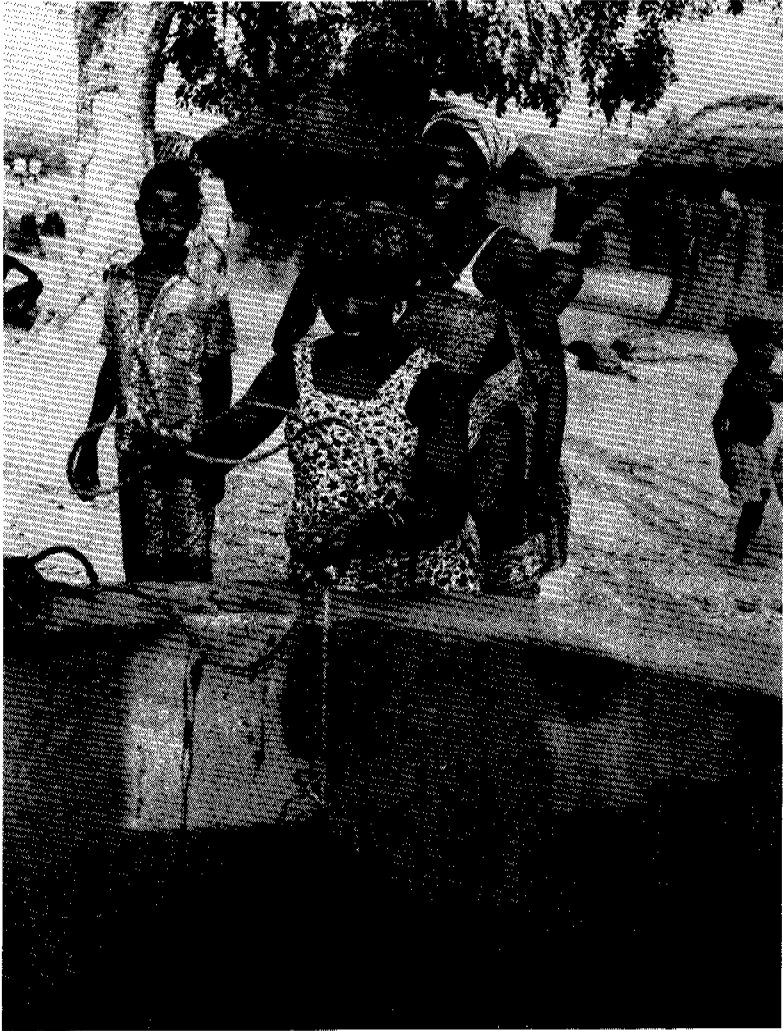
In addition, IRC worked on guidance documents for the planning, design, and implementation of CEP. By the end of the year 1979, the following guidance documents were in preparation:

- a monograph on community participation methods by Dr. Alastair White (Institute of Development Studies, Brighton, U.K.);
- a selected and annotated translation of Colombian manuals on CEP from Spanish into English (from the Instituto Nacional de Salud) by Dr. Anne Whyte. This guide is being prepared at the request of the World Health Organization.



WHO-photograph by D. Deriaz

A profile for another project, strengthening leadership capacities at the national level, is also complete. Its aim is to provide support to national agencies responsible for water supply and sanitation in rural areas and in urban-fringe communities. Each country is preparing: (1) an appraisal of their experience in community participation; and (2) plans and procedures for such participation. In countries where such experience is meager, the emphasis is on creating plans and procedures for such action.



WFP-photograph by G. De Sabatino

6. PROGRAMME AREA (D): EVALUATION

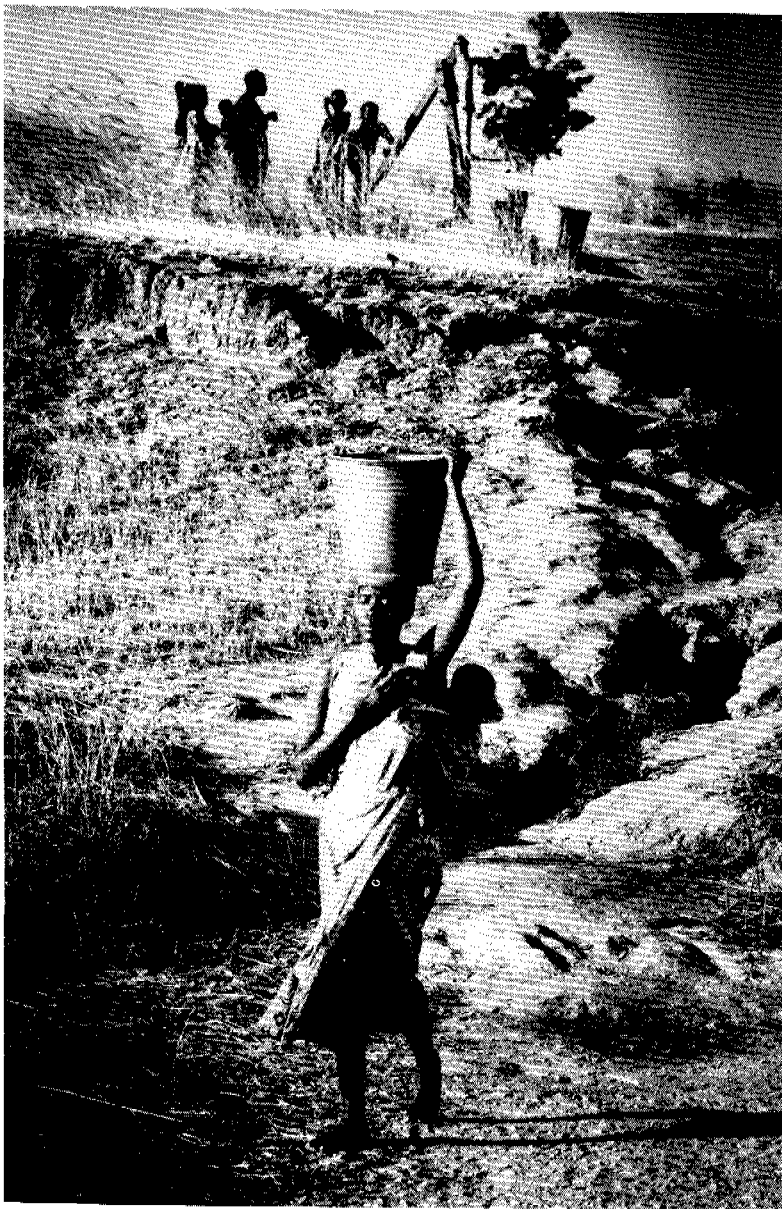
Increased coverage of water supply and sanitation facilities requires sound planning and programme development procedures. Information on the effectiveness of such procedures, however, is not readily available. A need exists to evaluate experience as a basis for better planning.

To this end, IRC's objectives are:

- to develop methods for evaluation of water supply and sanitation programmes and projects;
- to promote the application of these methods in the development, implementation and control of projects; and
- to stimulate the exchange of knowledge and experience, and promote international co-operation in this field.

EVALUATION FOR VILLAGE WATER SUPPLY PLANNING

To further these evaluation objectives, the Ross Institute of Tropical Hygiene (London) and IRC have co-published "Evaluation for Village Water Supply Planning" (IRC Technical Paper No. 15). It has three reference points: (a) to provide information to planners and decision-makers on the relevance of evaluation in relation to planning; (b) to encourage collaboration between health workers, engineers, economists, and administrators; and (c) to give guidance in the preparation and carrying-out phases of evaluation.



VDO-photograph

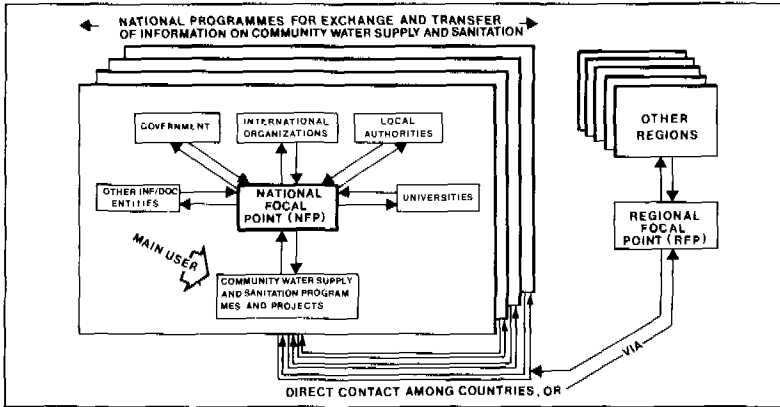
7. PROGRAMME AREA (E): INFORMATION SUPPORT

Information as support and guidance is essential to Decade programmes and projects if they are to meet criteria such as cost-effectiveness and technical and socio-economic appropriateness. The principal constraint is not the lack, but the inaccessibility of such information. The 1977 UN Water Conference strongly suggested that information exchange be developed nationally and linked internationally as a means to solve this problem.

POETRI: PROGRAMME ON EXCHANGE AND TRANSFER OF INFORMATION

The Programme on Exchange and Transfer of Information (POETRI) promotes and organizes access to, and communication of, information in the planning and the implementing of community water supply and sanitation. The focus is at the national level: (i) to strengthen the national information and documentation infrastructure; (ii) to improve capacity to absorb scientific/technical information and documentation; and (iii) to further these objectives through cooperation between countries through regional and international centres. The principal users of POETRI are the agencies, departments, government field services and voluntary organizations in charge of water supply and sanitation projects.

Figure 2. Envisaged flow of information and documentation within the POETRI-mechanism



The first phase of POETRI (June 1979 - June 1981) gives priority to a rapid development of information services. It concentrates on planning, programming and training for an information management infrastructure. Services, as far as possible, are being designed and operated on a 'test' basis; in phase II, these will be expanded.

In 1979, sixteen countries expressed their interest in POETRI/Phase I. More detailed discussions have taken place with the following countries on the actual planning and implementation of the programme: Argentina, Colombia, Ecuador, Peru, Mali, Niger, Senegal, Upper Volta, Philippines, and India. In each of these countries, a National Focal Point to organize POETRI has been selected.

Regional coordination for POETRI is provided by:

- The Pan-American Centre for Environmental Sciences and Sanitary Engineering (Centro Panamericano de Ingenieria Sanitaria y Ciencias del Ambiente (CEPIS));
- The Inter-African Committee for Hydraulic Studies (Comité Interfricain des Etudes Hydrauliques (CIEH)).

External technical support is supplied by WHO and links with UNESCO are being discussed. Financial support for Phase I has been made available by the Ministry of Foreign Affairs of the Netherlands.

Technical cooperation activities include creating guidance and training material for national POETRI-activities, the development of tools (such as a thesaurus), as well as standards for information exchange.



Photograph by Mark Edwards

8. INFORMATION SERVICES

Knowledge and experience gained in programme and project implementation are disseminated through IRC manuals, reports, bibliographies, conference papers and articles in journals and magazines.*

NEWSLETTER

The circulation of the IRC Newsletter rose in 1979 to slightly over 20,000 copies monthly. The English and French versions are made at IRC and the Spanish version is translated and distributed by CEPIS.

Encouraged by this significant increase (about 4,000 copies more in 1979), IRC plans to expand the Newsletter. Circulation is expected to rise to 40 - 50,000 from 1980 - 1985.

This expansion reflects the need for information in concise form particularly for Decade activities.

INTEGRATED INFORMATION PACKAGE

Recognizing the increasing need for up-to-date information, several organizations** have been considering adaptation of current publications or the creation of new ones for community water supply and

*See Annex 4 which lists all IRC publications.

**The organizations in the project formulation were: WHO, the World Bank, UNICEF, the Ross Institute of Tropical Hygiene, the Intermediate Technology Development Group, the Indian National Environmental Engineering Research Institute, the United States Agency for International Development and the International Reference Centre for Wastes Disposal. On behalf of IRC, the Ross Institute hosted a co-ordination meeting of these organizations.

sanitation.

As a result, four periodicals are planned for 50-60,000 readers:

- (a) a concise monthly newsletter, (free of charge) sent directly to users;
- (b) a technical fiche/reprint series mailed directly to groups with specific information needs;
- (c) an in-depth bi-monthly magazine featuring articles, bibliographic references, announcements of courses, conferences and fellowships, (subscription); and
- (d) an abstract journal, presenting indexed, descriptive abstracts of reports, manuals and other documents; this journal would be integrated twice a year with the magazine and distributed independently.

LIBRARY AND DOCUMENTATION

At the end of 1979, IRC's rapidly growing library contained about 8,000 documents. On programme and project subjects the holdings are very extensive. Specific attention is given to unofficially published or not widely publicized documents. The Centre receives about 140 journals and newsletters. This collection serves primarily staff needs. Besides information support to current IRC programmes and projects, the library and documentation unit plans to accommodate future efforts of the Centre particularly in the sanitation field.

The holdings are retrievable through a semi-automatic ('peek-a-boo') documentation system made

operational in 1978 and contained over 1,500 documents at the end of 1979.

The unit also deals with requests for bibliographic references. For this purpose, a number of standard reference lists have been made available on a growing number of subjects*.

In 1979 microfiche search and print facilities were put into operation. The rapidly expanding collection of micromaterial and its increasing use internationally emphasized the need for permanent facilities of this kind.

In anticipation of EURONET, on-line facilities have been created to enable IRC's Information Section to consult bibliographic data bases directly throughout Europe.

* See Annex 4, last two pages.



ANNEXES

**FINANCIALLY-SUPPORTING ORGANIZATIONS
(SINCE 1968)**

Canadian International Development Agency

International Development Research Centre, Canada

Netherlands' Ministry of Foreign Affairs

Netherlands' Ministry of Public Health and Environmental Protection

Pan American Health Organization

United Nations Children's Fund

United Kingdom Ministry of Overseas Development

United Nations Development Programme

United Nations Environment Programme

United States Agency for International Development

Water Research Centre, United Kingdom

World Bank (International Bank for Reconstruction and Development)

World Health Organization

VISITORS TO IRC IN 1979

ABRAHAM, P.	Public Health Engineering Div., Cochin, Kerala State, India
ALVAREZ, Ir.J.A.	Dirección Nacional de Saneamiento, Buenos Aires
BACHMANN, Dr.G.	WHO, Geneva.
BALDWIN, G.B.	World Bank, Washington, DC.
BALLANCE, Dr.R.C.	WHO, Geneva.
BARTHAKOR, K.C.	Public Health Engineering Tezpur, Assam, India
BORROMEO, C.M.	Ministry of Human Settle- ments, Makati, The Philippines
COOMBS, M.	J. Wiley & Sons Ltd., Chichester, Sussex, UK
DAVELAAR, Ir.H.	UNICEF, New York.
DEMMENIE, J.F.	Institute for Traffic Safety Research, Voorburg, The Netherlands
ELABDIN, OSMAN ZEIN	University of Khartoum, Sudan.
ELKHAZENDAR, Eng.M.	Osman A. Osman & Co., Cairo, Egypt
HAFNER, C.R.	US Peace Corps, Washington, D.C.
HUGHES, N.J.	An Foras Forbartha, Dublin, Ireland

HUISMAN, Prof.	Technological University, Delft, The Netherlands
DE IONGH, H.	FAO, Kigali, Rwanda
KALRA, K.S.	Industrial and Allied Sales PVT Ltd., New Delhi, India
KINGHAM, J.	Consumers' Association, Harpenden Rise, UK
MABROOK, Dr. B.M.A.	Zagazig University, Cairo, Egypt
McJUNKIN, Dr.F.E.	Private consultant, Chapel Hill, N.C., U.S.A.
MILBURN, A.	National Water Council, Newbury, U.K.
REID, Prof. G.	Oklahoma University, Oklahoma, USA
ROHING, Dr.J.	UNDP-consultant
RUSSELL, P.	Water Research Centre, Stevenage, UK
SALEM, A.S.E.	Zagazig University, Cairo, Egypt
SCHAAPMAN, Ir.J.E.	Haskoning Consulting Engineers, Nijmegen, The Netherlands
STANISLAWSKI, Dr. D.J.	UNDP-consultant,
STAPLETON, C.R.	UNICEF-consultant, Buxton, UK
TINKER, J.	Earthscan, London.
TER WOORT, M.	Acres International Ltd., Colombo, Sri Lanks.
TSUTSUI, H.	FAO, Rome. Italy
TURRELL, R.P.J.	National Water Council, Tadley, UK
VINCENT, A.J.	National Water Council, Newbury, UK

WINKLER, H.	PREUSSAG A.G., Stederdorf, West-Germany
WHITE, Dr.A	University of Sussex, Brighton, U.K.
WHITE, Dr.G.F.	University of Colorado
WILDEBOER, Drs.W.	Royal Netherlands' Embassy, Dar es Salaam, Tanzania
YADAV, J.C.	Public Health Division, Haryana, India

IRC STAFF

DIRECTOR

Ir. P. Santema

(National Institute
for Drinking Water
Supply)

MANAGEMENT

Drs. J.M.G. van Damme

Manager

Ir. J. Haijkens

Deputy Manager

PROGRAMME DEVELOPMENT

Ir. E.L.P. Hessing

Programme Officer

Ir. H.A. Heijnen

Programme Officer

Ir. E.H.A. Hofkes

Programme Officer

Ir. P. Kerkhoven

Programme Officer

Ir. T.K. Tjiook

Programme Officer

INFORMATION SECTION

Mr. W.-K. Hoogendoorn,
M.I.Inf.Sc.Head Information
Services

Ing. A.L.M. Helderma

Information Officer

Mrs. B. Isgar

Information Assistant

Mr. E. van Rees Vellinga

Editor

Miss. A. Robeer

Library Assistant

ADMINISTRATIVE SECTION

Mrs. M.L. Broersma

Management Assistant

Miss E.M. Kool

Staff Assistant

Miss. M. Heseltine

Programme Assistant

Mrs. C. Houweling

Programme Assistant

* As of 31/12/1979

LIST OF IRC PUBLICATIONS

TECHNICAL PAPER SERIES

- TP 2 The Suitability of Iodine and Iodine Compounds as Disinfectants for Small Water Supplies, 1972
- TP 4 Health Aspects Relating to the use of uPVC Pipes for Community Water Supply, report of a Consultant Group, 1973
- TP 5 Health Aspects Relating to the Use of Polyelectrolytes in Water Treatment for Community Water Supply, report of a Consultant Group, 1973
- TP 6 The Potential Pollution Index as a Tool for River Water Quality Management, 1973
- TP 7 Health Effects Relating to Direct and Indirect Re-use of Waste Water for Human Consumption, Report of an International Working Meeting, 1975
- TP 8 Prediction Methodology for Suitable Waste and Wastewater Processes, report University of Oklahoma and U.S. Agency for International Development, 1976
- TP 9 Analysis of Organic Compounds in Water to Support Health Effects Studies, a consultants report, 1976
- TP10 Hand Pumps for Use in Drinking Water Supplies in Developing Countries, 1978
- TP11 Slow Sand Filtration for Community Water Supply in Developing Countries, A Design and Construction Manual, 1978
- TP12 Participation and Education in Community Water Supply and Sanitation Programmes, a Literature Review, 1979
- TF13 Public Standpost Water Supplies, 1979
- TP14 Public Standpost Water Supplies, A Design Manual, 1979

*As of 31/12/1979.

NOTES

Technical Papers Nos. 1 (Plastic Pipes in Drinking Water Distribution Practice, 1971) and 3 (The Purification of Water on a Small Scale, 1973) are out of print. Technical Papers Nos. 5 and 10 are also available in French. A Spanish version of Technical Paper No. 10 (Bombas de Mano) is available from the Pan American Centre for Sanitary Engineering and Environmental Sciences (CEPIS), Casilla Postal 4337, Lima 100, Peru.

BULLETIN SERIES

- B 5 Meeting of Directors of Institutions Collaborating with the WHO International Reference Centre for Community Water Supply, Bilthoven, The Netherlands, report of proceedings, 1973
- B 6 Community Water Supply Research, 1973
- B 7 Global Workshop on Appropriate Water and Waste Water Treatment Technology for Developing Countries, Voorburg, The Netherlands, 1977
- B 8 International Workshop on Handpumps for Water Supply, Voorburg, The Netherlands, 1977
- B 9 Slow Sand Filtration for Community Water Supply in Developing Countries, a selected and annotated bibliography, 1977
- B 10 International Training Seminar on Community Water Supply in Developing Countries, Amsterdam, The Netherlands, 1978
- B 11 Public Standposts for Developing Countries, proceedings of an International Expert Meeting held in Achimota (Accra), Ghana, 1978
- B 12 Community Water Supply in Developing Countries, report of an International Training Seminar, Amsterdam, The Netherlands, 1979
- B 13 Participation and Education in Community Water Supply and Sanitation Programmes, a selected and annotated bibliography, 1979
- B 14 Community Education and Participation in the the IRC Slow Sand Filtration Project, Voorburg, The Netherlands, 1979
- B 15 Handpump Testing and Evaluation, report of an International Working Meeting held at Harpenden, Hertfordshire, England, 1979

NOTES

Bulletin Nos. 1 (Community Water Supply Research, 1971), 2 (Training Courses in Community Water Supply, 1971), 3 (Community Water Supply Research, 1972) and 4 (The Story of C.P.H.E.R.I., 1972) are out of print.

OTHER PUBLICATIONS AND PAPERS

Symposium on Community Water Supply in Development Cooperation, report, 1977

Towards an Improvement of International Transfer and Exchange of Information on Water Supply and Sanitation in Developing Countries,
W.-K. Hoogendoorn, 1977

Special Training Problems for Rural Water Supply in Developing Countries,
J. Haijken and R.P.J. Turrell, 1978

Community Water Supply and Sanitation, Basis to Rural Development, T.K. Tjiook, 1978

Hand Pump Technology for the Development of Ground-water Resources, E.H.A. Hofkes and F.E. McJunkin, 1978

Suggested Steps in Development of a National Training Delivery System, 1978

Support Programmes in the Water Field,
J.M.G. van Damme and W.-K. Hoogendoorn, 1979

Third World Tests for Sand Filters, P. Kerkhoven, 1979 (in: World Water, September, 1979)

Information Support to the International Drinking Water Supply and Sanitation Decade,
J.M.G. van Damme, W.-K. Hoogendoorn and P. Kerkhoven, 1980

A Commentary on the Water Supply Situation in Africa, E.H.A. Hofkes, 1979 (in: Aqua, December 1979)

Manual Pumping of Water for Community Water Supply and Small-Scale Irrigation, E.H.A. Hofkes, 1979

Cooperation for the International Drinking Water Supply and Sanitation Decade and the Case of the Slow Sand Filtration Project, P. Kerkhoven, 1979

Slow Sand Filtration for Community Water Supply in Developing Countries - Part I: General Aspects, P. Kerkhoven, 1979

NOTES

Practical Solutions in Drinking Water Supply and Wastes Disposal for Developing Countries (1977) is out of print; a second version is in preparation. Support Programmes in the Water Field is also available in French.

IRC NEWSLETTER

Monthly Newsletter, available (free of charge) in English and French. A Spanish version is available from the Pan American Centre for Sanitary Engineering and Environmental Sciences (CEPIS), Casilla Postal 4337, Lima 100, Peru.

REFERENCE LISTS

RL 1 Technology Transfer to Developing Countries

RL 2 Training Manuals on Water Supply and Sanitation

RL 3 Defluoridation of Drinking Water

RL 4 Drinking Water Use in Developing Countries

RL 5 Health Aspects of Community Water Supply in Developing Countries

- RL 6 Testing of Handpumps
- RL 7 Schistosomiasis and its Control in Water
Supply and Sanitation for Developing Countries
- RL 8 Diarrhoeal Diseases
- RL 9 Health Hazards in the Use of Various Materials
in Water Distribution Systems
- RL 10 Construction of Pit Latrines
- RL 11 Water Resources for Drinking Water Supply in
Developing Countries
- RL 12 Water Resources and the Hydrological Cycle
- RL 13 Wind Energy for Water Supply
- RL 14 Disinfection of Drinking Water in Developing
Countries
- RL 15 Public Standpost Water Distribution Systems
- RL 16 Solar Energy in Water Supply
- RL 17 Artificial Groundwater Recharge
- RL 18 Quality of Drinking Water in Developing
Countries
- RL 19 Rainwater Harvesting
- RL 20 Springs as a Source for Drinking Water in
Developing Countries

NOTES

The above-mentioned lists of bibliographic references do not pretend to be exhaustive. They consist of titles of documents collected by IRC over the past few years and supply the user with introductory material which could provide a basis for further literature research.

ABBREVIATIONS

CEPIS	Pan American Centre for Sanitary Engineering and Environmental Sciences
CIDA	Canadian International Development Agency
CIEH	Comite Inter-African d'Etudes Hydrauliques
EEC	European Economic Community
EURONET	European Network (direct information access network)
FAO	Food and Agriculture Organization
IRC	WHO International Reference Centre for Community Water Supply
PAHO	Pan American Health Organization
POETRI	Programme on Exchange and Transfer of Information on Community Water Supply and Sanitation
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children Fund
VITA	Volunteers in Technical Assistance

CURRENT AND PLANNED INVOLVEMENT OF IRC IN COUNTRY-BASED PROJECTS ON INFORMATION AND TECHNOLOGY SUPPORT

Countries	1	2	3	4	5	6	7	8	9	10
South East Asia Region										
Bangladesh			.						.	
India	o		o	o	x	.			o	
Indonesia	o	x	.	.			x	.		
Sri Lanka		x	.	.				.		
Thailand	o		o	.	x	.		.		o
Western Pacific Region										
Malaysia						.				
Philippines	o		o	.		.			.	o
African Region										
Cameroon			.						o	
Ghana			o		x					
Guinea-Bissau									.	
Kenya				.	x					o
Malawi			.	.					.	
Mali	o									
Niger	o									
Senegal	o									
Tanzania	.	o	.	.					.	
Upper Volta	o							.		
Zambia			.	.						
Region for the Americas										
Argentina	o									
Caribbean (Eastern)		x								
Colombia	o		.		x				o	
Costa Rica			.					.		
Ecuador	o							.		
Jamaica	o				x					
Nicaragua									.	
Peru	o								.	
Eastern Mediterranean Region										
Egypt				.						
Sudan	.				x					

x = currently involved in country project
o = working contacts established
. = planned involvement

1 = information programme 'POETRI'	6 = sanitation systems
2 = manpower development	7 = standardization
3 = handpumps	8 = roving seminars
4 = public standposts	9 = community participation
5 = slow sand filtration	10 = evaluation and planning

Contact for Latin America:

Centro Panamericano de Ingenieria Sanitaria
Ciencias del Ambiente
Casilla postal 4337
Lima 100
Peru

Cable : CEPIS, Lima
Telex : 36 21 052
Telephone : 35 41 35

Contact for South Asia:

National Environmental Engineering Research Institute (NEERI)
Nehru Marg
Nagpur - 440020
India

Cable : NEERI, Nagpur
Telex : 013 233
Telephone : 23 893

Contact for West Africa:

Centre Interfricain d'etudes Hydrauliques (CIEH)
boite postale 369
Ouagadougou
Upper Volta

Telex : (EIER) 5266 UV
Telephone : 33 518 / 33 476