



IRC
International Water and
Sanitation Centre

WHO Collaborating Centre

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IRC, INTERNATIONAL WATER AND SANITATION CENTRE

IRC is concerned with knowledge generation and transfer, and technical information exchange for water supply and sanitation improvement in developing countries. The emphasis is on innovative approaches to prevailing problems. The target groups are management and technical staff concerned with planning, implementation and use of water supply and sanitation facilities in rural and urban fringe areas.

The centre works together with partners in developing countries, United Nations organizations, bilateral donors and non-governmental organizations. Its multidisciplinary staff provides support through development and demonstration projects, evaluation and advice, training and education, publications and general information exchange.

Activities integrate technical and non-technical issues in water supply and sanitation and include community participation particularly the role of women, hygiene education, appropriate technology, operation and maintenance, community-based financial management, and development of technical information exchange.

IRC is an independent, non-profit organization. It is supported by and linked with the Netherlands Government, UNDP, UNICEF, the World Bank, and WHO for whom it acts as a Collaborating Centre for Community Water Supply and Sanitation.

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TABLE OF CONTENTS

	Page
Introduction	
1. IRC in 1988	1
2. Programme Development	9
Development and Demonstration	9
Advice and Evaluation	16
Training and Education	21
Publications	23
Knowledge Base Development	28
3. Information Development	33
4. External Relations and Public Information	41
5. Management and Organization	49
6. Programme 1989	53
Appendix 1	
Governing Board	55
Appendix 2	
IRC Staff in 1988	57
Appendix 3	
IRC's Organization and Strategy	60
Appendix 4	
List of Publications	62
Appendix 5	
Countries of Concentration	65
Appendix 6	
List of Abbreviations	67



Communal waterpoint in Zambia in the integrated development and demonstration project on piped supplies. (photo Mary Boesveld/IRC)

INTRODUCTION

The International Water Supply and Sanitation Decade has taught the sector that reaching large portions of populations in developing countries with water supply and sanitation facilities, including assurance of their use and maintenance, can indeed be achieved. If it is possible to supply an additional 2000 people with water and 1500 people with sanitation facilities per country per day during the first seven years of the Decade, then we are on the right track, although still moving too slow.

In recent years there has been close consultation among many partners to see how the lessons of the Decade can be used to speed up the work. As a result, co-ordination and communication will receive much needed attention, which was previously lacking. The International Consultation for the Co-ordination of Drinking Water Supply and Sanitation Programmes in the Hague, which has come to be known as the Hague Consultation, and the subsequent meeting of the 1990 Committee in Paris established priorities for the support the international community can render to water and sanitation programme development in developing countries.

These priorities include co-ordination of sector support at the country level in order to ensure tuned efforts: co-ordination with and within the countries, and related co-ordination between the External Support Agencies (ESAs). Attention must be focussed at the country level, and accordingly the strongest emphasis has been placed on working with governments and others at that level.

The Decade has provided a wealth of new concepts and approaches, particularly 'how to's'. Because many areas need further applied research, it was decided at the Hague Consultation that a Temporary Working Group on Applied Research should study options and opportunities for fundamental sector requirements.

The outcomes of this research, as well as the many experiences of the past years need to be communicated to those concerned. It was therefore also decided at the Hague Consultation that a Temporary Working Group on Communication of Information be formed to map out possible actions ensuring the transfer of such information. IRC gladly accepted the invitation to lead this work, as part of a core group and in co-operation with many partners.

If it proves possible to implement the intentions and decisions of the Hague Consultation, efficiency and effectiveness will dramatically increase, and with it the rate of improved water and sanitation coverage.

During its first 20 years, IRC has attempted to focus on the communication of experiences and valuable messages from those who know to those who need to know. This complex process, bridging the division between developing and industrialized countries, rural and urban areas, professionals and beneficiaries, has been a much neglected area during the Decade.

Hence IRC deals not only with the collection and compilation of knowledge and experiences and the generation of new messages; it has put particular emphasis on the communication and transfer of such information. Development and demonstration projects, advisory services, training activities, and publications focussed on specific target groups are all directed to inspiring people to utilize the experiences of others. Rather than recording and disseminating information, the essential characteristic of these activities is the involvement of people in the application of information.

The process of solving the problems recognized in the field can be seen as a series of phases. This begins with knowledge generation (research), its compilation and its communication, subsequent training and education, and finally demonstration and implementation in the field. In this process, IRC hopes to be able to devote increased attention to training and education, an area which as part of human resources development urgently requires additional emphasis.

IRC will continue to tune its work to the sector's most urgent needs, while gradually increasing attention to environmental issues. It is envisaged that in the coming years, generation and communication of knowledge and experience will be its major contribution to the water supply, sanitation and environment sector.

J.M.G. van Damme
Director

1. IRC in 1988

IRC celebrated its 20th birthday on 19 December 1988. This year in particular, the significance of IRC's years of communicating knowledge and experiences on water supply and sanitation to those in developing countries received full recognition. In addition to continuation of its planned activities, the international acknowledgement that effective communication has been neglected during the Decade led to participation by IRC in various international gatherings dealing with this issue on a global level.

One of the most significant activities in which IRC took part in 1988 was the International Consultation for the Co-ordination of Drinking Water Supply and Sanitation Programmes, which was held in the Hague from 2-4 November. The results of the meeting, which was attended by representatives from External Support Agencies (ESAs) and developing countries, were twofold. Firstly, the earlier developed Framework for Global Co-operation was endorsed, promoting co-ordinated co-operation in water supply and sanitation programmes at the country, regional and global levels. Secondly, a Collaborative Council of ESAs was formed. The chief aims of the Council are to:

- raise international awareness of the need for intensified efforts to expand water and sanitation coverage during the 1990s;
- achieve collaboration among the ESAs within the countries in which they are active;
- serve as a forum for exchange of information on achievements, sector strategies, projects and programmes, and analysis of issues and needs to alert members to opportunities for collaboration and support; and
- mobilize support from members and others in the international community for development of the sector.

To assist in this process the Collaborative Council called on the Secretariat, provided by the World Health Organization, to organize periodic meetings of a temporary committee, to be known as the 1990 Committee, comprising representatives of multilateral agencies, non-governmental organizations, and invited members from developing countries. The Council also foresaw the need for the 1990 Committee to establish temporary working groups or advisory panels to deal with specific tasks. One group was formed on Applied Research, the second one on Communication of Information.

In its December meeting in Paris the 1990 Committee agreed that the list of activities on country-level sector support identified at the Hague Consultation should be the main focus of the Collaborative Council's work programme. The 1990 Committee noted with appreciation the initiative already taken by IRC in distributing preliminary information to the members of the Temporary Working Group for the Communication of Information (TWG-INFO). The schedule of activities outlined by IRC was endorsed, and the Committee asked that the TWG's report be submitted to the Chairman of the 1990 Committee by April 1989.

The Committee developed terms of reference for the TWG, with the main objective being to develop a strategy for communicating information in the sector, making optimal use of existing information resources and opportunities. A core group consisting of IRC, WHO, UNDP/WB and CEFIGRE was made responsible for ensuring that the TWG accomplishes the stated objectives, with IRC taking a leading role. The Temporary Working Group will identify major needs for information and promotion, and review and appraise existing activities in four major areas: public information/promotion, technical information exchange, project and sector information and management information systems at country level. A preparatory meeting was scheduled for February, and a final one in April to decide on an action plan with prioritized recommendations including actors and costs. The action plan will be submitted as a proposal to the 1990 Committee.

In October IRC was invited as observer to the 16th meeting of the Steering Committee for Co-operative Action for the International Drinking Water Supply and Sanitation Decade in Geneva. In this meeting IRC was requested by UNDP to introduce the public information and support subject since through newsletters and other means, IRC was a particularly active institution in this area. The Steering Committee requested IRC and UNDP to arrange for and convene a three-day meeting of agency representatives to draft an effective public information strategy to counter-balance negative press reports concerning the Water Decade.

In 1988, UNICEF reinforced inter-agency collaboration in the International Drinking Water Supply and Sanitation Decade by agreeing to loan the services of a staff member from its Division of Information and Public Affairs in New York, for a period of one year.

The document "Technical Information Exchange (TIE) in Water Supply and Sanitation" was completed in October. It served as background document to the various meetings mentioned above. Commissioned by the Netherlands Directorate General for International Co-operation (DGIS) and the UNDP/ World Bank Decade Programme, TIE support was given to the International Training Network for Low-Cost Water Supply and Sanitation. This concerned amongst others IRC advice to the ITN Centre in Indonesia, as well as finalization and bulk reproduction of a slide-sound module on the use and value of technical information.

In the last quarter of 1988 a total of 3000 "Lists of Basic Publications on Community Water Supply and Sanitation" were sent to UNDP in New York and other UN agencies. The list contains 90 titles with abstracts and ordering information. Widescale distribution to UNDP Resident Representatives took place in December with an accompanying explanatory letter from Mr. Arthur Brown, Deputy Administrator of UNDP. IRC is to provide a centralized ordering service in response to requests coming from UNDP field offices.

In 1988 the UNDP/World Bank Programme agreed to support IRC in an inventory of selected information materials for training in water supply and sanitation. The inventory aims to prepare an organized, annotated inventory of water supply and sanitation materials for use by those responsible for funding, preparing training courses and using these materials for programmes and projects. This trilingual inventory is being prepared by IRC in collaboration with the Water, Engineering and Development Centre (WEDC)/ Loughborough University, CEFIGRE and the Panamerican Health Organization (PAHO) together with the Centro Panamericano de Ingeniería Sanitaria y Ciencias del Ambiente (CEPIS), for the English, French and Spanish versions respectively. It is due to be published in mid-1989.

The inter-country Piped Supplies for Small Communities project received funding from the Netherlands Directorate General for International Co-operation. It is based on and further expands on the experiences of the earlier Public Standpost Water Supplies project. The new project runs until 1990, initially in Malawi and Zambia where wider use of improved approaches to piped supplies for small communities will be further developed and promoted. National project teams comprising various ministries and departments are doing the work, supported by IRC. The emphasis in 1988 in both countries has been on preparation and information acquisition through national workshops. Preparation and implementation of the demonstration schemes are to follow in 1989.

In early 1988 the Section for Research and Appropriate Technology of DGIS approved a new development and demonstration project in Colombia to do major comparative research of five different pre-treatment systems for high turbidity surface water. Simple pre-treatment methods will be tried out in practice in combination with slow sand filtration and disinfection. For this project IRC supports the University of Valle (UNIVALLE), which is working together with Empresas Municipal del Cali (EMCALI) and the Comité de Cafeteiros (Committee of Coffee Growers).

On maintenance systems development, DGIS co-financed the preparation phase of what is planned to be the next development and demonstration project in West Africa. National ministry as well as project staff, initially in Niger and Burkina Faso, will be assisted in developing viable solutions for maintenance problems in their community water supply and sanitation programmes. A similar activity was initiated in Guinea Bissau.

With funding from the Netherlands Ministry of Housing, Physical Planning and Environment, IRC has developed a manual meant for use in training and refresher courses for community-based personnel from health and development departments. The manual will help community-based personnel act as stimulators and driving forces in their community's efforts to improve its water supply and sanitation situation. With a proper support organization, local communities can apply technically and financially feasible technologies which require only minor outside support. The manual, called "Community Self-Improvements in Water Supply and Sanitation" has been reviewed and was printed at the end of the year. It will soon be further tested and introduced in selected countries.

Jointly with the International Development Research Centre (IDRC) of Canada, IRC published ~~Technical Paper no. 25~~ "Handpumps: Issues and Concepts in Rural Water Supply Programmes" in 1988. ~~This publication replaces IRC's earlier book on handpumps, which in 1977 was the first comprehensive document on this subject, having sold nearly 9000 copies in three languages.~~ The monograph concerns handpump water supply programmes for rural communities, and emphasizes an integrated approach to community water supply programme planning and implementation. The publication should be seen as a companion document to the World Bank publication "Community Water Supply: The Handpump Option". It has been written especially for programme staff, planners and policy makers, and the content will also be of interest to project management staff.

Together with the Nepali Government, UNICEF and SATA/Helvetas IRC has documented the development and achievement over a ten-year period of the Community Water Supply and Sanitation Programme in Pokhara, Western Development Region in Nepal. It is entitled "Ten Years of Experience", and published as number 26 in the Technical Paper Series. The programme concerns gravity-fed water supply schemes with public tapstands, and school and household latrines.

With a financial contribution from WHO, IRC published the manual "Training Community Motivators in Water Supply and Sanitation: A Reference Document" in its Occasional Paper Series. The manual provides background information on planning, organization, and content and methodology of training programmes for community-based personnel.

During the year translations of IRC publications were carried out with various partner organizations in French, Spanish, Hindi, and Sinhalese.

For UNICEF, IRC undertook the distribution of UNICEF's latest water hardware guidelist "Aqua Plus" to non-UN persons/agencies. The book provides a selection of ordering information on appropriate technology for water supply and sanitation in developing countries, and comprises annotated lists of materials supplied by UNICEF to government programmes or purchased for other organizations through UNICEF's Supply Division.

IRC participated in the 3rd and 4th Consultations on Institutional Development organized by WHO in Geneva. These were part of a series of consultations which aimed to further develop the draft cost recovery guidelines resulting from previous consultations. Between the two official meetings IRC, on request from WHO, hosted a Study Group Meeting on cost recovery in June. In these meetings a great deal of interesting ground was covered and good progress made towards the development of draft frameworks for expense coverage for both agency- and community-managed systems. Importantly, a number of representatives from developing countries as well as ESAs participated. The consultations led to the formulation of action plans for testing and using the draft guidelines at the country level. Plans were also in preparation for IRC to support these developments.

IRC participated in the WHO-coordinated 'round table' discussions amongst External Support Agencies held in Harare, Zimbabwe. The meeting's agenda included the

co-ordination of plans and co-operative mechanisms for the region and a review of past activities.

On request of the German Agency for Technical Co-operation (GTZ), USAID and the Water and Sanitation for Health Project (WASH), IRC is participating in a project on the development of guidelines for evaluating Human Resources Development (HRD) procedures in the water supply and sanitation sector. From 5-9 December a meeting was held at IRC for the purpose of developing and testing indicators for effectiveness of human training. Among topics discussed were how to carry out a project and establish team planning, and how to use the guidelines, which subsequently will be field-tested in ongoing WASH/GTZ projects.

A first draft of the guidelines is expected by the end of March 1989, followed by a wider promotion and application thereof through a one-day seminar in Europe in the early autumn of 1989. IRC will provide its expertise in the establishment of the guidelines, with special emphasis on community management of improved water supply and of local hygiene and sanitation improvements. It will also assist in the design and testing of monitoring systems on project results.

For various bilateral and multilateral donors a number of commissioned evaluation and advice missions were carried out in 1988. For DGIS IRC staff participated in a formulation mission to the water supply project implemented by the Lake Basin Development Authority in Kenya. For the same donor, support missions were carried out in Guinea Bissau to a water project implemented by the Netherlands Development Organization SNV, and to water and sanitation programmes in Yemen Arab Republic; Kerala state in India; Phnom Penh, Kampuchea; and Zambia.

In Benin, IRC participated in an evaluation of the second phase of a primary health care project executed by the Royal Tropical Institute and financed by the Netherlands Government.

Staff of IRC went on a mission to Vietnam to assist UNICEF with the formulation of a training programme on water supply and sanitation. Two staff members participated in an appraisal mission for a proposed rural water supply project supported by the Finnish International Development Agency (FINNIDA) in Nepal.

Training and briefing activities became increasingly important in 1988. They included a growing number of briefing sessions for small groups of participants who prepare

themselves for specific jobs in specific countries. The participants make use of the knowledge of IRC staff and resource persons from outside, combined with documentation support. Sponsorship from ESAs made it possible for project staff from various developing countries to participate in these programmes.

Knowledge base development included support to projects and missions mentioned above, as well as work on new issues related to the environment and urban fringe water supply and sanitation.



Malawi communal waterpoints: community participation in operation and maintenance is monitored through the IRC-supported piped supplies project. (photo Mary Boesveld/IRC)



Women await their turn at the new standpost in Karyamulia, Indonesia, which the community helped to build. (photo Mary Boesveld/IRC)

2. Programme Development

IRC programme work largely deals with applied research. In 1988 emphasis was given to five major issues:

- development work on selected issues with organizations in a selected number of developing countries;
- advisory support to programmes and projects in developing countries, which receive supported from multilateral and bilateral donor agencies;
- training and briefing programmes for consultants and volunteers, tailored to the needs of the projects and countries they work or are going to work in;
- development and distribution of publications to spread the integrated knowledge and experience on key subjects available to IRC;
- knowledge base development, in which emphasis was put on issues which have been recognized in various international fora to be the key to successful water supply and sanitation programmes and projects.

DEVELOPMENT AND DEMONSTRATION

The inter-country Piped Supplies for Small Communities project received major funding totalling dfl 2 210 000 for three years from the Netherlands Directorate General for International Co-operation (DGIS). The project builds on the experiences of the earlier IRC-supported Public Standpost Water Supplies project (1983-1986). The new project runs until 1990, initially in Malawi and Zambia where further development and wider use of improved approaches to piped supplies for small communities will be promoted. The work will be done by national project teams working within their parent governmental agencies, supported by IRC. The emphasis in 1988 in both countries has been on preparation and information acquisition, with implementation of demonstration schemes to follow in 1989.

In the final phase of the development and demonstration project on Slow Sand Filtration, IRC support in 1988 was limited to national activities in India and Colombia, where expert groups on slow sand filtration are active in spreading appropriate use of the technique.

New projects started in 1988 on pre-treatment, maintenance systems development, development of a methodology for community self-improvements, and a new project in Indonesia combining piped supplies, slow sand filtration and information activities.

Piped Supplies for Small Communities (PSSC)

The general objective of this project is to establish more efficient and appropriate ways of approaching and supporting new and existing piped supplies. A second major goal is to share the new knowledge generated by the programme and to promote its wider application in the participating and other developing countries.

In April/May, two IRC staff members supported national PSSC project teams in Malawi and Zambia with their further informal review of the earlier Public Standpost Water Supplies (PSWS) projects. This will help PSWS experiences be better utilized in the new PSSC project. Support was also given to forward-looking detailed PSSC planning sessions with the project teams. In both countries, the multi-ministry team worked together to produce detailed programmes and schedules of activities (including division of responsibilities), especially for the project's initial year.

Malawi

In April the Water Department of the Ministry of Works and Supplies produced its final report on the Public Standpost Water Supplies project 1983-1987. The department appreciated the contribution of the PSWS project to improved strategies and methods for the planning, implementation and management of public standposts with the communities themselves. The IRC co-ordinated project helped to develop the strategies by building on and strengthening Malawi's earlier Communal Water Point project.

An integrated training workshop for field workers was organized by the Malawian team in August, to introduce the objectives of the PSSC project to regional and district officials and to train government employees of the Ministry of Health, the Ministry of Community Services and the Water Department, who will act as field assistants for the implementation of the project.

In October a national PSSC workshop was held in Malawi, with the objective of exchanging views and experiences and stimulating discussions on the integrated PSSC approach and on community participation in water supply programmes. The workshop was attended by representatives from national governments in Malawi and Zambia and

from other national and international agencies involved in water supply programmes and projects.

Zambia

Early in the year, the new Piped Supplies for Small Communities project got underway in Zambia. The project spans the calendar years 1988, 1989 and 1990. As in Malawi, two integrated workshops were held, one reviewing the achievements and lessons of the earlier PSWS project, the other developing planning mechanisms and detailed activity planning for the new project. Outline planning was started for a national workshop on piped supplies planned for early 1989.

There were a number of encouraging aspects to the Zambian PSSC project. New project team members from the Department of Water Affairs and the Department of Social Development joined the project manager from the Ministry of Health in the project team. Encouraging also were the inauguration and regular meeting of the Project Management Committee, a strong grouping of senior staff from participating ministries, training and academic institutions and the National Action Committee for the Water and Sanitation Decade. This development should enhance the opportunity for wider application of project findings and the methodology under development.

Zimbabwe

Initiation of a PSSC project in Zimbabwe awaits further discussion of an earlier submitted proposal to DGIS by the National Action Committee in Zimbabwe.

IRC Support

IRC support to the project in 1988 included co-ordination and support visits to the participating countries by the project manager and the social scientist. These visits concentrated on support to the national project teams in finalizing contractual arrangements, in organizing and conducting two workshops in each country and in planning. IRC also acted as a key resource participant in the PSSC Malawi National Workshop. In addition, information support was provided by IRC's documentation unit and assistance given on the purchase of project equipment.

In the last quarter of 1988, Mr. Hamed Bakir, who recently graduated from the WEDC course at the Loughborough University of Technology, joined IRC to provide general support to the PSSC project. Specifically, he is working in conjunction with IRC documentalists in obtaining and reviewing material on practical project management for developing countries. Until March 1989 he will select, extract and categorize material

and information for future use by IRC on further guiding and assisting country-level project staff.

Slow Sand Filtration (SSF)

IRC's Slow Sand Filtration project is nearing its end. For 12 years it has advocated and demonstrated this low-cost, appropriate purification technology, with the emphasis on integration of technical and non-technical components. In several countries, notably Colombia and India, these efforts have contributed to valuable follow-up. Work in 1988 concentrated on development of tools and a methodology to stimulate wide-scale application of this technology.

Colombia

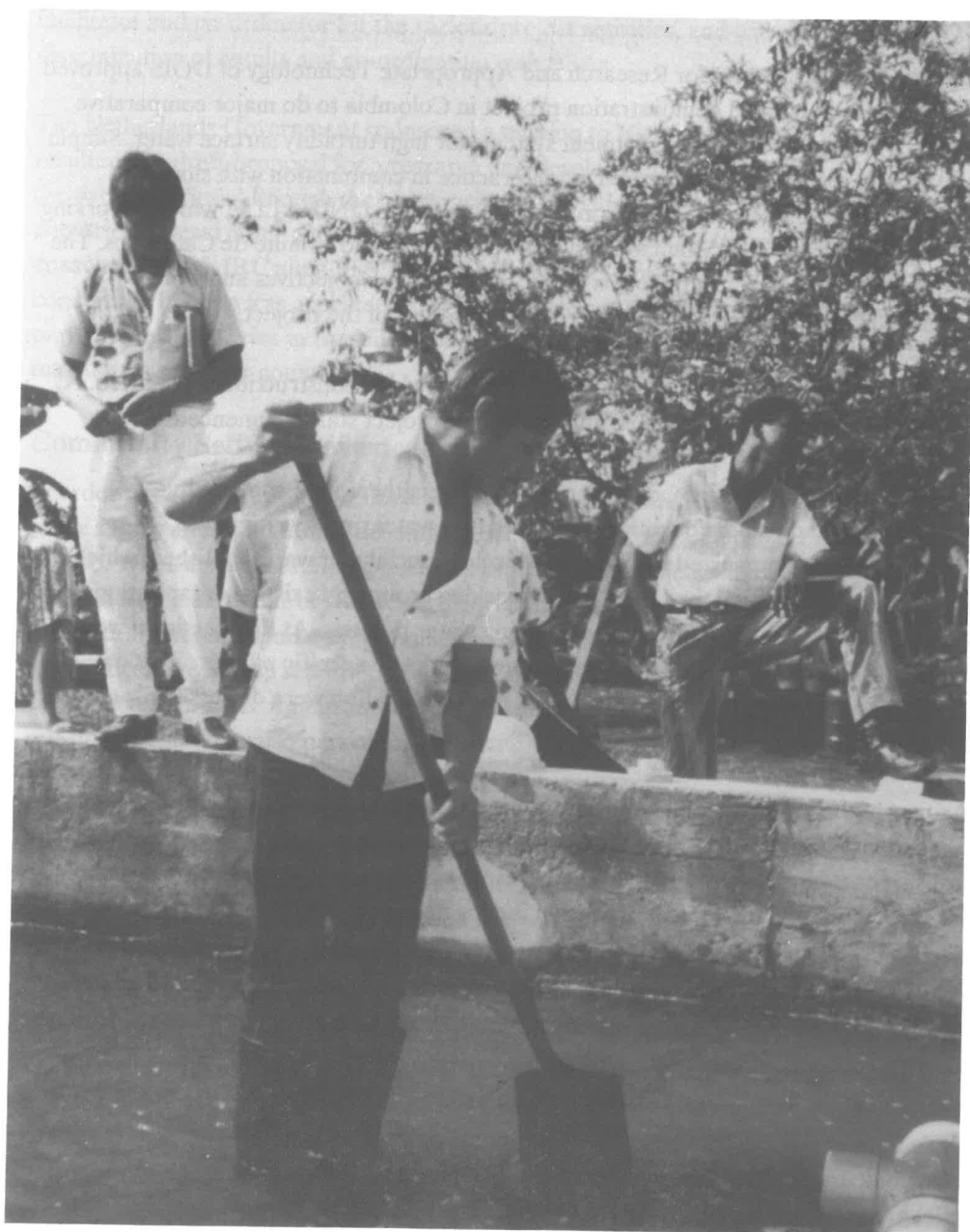
Especially in Colombia, the University of Valle (UNIVALLE) in Cali very actively promoted the use of community-based slow sand filtration. In three regions of the country working groups have been established to promote wider dissemination of slow sand filtration and pre-treatment methods.

Also in Colombia, Comité de Cafeteiros (Committee of Coffee Growers) received approval for a proposal for the construction of six new SSF installations in the Valle region. During the year the increasing popularity of slow sand filtration systems was further evidenced by the interest in pilot SSF projects expressed by Ghana and Mozambique.

Mr. Gerardo Galvis, professor at UNIVALLE in Cali, spent several weeks at IRC to discuss a new proposal for wider dissemination of slow sand filtration and pre-treatment methods in Colombia and Latin America. The working group Area de Abastecimiento y Remocion de Agua, based at the UNIVALLE, will play a pivotal role in this process with support from IRC. During his stay Mr. Galvis also discussed progress in the ongoing pre-treatment project with IRC's staff and DGIS. Finally, he established an proposal outline for water disinfection in rural areas.

India

In the final phase of IRC's Slow Sand Filtration project, a study on riverbed filtration in India was completed in 1988. The project manager at the National Environmental Engineering Research Institute (NEERI) in Nagpur completed his PhD thesis on SSF. NEERI also translated IRC's SSF caretakers' manual into Hindi for use in local training programmes in India.



A caretaker of the El Retiro treatment plant in Cali, Colombia demonstrates the cleaning of the upflow roughing filter. (photo Hielke Wolters/IRC)

Pre-Treatment

In early 1988, the Section for Research and Appropriate Technology of DGIS approved a new development and demonstration project in Colombia to do major comparative research of five different pre-treatment systems for high turbidity surface water. Simple pre-treatment methods will be tried out in practice in combination with slow sand filtration and disinfection. For this project IRC supports UNIVALLE, which is working together with Empresas Municipal del Cali (EMCALI) and Comité de Cafeteiros. The international advisory group for this project reviewed the objectives and work programme, and advised on the research methodology of the project.

Comité de Cafeteiros designed a test laboratory on which construction was started. A testing programme was developed and training of project staff commenced.

IRC supported introduction, development and strengthening of community participation and health education components in water projects for which UNIVALLE had organized meetings in March. A social unit was established, which will form a link between the UNIVALLE working group and existing organizations in order to strengthen these elements in ongoing water projects. At the meeting a work programme for the unit was designed and reviewed, and specific pilot projects on community participation and participatory health education were discussed for two communities.

As part of this research and demonstration project a literature review on roughing filtration was completed. Considerable work was done on a project document, which gives an overview of the techniques and present experience in pre-treatment technology for community water supply. Publication is expected in early 1989.

Maintenance Systems Development

IRC's work in this area concentrated on West Africa and was done jointly with the Comité Interfricain d'Etudes Hydrauliques (CIEH), and Comité Interfricain pour la Lutte contre la Sècheresse au Sahel (CILSS). Early in the year, preparatory work was done for a multi-country maintenance systems development project. The project aims to contribute to the development of sustainable maintenance systems through studies and pilot activities which will be carried out in collaboration with national agencies, rural water supply projects and specialized institutions in the West African sub-region. Field studies and applied research at the project level will generate the experience required upon which national and regional maintenance policies can be based. IRC will act as

facilitator and co-ordinator for the various project activities, and will emphasize the dissemination of results and co-ordination with ESAs.

The Netherlands Government sponsored a mission to Niger and Burkina Faso which resulted in a draft proposal for a research and development project on maintenance in the two countries. Although the preparation of activities concentrates on these two countries, several other countries have confirmed their interest to participate. After consultation with IRC and CILSS, CIEH submitted the proposal to DGIS. A decision concerning funding was expected to be made in early 1989. Meanwhile, staff from participating ministries in Burkina Faso and Niger have produced reports on handpump maintenance in their countries.

Community Self-Improvements in Water Supply and Sanitation

In order to develop, test and refine a methodology for community self-improvements in water supply and sanitation in developing countries, IRC began a project on this subject in 1988. When sufficient funding becomes available, the project will be carried out with national agencies in four or five developing countries. The project countries are to establish and test a training programme to assist health and community development workers in applying the self improvement methodology in pilot communities. Development of local organizational and technical backstopping systems for community self-improvements is also part of the project.

As a start in this process, and with funding from the Netherlands Ministry of Housing, Physical Planning and Environment, IRC developed a manual meant to be used in these training programmes. The manual, called "Community Self-Improvements in Water Supply and Sanitation" has been reviewed and was printed at the end of the year, and will soon be tested and introduced in selected countries. The manual will help community-based personnel act as stimulators and driving forces behind community water supply and sanitation self-improvements in remote communities.

Combined Project Indonesia

Following the successful Public Standpost Water Supplies project in Indonesia, various Indonesian agencies continued work on a combined proposal for IRC support to three groups of activities. The Institute of Human Settlements in Bandung (IHS) requested IRC inputs in their new activities on piped supplies. Similarly the Directorates of Water Supply and Programme Development of Cipta Karya asked for IRC inputs in slow sand

filtration and information activities. At the end of the year discussions continued about the final proposal, for which funding will be sought from the Dutch Government.

ADVICE AND EVALUATION

Advice and evaluation support to projects in developing countries funded by various donors continued to play an important role, with the number of contracted missions increasing. In India, Kampuchea, Kenya, Sudan, Yemen Arab Republic and Zambia it concerned Netherlands-supported projects to which IRC support had been provided before. To projects in Benin, Guinea Bissau, Tanzania, Nepal and Vietnam advice and evaluation support was given to projects funded by the Netherlands and Finnish governments and by UNICEF.

India

Monitoring work continued for the water supply and sanitation programmes in four states in India, supported by DGIS. A mission was carried out to the water and sanitation project in Kerala state (for which IRC provides backstopping), with the aim to get acquainted with the local situation there. More specifically, the feasibility of lending support from the project to a local pipe factory was reviewed.

Support was also given to the establishment of an improved monitoring system for the general Indian/Dutch Water Supply and Sanitation programme. IRC acted as external advisor for the department concerned at the Ministry of Foreign Affairs in the Hague. This activity will be strongly supported in 1989.

A two-day briefing programme was organized at IRC for engineers from the Kerala programme, to discuss backstopping possibilities. This was followed by three days of introductions to other water agencies in the Netherlands. A more intensive briefing programme was organized at IRC for three staff members from the Andhra Pradesh Water Authority, which is executing the Netherlands-supported project. Subjects covered included technology options for Andhra Pradesh including slow sand filtration, pre-treatment and roughing filtration, training of various levels of staff, community participation, and monitoring and evaluation of the software components.

Several briefings and debriefings took place with the Dutch review and support mission teams, which visited the Netherlands-supported water projects in the various Indian states.

A desk study was prepared advising the project on design and cost of latrines in India.

Kampuchea

IRC is advising the Urban Sanitation project of NOVIB (Netherlands Organization for International Development) in Kampuchea. In 1988 backstopping services were provided to the project staff of this urban upgrading project in Phnom Penh. IRC's role includes monitoring and evaluation, assisting in needs assessment and training programme development, and informing on maintenance, hygiene education and solid waste management. In September IRC assisted in the recruitment of a project sanitary engineer to be posted in Phnom Penh.

Kenya

For DGIS IRC support was provided to a formulation mission for the second phase of the Rural Domestic Water Supply and Sanitation Programme implemented by the Lake Basin Development Authority in Kenya. In co-operation with the relevant authorities the mission prepared a general framework and detailed project plan for the continuation of the programme. Special attention was paid to the structure necessary to implement the programme from the district level so that it can be based in and sustained by the community. The advice included recommendations on division of responsibilities and supervisory procedures.

The programme involves the construction of both hand-dug and machine-drilled wells, together with sanitation and health education components.

Sudan

Following an evaluation in June 1988 of the Netherlands-supported Water Resources Assessment and Development project in Southern Dafur, Sudan, IRC's inputs were focussed on preparation of a training course for the project staff and development of a monitoring system. For the executing agency, TNO Institute of Applied Geoscience, IRC staff guided an evaluation course focussing on monitoring system development. The aim was to equip the 10 to 15 Sudanese course participants to better carry out internal evaluations and to develop and use monitoring systems. IRC provided general backstopping and support in the early phases of this project, which has been extended until mid-1989.

Yemen Arab Republic

Advisory services in the Yemen Arab Republic mainly concerned three projects supported by the Netherlands Directorate General for International Co-operation. For the Support Rural Water Supply Department project support was given to the development of an integrated approach, and a monitoring mission was prepared for early 1989. For the Rada'a Integrated Rural Development project IRC advised mainly on the women participation and health education components, and has been invited to join an evaluation mission scheduled for mid 1989. For the Rada'a Urban Water Supply and Sanitation project IRC staff participated in the review of an inception report, and for the same project a mission was planned for early 1989 to discuss follow-up on the basis of the report.

Zambia

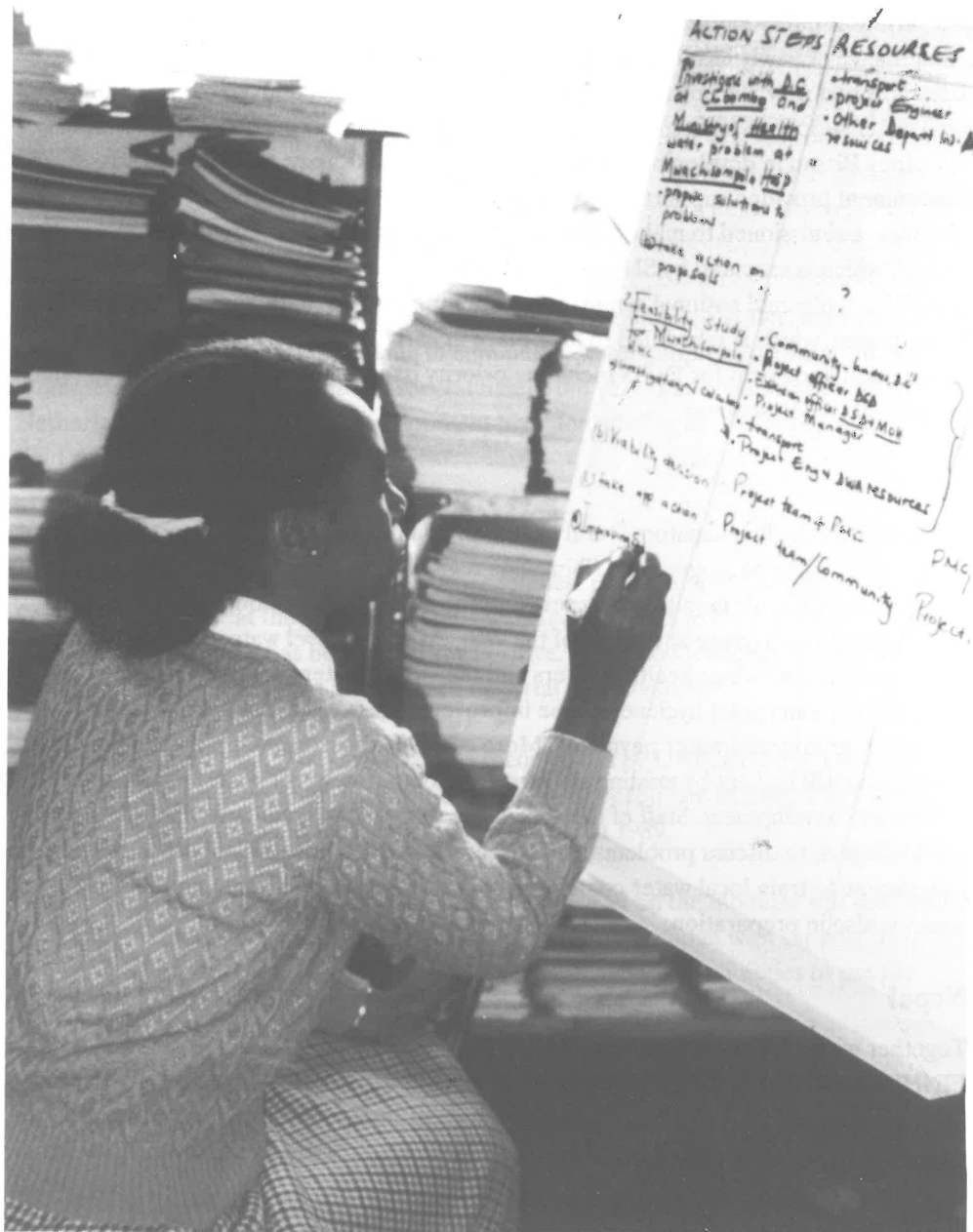
Following the joint formulation work in 1987 between Netherlands Development Organization (SNV), IRC and the Department of Water Affairs in Zambia's North Western Province, a new project, to be known as Rural Water for Health project, was approved by DGIS. In 1988 SNV requested IRC advisory and backstopping services during the next three years of this integrated shallow-well project, for which an agreement has been concluded. The SNV project manager and the project's community education and participation advisor followed briefing and information programmes at IRC. Backstopping was provided to SNV project staff in Zambia and additional periodic backstopping visits are being planned.

Benin

IRC participated in an evaluation of a primary health care project's second phase, which is being executed in Benin by the Royal Tropical Institute, Amsterdam, and financed by the Netherlands Government. Aside from evaluating organization and efficiency, the possibility of increased emphasis on the water supply and sanitation aspects of this project was investigated. Increased co-ordination of primary health care and water supply programmes was found to be necessary, which would be in line with current government policy. An expected outcome of the evaluation is increased co-ordination between the project and the water ministry.

Guinea Bissau

In Guinea Bissau maintenance of rural water supply has been recognized as a very important issue. In the past decade numerous projects have been implemented, leading



A member of the Piped Supplies for Small Communities project in Zambia participates in an evaluation workshop of the project. (photo Mary Boesveld/IRC)

to a variety of pump models with a centrally organized maintenance system. Quite often maintenance of newly installed pumps stops soon after a project is finished. Figures to date show that new, decentralized maintenance systems are required to ensure that rural water supply systems continue to function and be used. To assist the government of Guinea Bissau in developing an overall maintenance strategy, the Netherlands Government provided support to the Maintenance of Rural Water Supply project. IRC was commissioned to make a preliminary assessment of the situation for this project, which is executed by SNV. Assistance was also given to the development of an outline for a planned national seminar on community-based maintenance systems development, which is scheduled to take place in early 1989. IRC also prepared a background document for DGIS including priority issues to be discussed and suggested participants in the seminar.

Tanzania

On request of the Participatory Rural Water and Sanitation project supported by the Netherlands in the Morogoro and Shinyanga regions in Tanzania, IRC started preparation of a draft monitoring system on project implementation, maintenance, management and hygiene at the end of the year. At village level waterpoint caretakers, village mechanics, village health workers and the village water committee will register breakdowns, waterpoint hygiene, latrine improvements, activities of local hygiene discussion groups and water payments. More complex records on implementation and functioning will be kept by existing staff from the departments of water, health and community development. Staff of these departments will also regularly visit villages to meet villagers, to discuss problems, and to learn from their creative solutions. A training programme to train local water committee members in administration and financial issues is also in preparation.

Nepal

Together with a Finnish consultant IRC participated in an appraisal mission for FINNIDA to the proposed Rural Water Supply and Sanitation project in the Western Development Region of Nepal. IRC expertise contributed particularly to technical, community participation and hygiene education components in this four-year project.

Vietnam

A mission to Vietnam with UNICEF in March set out to discuss training needs for project management and implementation staff, lower project staff and villagers. The

result was a three-phased plan including compilation of a training manual, a pilot course for technical and non-technical field staff, and formalization of existing training courses in Vietnam. The meeting report has been translated into Vietnamese, and will be used in seminars and discussed at all levels to better define organization and training needs.

TRAINING AND BRIEFING

The number of briefing and preparation programmes conducted at IRC for expatriate and developing country staff working in community water supply and sanitation projects increased in 1988, especially in the second half of the year. The collaboration with the Netherlands Organization for Development SNV for briefing and backstopping of their field staff was extended for another year.

Evaluation

In 1987 IRC developed the training course modules "Evaluating Water Supply and Sanitation Projects" at the request of UNICEF Headquarters in New York. Response to the modules in 1988 has been generally positive. A marked tendency is that the evaluation modules are used as reference material by individuals.

The interest in the evaluation material was reconfirmed by UNICEF New York, by its request for a French translation on which work commenced late in 1988. The French version is expected to be available by the end of March 1989.

In the second half of the year an evaluation course based on the modules was held in the Water Resources Assessment and Development project in Sudan with support from IRC, who acted as course co-ordinator. IRC is still exploring possibilities to use the modules in training workshops in developing countries.

Another initiative in 1988 was the preparation of a proposal for intercountry evaluation, which was submitted to the International Development Research Centre (IDRC). The initial reaction has been positive, but at the end of the year no funding decision had been made.

Briefing and Preparation Programmes

Since early 1986 IRC has organized briefing and preparation programmes for national and expatriate project staff, researchers, consultants and others to prepare them for their field assignments. These programmes are tailored to the project and country concerned, and combine the study, selection and compilation of documentation on key subjects with job-oriented training, on the basis of the expertise available within IRC. Usually the programmes are specially designed for and discussed with the sponsoring agencies in order to meet the specific learning and information objectives of the participants.

In 1988 an increasing number of national and expatriate staff members involved in rural and urban water supply and sanitation programmes in Asia, Africa and Latin America successfully completed IRC's briefing programmes, which lasted from two to ten days. A range of subjects were covered in these programmes, including management of water supply and sanitation programmes, operation and maintenance for rural water supplies, community participation, and evaluation. Other subject fields covered in standard briefing programmes included hygiene education, cost recovery and community finance, training curriculum development, human resource development, design and construction of small community water supply and sanitation systems, solid waste management, and urban sanitation and water quality analysis. Briefing programmes focussing on technical subjects have covered a range of appropriate technology options such as handpumps, dug and hand-drilled wells, slow sand filtration and pre-treatment alternatives, public standposts, spring captation, gravity piped water supply, renewable energy for water pumping, and household options for improved water supply and sanitation.

International organizations and donor agencies showed an increasing interest in the programmes. Enthusiastic reactions from the field show that IRC's briefing programmes are seen by many of the participants as a cost-effective way to fill gaps in training and information in a very short period of time.

In December a brochure describing the training and briefing programmes was produced and mailed to selected addresses. The development of basic information packages to facilitate preparation of briefing programmes on various subjects was also started. These packages are also intended to be used as a basis for supplying SNV field offices with small basic libraries, so that former participants of IRC courses can use general reference material while in the field.

Training SSF Caretakers in Francophone Countries

Slow sand filters have been constructed in several French speaking African countries, but too many of them are functioning at a substandard level. One of the reasons for this is inadequate caretakers training. To assist training efforts to overcome this problem, IRC translated the simple "Manual for Caretakers of Slow Sand Filtration" into French, which after review was published in March 1988. On the same subject, work on two other publications started. The first one concerns a resource document in French, the second will be a trainer's guide. Both are to be tested in a pilot course in West Africa, for which Ivory Coast and Zaire have already expressed interest.

Lectures

Apart from training inputs in the development and demonstration programmes, IRC staff has increasingly been involved in lecturing at international courses organized by Dutch universities. These include the Technical University of Delft, Technical University of Twente, Agricultural University of Wageningen, International Institute for Hydraulic and Environmental Engineering (IHE) in Delft, Institute for Housing Studies (IHS) in Rotterdam, and Royal Tropical Institute in Amsterdam.

PUBLICATIONS

The development and distribution of publications has always been an important activity at IRC because it is an essential outlet for the integrated knowledge and experience available to IRC. The publishing programme developed in 1988 saw an integration of technology issues with community-based organization, maintenance, financial management and other software issues.

In 1988, publication management at IRC underwent a change in organization. It was also the first full year of experience with production using desktop publishing software. In all, three new titles in the Technical Paper Series were produced, three in the Occasional Paper Series, two in the Training Series and four in the Reference Series. For the full list of IRC publications see Appendix 4.

Handpump Monograph

Jointly with the International Development Research Centre (IDRC) of Canada, IRC published Technical Paper no. 25 "Handpumps: Issues and Concepts in Rural Water Supply Programmes". This publication replaces IRC's earlier book on handpumps,

which in 1977 was the first comprehensive document on this subject, having sold nearly 9000 copies in three languages. A flyer announcing the new title was distributed to a selection of IRC Newsletter readers.

The monograph concerns handpump water supply programmes for rural communities, and emphasizes an integrated approach to community water supply programme planning and implementation. Discussion of the technical aspects include the five principle types of handpumps and the latest advances in design and manufacture, with special emphasis on plastic. Specific attention is given to local maintenance, manufacture and the importance of quality control. An overview is provided of well construction techniques, site selection, and installation requirements. Attention is also given to ways of organizing and funding maintenance of handpump water supply systems.

The publication should be seen as a companion document to the World Bank publication "Community Water Supply: The Handpump Option". It has been written especially for programme staff, planners and policy makers, and the content will also be of interest to project management staff.

Nepal: Ten Years of Experience

Together with the Nepali Government, UNICEF and SATA/Helvetas, IRC has documented the developments and achievements over a ten year period of the Community Water Supply and Sanitation Programme in Pokhara, Nepal. The programme concerns gravity-fed water supply schemes with public tapstands, and school and household latrines.

The publication, entitled 'Ten Years of Experience' is no. 26 in IRC's Technical Paper Series, and was published late in the year. It traces programme developments from initial focus on standardization of design and procedures with attention to manpower development and recruitment, follows the change in emphasis over the years to promotion of sanitation and maintenance with attention to rehabilitation of completed water supply schemes, and finally describes recent emphasis on promotion of personal and environmental health as a means to increase benefits of new water supplies. Experience in this community-based, low-cost programme shows how the committed efforts of all parties has made steady and sustained progress in building and extending the programme.



A newly constructed tapstand in the Western Development Region in Nepal being used for washing and drinking water collection. (photo IRC)



Women and children fetching water from distant sources in the hilly areas of Nepal. (photo IRC)

Hygiene Education

Another publication completed at the end of 1988 was financed by the Section for Research and Appropriate Technology of DGIS: the "Hygiene Education Literature Review and Annotated Bibliography". The review is based on nearly 600 documents and presents an overview of current knowledge and experience in hygiene education. The aim of the document is to provide a wider audience with the "state of the art", and to stimulate further inputs and developments in hygiene education, as well as further research to increase its effectiveness. After external review the manuscript was at the printer to be published as no. 27 in the Technical Paper Series.

A second document with the provisional title "Key Issues in Hygiene Education Planning and Management" is well underway. It aims to provide project managers and planners with an overview of key issues requiring due consideration when preparing and implementing a hygiene education component in a project. The overview will be presented in such a way as to facilitate well-considered decision making regarding the integration of hygiene in water supply and sanitation projects. The first draft will be made available in the first part of 1989.

Other Publications

With a financial contribution from WHO, IRC published the manual "Training Community Motivators in Water Supply and Sanitation: A Reference Document" in its Occasional Paper series. The manual provides background information on planning, organization, and content and methodology of training programmes for community-based personnel.

Other new titles in this series were: "Community Participation and Women's Involvement in Water Supply and Sanitation Projects, a compendium paper", and "Water Supply and Sanitation in Primary School Education in Developing Countries, a preliminary study".

New titles in the Training Series included "Human Resources Development in Water Supply and Sanitation Programmes", and a French translation of the 'Manual for Caretakers of Slow Sand Filtration'.

In the Reference Series the multilingual "Interwater Thesaurus for Community Water Supply and Sanitation" and the "INFO-IMPACT Report on a Working Meeting on Information Exchange for Water Supply and Sanitation" were produced.

Translations

As follow-up of the publication of "Renewable Energy Sources for Rural Water Supply" in 1987, under co-funding of the Netherlands Ministry of Housing, Physical Planning and Environment and Netherlands Directorate General for International Co-operation, the former Ministry agreed in December to a proposal for more work. This includes translation of the first part of the above mentioned book into Spanish, for which possibilities were being explored at the end of the year.

The "Manual for Caretakers of Slow Sand Filtration", in the Training Series, was translated into French. To meet the demand for material in French on cost recovery and resources coverage, IRC translated major portions of "What Price Water? User Participation in Paying for Community-Based Water Supply" in the Occasional Paper Series. It was nearing completion for printing in the first half of 1989.

The co-publishing of IRC titles in Spanish with the Centro Panamericano de Ingenieria Sanitaria y Ciencias del Ambiente (CEPIS), the Pan-American Centre for Sanitary Engineering and Environmental Science in Peru, continued. First drafts of translations and pre-print versions of two more IRC titles in the Technical Paper Series were completed: "Small Communities Water Supplies", and "Evaluation for Village Water Supply Planning".

In Sri Lanka the National Water Supply and Drainage Board (NWSDB) and the National Water Supply and Sanitation Documentation Centre (WASSDOC) translated two IRC titles into Sinhalese as part of a larger translation operation (see Chapter 3: Collaboration). The National Environmental Engineering Research Institute in India translated the "Manual for Caretakers of Slow Sand Filtration" into Hindi.

Piped Supplies

Work on the successor to two earlier IRC publications on public standpost water supplies in the Technical Paper Series continued in 1988. Publication is now scheduled for late 1989. The publication will incorporate the findings from the IRC-supported Public Standpost Water Supply and Piped Supplies for Small Communities projects (see Chapter 2). Emphasis will be on partnership between agency and community throughout the project cycle.

Baseline Studies

A first draft of a document was produced on baseline studies for community water supply and sanitation projects. As funding did not materialize in 1988 further developments had to be postponed. Discussions are underway with the UNDP interregional project Promotion and Support for Women's Participation in the IDWSSD for possible finalization and a joined publication in 1989.

Sanitation

Work on a publication on practical, low-cost sanitation took considerable time in 1988, particularly reviewing the most recent approaches on the subject. The trend is that central governments are transferring a considerable portion of the costs to individual households and are concentrating more and more on promotional and demonstration work, making adequate information support very necessary. The publication, which will fall into the Occasional Paper Series, is nearing completion.

KNOWLEDGE BASE DEVELOPMENT

Knowledge base development at IRC concentrated on various subjects which were either topics emerging in the development and demonstration projects, or on which either publications were produced or desk studies were commissioned. These subjects included community-based financial management, hygiene education, handpump programmes maintenance systems, evaluation, community participation and involvement of women, and human resources development. New areas were ventured into, such as environment and urban fringe water supply.

Cost Recovery

IRC's work on the increasingly important issue of community-based financial management and resource coverage expanded considerably in 1988. In the knowledge base full use was made of the experience with financial organization at the local level and maximizing financial self-sufficiency in the communities involved in the Public Standpost Water Supplies development and demonstration project. A condensed French language version of "What Price Water? User Participation in Paying for Community-based Water Supply" (no. 10 in the Occasional Paper Series), and a literature review and glossary were in the final publication stage at the end of the year.

IRC became a member of the WHO Permanent Task Force on Cost Recovery and participated in various meetings on the subject. The first one was the Third Informal Consultation on Institutional Development and Cost Recovery in Community Water Supply and Sanitation held at WHO Headquarters in Geneva 11-15 April. The meeting was a review with financing agencies of project preparation, appraisal, financing and monitoring methods with regard to cost recovery and institutional aspects. It aimed to bring together donors and observers to convert findings into practical guidelines. Under the auspices of WHO, a follow-up study group meeting was held at IRC from 21-23 June to further develop cost recovery guidelines for community-managed systems and household sanitation. Among the results of the consultation and the IRC follow-up meeting were two draft frameworks relating to cost recovery and resources coverage issues.

In November IRC participated in the fourth consultation at WHO in Geneva, which aimed to further develop the draft cost recovery guidelines resulting from the previous consultations. Importantly, a number of representatives from developing countries as well as External Support Agencies (ESAs) were present. The consultation led to the preparation of action plans for testing and using the draft guidelines at the country level.

Proposals on case studies were also developed during the year, which are under discussion with various potential donors.

Human Resources Development Evaluation Guidelines

On request of the German Agency for Technical Co-operation (GTZ), USAID and the Water and Sanitation for Health (WASH) project, and with funding from GTZ, IRC is participating in a project on the development of guidelines for evaluating Human Resources Development (HRD) procedures in the water supply and sanitation sector. From 5-9 December a meeting was held at IRC for the purpose of developing and testing indicators for effectiveness of human training. Among topics discussed were how to carry out a project, how to organize team planning, and how to use the guidelines, which subsequently will be field-tested in ongoing WASH/GTZ projects.

By late February 1989 a first draft of the guidelines is expected, and a wider promotion and application thereof through a one-day seminar in Europe in the early autumn of 1989. IRC will provide its expertise in establishment of the guidelines, with special emphasis on community management of improved water supply and of local hygiene

and sanitation improvements. It will also assist in design and testing of monitoring systems for project results.

Evaluation

Valuable monitoring and evaluation material has been received from WHO and the WASH project. With the latter discussions are underway to collaborate in the development of a new document on evaluation and monitoring. In handling an increasing number of requests for information on monitoring it became clear that there is a great need for systematic information on the subject, for which a proposal was under development at the end of the year.

At the end of the year an arrangement was made with the Agricultural University of Wageningen for two of their management science students to carry out a study at IRC on the management and organization aspects for evaluation of donor-assisted projects in community water supply and sanitation. Their three-months study early in 1989 will also include preparation of a list of indicators and a checklist for use in future evaluation studies.

Community Participation

How can busy project managers and other officials involved in water supply and sanitation become familiar with what has been learned in the last decade on community participation without having to study a big pile of reports? To answer this question GTZ requested IRC to produce a study on this subject as part of their project called Promotion of Community Participation for Engineers. IRC prepared a promotional booklet which was under external review at the end of the year, and which summarizes the major facts and features on community participation and hygiene education. The booklet introduces the reader to more specific experiences such as community participation in handpump projects and involvement of women.

With GTZ support IRC is also producing a short paper on indicators for assessing the functioning and use of community participation methods in water supply and sanitation and hygiene education. For the same project the Institute for Medical Co-operation based in Cologne, West Germany is producing guidelines on community participation and hygiene education for donors and implementing agencies in developing countries.

Involvement of Women

For the Directorate General for International Co-operation in the Netherlands a draft policy paper was prepared on the role of women in water supply.

On request of the advisor on Women in Development from the Norwegian Agency for International Development (NORAD), a proposal was developed to continue the collection and dissemination of information on women's involvement in community water supply and sanitation, as follow-up of the earlier jointly published book "Participation of Women in Water Supply and Sanitation, Roles and Realities" in the Technical Paper Series. The proposal suggested an annual desktop-published bibliography. At the end of the year a decision on funding of this project was still pending.

Hygiene Education

For the two publications on hygiene education (the selected and annotated bibliography and key-issues documents) some 800 documents were reviewed, a selection of which was added to the centre's knowledge base. In co-operation with UNIVALLE in Colombia IRC assisted in a community self-study on water-, sanitation-, and hygiene conditions in an urban fringe community of Cali, the country's third largest city. The study forms the basis for the upgrading of the locally-built water supply system and for the improvement of local hygiene conditions, which are to take place with active involvement of the community. At the end of the year the project's social unit was documenting the approach developed, so that it can also be adopted in other water projects in the region.

Handpump Programmes

Most efforts in the first half of the year concentrated on the development of the new IDRC/IRC publication on handpump programmes. IRC staff participated in the advisory group meeting of the UNDP/WB Handpump project in Recife, Brazil. As a first step, options for feasible development of handpump-related activities were explored (local manufacturing, well drilling and digging).

Sanitation

Apart from the knowledge collection for the preparation of the IRC Occasional Paper on low-cost sanitation, work in 1988 concentrated on development of a project on operation and maintenance of low-cost sanitation systems in low-income shelter areas. In the last ten years an increasing investment has been made in this sector. Lately it has

become clear that due to inadequate attention to issues of operation and maintenance, valuable assets are becoming inoperable and often damaged beyond repair. Together with the Institute of Housing Studies of Rotterdam, IRC has developed a project proposal for research into factors which determine the adequacy of operation and maintenance of various sanitation options in India and Thailand. This proposal was awaiting a funding decision by DGIS at the end of the year.

Artificial Groundwater Recharge

Following the publication of "Artificial Groundwater Recharge for Water Supply of Medium-size Communities in Developing Countries", in the Occasional Paper Series in 1987, a promotional mailing was sent out this year to sound out interest from developing countries to participate in a demonstration project. The Infiltration Committee of the Netherlands Institute for Water Testing (KIWA) has expressed interest in supporting such a project.



*Woman development worker addresses a women's group meeting in a water project in Nepal.
(photo IRC)*

3. Information Development

Technical information exchange development and documentation services for better drinking water supply and sanitation is IRC's second major area of work. The importance of technical information exchange as a means towards improved water supply and sanitation in developing countries received a great boost in 1988. The International Consultation for the Co-ordination of Drinking Water Supply and Sanitation Programmes in November 1988 established temporary working groups, one of which is entitled Temporary Working Group on Communication of Information (TWG-INFO). This reflects that more and more emphasis is being placed on information and promotion in the sector in general. The working group began its task by developing project proposals which are to be submitted to the recently formed 1990 Committee of the Collaborative Council (see Chapter 1).

One of the four issues under consideration by the TWG-INFO is technical information exchange, which attracted considerable interest. Other areas are public information, project and sector information, and management information systems.

As part of a Core Group further consisting of UNDP, WHO and CEFIGRE, IRC was requested to take the lead in the Temporary Working Group on Communication of Information. IRC was to host a meeting of the Core Group in January to consider its terms of reference and develop issues for wider discussion with the group's entire membership later in the first half of 1989.

Recommendations for action will be formulated on the four major areas of information, which will be further discussed together with representatives from developing countries in April, at which time an action plan and final proposals will be prepared for submission to and approval by the 1990 Committee.

Also in 1988, the Steering Committee for Co-operative Action for the International Drinking Water Supply and Sanitation Decade (IDWSSD) approved IRC's Technical Information Exchange Strategy document, which is a follow-up of work on this issue in 1987 under the aegis of the Steering Committee.

In April, UNICEF reinforced inter-agency collaboration in the IDWSSD by agreeing to loan the services of Ms. Eirah Gorre-Dale from its Division of Information and Public

Affairs in New York, for a period of one year. In addition to being in charge of IRC's Information Department, Ms. Gorre-Dale worked primarily on the development of IRC's support strategy for technical information exchange, and the implementation of the INFO-IMPACT programme at country, regional and international levels. She is also in charge of preparing an inventory of information and training materials for and continuing technical information support to the UNDP/World Bank Decade Programme's International Training Network Centres.

INFO-IMPACT

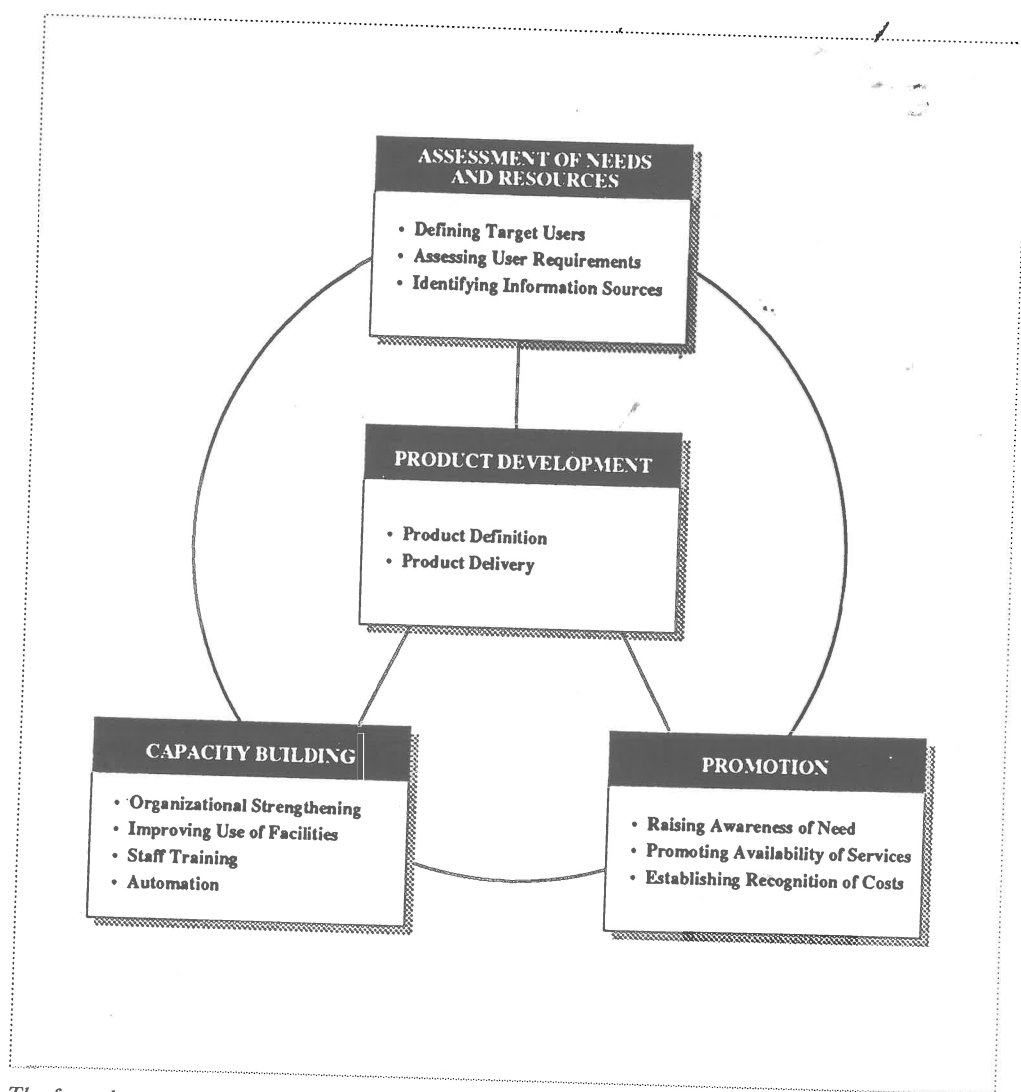
The final report on the INFO-IMPACT Working Meeting on Technical Information Exchange held in The Hague in September 1987 was published in 1988. Also off the press came the main product of that meeting, the booklet entitled "Framework for Technical Information Exchange", which encompasses the four main elements essential to information exchange activities:

- assessment of needs and resources
- product development
- capacity building
- promotion.

A promotional booklet entitled "Technical Information Exchange in Water Supply and Sanitation; A Strategy for IRC Support Activities" was published in October 1988 and was presented at both the Hague Consultation, and the 16th Meeting of the Inter-Agency Steering Committee for the IDWSSD held in Geneva. The booklet helped to draw attention to the concept of incorporating technical information exchange in water supply and sanitation projects. Together, these documents serve to promote improved technical information exchange in water supply and sanitation, particularly in projects in developing countries.

TIE support to the UNDP/World Bank Decade Programme's International Training Network (ITN)

A project aimed at strengthening the technical information exchange capacity of the ITN centres at regional and global levels was approved in September 1988 by the Netherlands Directorate for International Co-operation and the UNDP/World Bank Decade Programme. The major outputs of this project will include the publication and bulk reproduction of a slide-sound module on "The Use and Value of Technical Information" which will be part of the ITN Information and Training Materials for Low-Cost Water Supply and Sanitation; standardized sets of basic library packages for



The four elements of the Framework for Technical Information Exchange developed by IRC, which was endorsed by the external support agencies and recipient countries in various meetings.

all ITN centres; a simple guideline for setting up documentation services at the district/local level; and through inserts in the IRC Newsletter, regular news of the ITN activities as well as those of the UNDP/World Bank's Regional Water Supply and Sanitation Groups.

In October 1988, IRC participated in a joint mission to Indonesia with the International Institute for Hydraulic and Environmental Engineering (IHE) in Delft to review progress and to advise on the technical information requirements of the ITN Centre at the Institute of Technology Bandung (ITB). IRC has been requested to provide information support to the next four-year project phase of the ITN network in Indonesia, proposed under joint funding by DGIS and the UNDP/World Bank Programme.

Interwater Thesaurus

With funding from the International Development Research Centre (IDRC) of Canada, IRC has published a new trilingual Interwater Thesaurus for Community Water Supply and Sanitation. Contributing organizations were the Association Française pour l'Etude des Eaux (AFEE), Centre Interafricain d'Etudes Hydrauliques (CIEH), Centro Panamericano de Ingeniera Sanitaria y Ciencias del Ambiente (CEPIS), the Environmental Sanitation Information Centre (ENSIC), and the Water Research Centre (WRc) in the UK.

This thesaurus is a complete revision of the earlier Intermediate Thesaurus on Community Water Supply and Sanitation for Developing Countries, and is available in English, French and Spanish. Intended for use by librarians and documentation staff, it aims to facilitate storage and retrieval of information on water supply and sanitation in and between developing countries around the world. It is also a useful tool for translators and professionals in the water sector worldwide who are working in research, documentation and publishing.

Translations of the Thesaurus into other languages are underway, including a version in Bahasa Indonesia, which is being prepared by ITB in Bandung, one of the ITN Centres in Indonesia. An Arabic version is also in preparation by the WHO Centre for Health Activities Network for the Middle Eastern region, CEHANET.

Work also continued on the preparation of an "Interwater Glossary of Terms" to complement the Thesaurus, which will have applications beyond information and

documentation purposes, such as standardization of terminology for report writing and project preparation by field workers and programme staff in water supply and sanitation.

List of Basic Publications Ordering Service

In the last quarter of 1988 a total of 3000 "Lists of Basic Publications on Community Water Supply and Sanitation" were sent to UNDP in New York, and other UN agencies. The list contains 90 titles with abstracts and ordering information. Widescale distribution to UNDP Resident Representatives took place in December with an accompanying explanatory letter from Mr. Arthur Brown, Deputy Administrator of UNDP. IRC is to provide a centralized ordering service in response to requests coming in from UNDP field offices. This list of basic publications was also incorporated in the Aqua Plus guidelist published by UNICEF.

Inventory of Training Materials

In 1988 the UNDP/World Bank Decade Programme agreed to support IRC in the preparation of an inventory of selected information materials for training in water supply and sanitation. The end product will be an organized, annotated and trilingual inventory of water supply and sanitation materials for use by those responsible for funding and organizing training courses, as well as for those using these materials for programmes and projects.

Soon to be published, this trilingual inventory is being prepared by IRC in collaboration with WEDC/Loughborough University, CEFIGRE and PAHO/CEPIS, for the English, French and Spanish versions respectively. The main beneficiaries will be Decade project managers, planners and decision makers, developers of training materials and trainers.

Documentation Services

The documentation unit's computerized database, IRCDOC, was completely converted to MINISIS in 1988. A total of 842 documents were added to the holdings, bringing the number of records in IRCDOC to 4168 at the end of December, most of which is grey literature on water supply and sanitation. All keywords were adjusted to conform with the descriptors in the Interwater Thesaurus. Films and videos available at IRC were included in the database and the slide series will be added shortly.

To improve the services, guidelines for searching in IRCDOC were prepared to enable visitors and IRC staff to perform their own searches. A card catalogue is still available for publications acquired before 1984 and for individual slides. A Library Advisory Committee was established to assist in the acquisition of new publications. The request handling-, institutions-, and country files were updated and further developed.

Continuing support and collaboration with libraries and documentation centres in developing countries were provided in 1988: duplicates of documents from the library were sent to WASSDOC, Sri Lanka, and a complete inventory of audio-visual materials was shared with the Institute for Human Settlements (IHS) of the Ministry of Public Works in Bandung, Indonesia.

Library staff received 88 visitors during the year and answered many requests for information, half of which came from developing countries. A start was made in 1988 to charge documentation users for these documentation services. This is done not only for financial reasons but also to further promote the notion that information has a cost.

During the year six Current Awareness Bulletins and four Accession Lists were compiled and distributed. The current awareness services were extended with a quarterly SDI (Selective Dissemination of Information) feature. At the end of the year, about half of the individuals and agencies which had been receiving the Current Awareness Bulletin on an experimental basis made use of the option to subscribe to this service on a paid or exchange basis.

A brochure on documentation services was ready in draft for publication in the first half of 1989.

Collaboration

Following participation in an earlier advisory meeting, IRC attended the First Consultative Group Meeting on CEHANET, held at WHO's Regional Centre for Environmental Health Activities for the Mediterranean Region (CEHA) in Amman, Jordan, from 6-9 June. IRC presented a paper on Needs Assessment and Market Analysis at the meeting, which was attended by participants from government ministries, engineers and information staff from the EMRO region, as well as international agencies such as IDRC and IRC.

CEHANET, a new regional network launched on 1 February 1988 with a grant from IDRC in Canada, initially aims to promote technical information exchange in the field of water supply and sanitation in the region, help build and strengthen national infrastructure on this issue, and become a self sustaining information network in the long run. Following the INFO-IMPACT Framework for Technical Information Exchange developed in 1987, CEHA will use IRC's classification system in CEHANET, and undertake the translation of the Interwater Thesaurus into Arabic with IDRC support and in collaboration with IRC. An agreement for exchange of publications between CEHA and IRC has also been made.

Together with the organization of Water Companies in the Netherlands (VEWIN) and the Netherlands Organization for International Co-operation (NOVIB), IRC has contributed to the proposal to initiate the Netherlands Water Network (WNN). The Ministry of Housing, Physical Planning and Environment and the Directorate General for International Co-operation have agreed to fund this initiative, which is a follow-up of the European "Solidarité Eau" initiative. IRC has been involved in preparing a checklist of criteria to be used by Dutch voluntary and municipal organizations who wish to sponsor water and sanitation projects in developing countries. These projects are being executed by local counterpart organizations of the Dutch co-financing agencies.

Some initiatives stemming from IRC's earlier support to the Programme on Exchange and Transfer of Information project produced some results in 1988. Nineteen English publications on water supply and sanitation were translated into Sinhalese by the National Water Supply and Drainage Board, and the National Water Supply and Sanitation Documentation Centre (WASSDOC) in Sri Lanka. An "Annotated Bibliography on Rural Water Supply and Sanitation" in English and Thai were prepared by Mahidol University in collaboration with the Library and Regional Documentation Centre (LRDC) of the Asian Institute of Technology, with UNDP and IRC support.

Other Activities

In October the Steering Committee for Co-operative Action for the International Drinking Water Supply and Sanitation Decade invited IRC to its 16th meeting. Technical information and public information were the two subjects in which further IRC support was requested.

At the request of the Steering Committee, WHO has entrusted IRC with the responsibility for preparing an assessment of technical information exchange activities during the International Drinking Water Supply and Sanitation Decade. The report will be consolidated into the overall Decade assessment of achievements made by UN agencies, developing country institutions, non-governmental organizations, donor agencies and other organizations in the areas of human resources development, community participation and the role of women, cost recovery, appropriate technology, health aspects and technical information exchange, among others. The combined report will be presented to the 1989 session of the UN General Assembly.

In the area of public information, IRC together with UNDP was requested to host a three-day meeting of appropriate multilateral and bilateral agency representatives to initiate the preparation of a public information strategy. In accordance with the conclusions of the 15th Steering Committee, UNDP agreed to financially support the proposed meeting planned for the first half of 1989. This initiative has since been linked with IRC's input in the work of the new Collaborative Council, and its Temporary Working Group on Communication of Information.

4. External Relations and Public Information

The furthering of IRC's relations with external support agencies was much enhanced by the International Consultation for the Co-ordination of Drinking Water Supply and Sanitation Programmes, held in the Hague in November. Co-sponsored by the Netherlands Directorate General for International Co-operation (DGIS) and the World Health Organization (WHO), the consultation was organized by IRC, and chaired by former Ambassador Scheltema, IRC's chairman.

Noteworthy in this context is also IRC's membership in the Temporary Working Group on Applied Research, in addition to the participation in the group on Communication of Information.

The relationship with the United Nations agencies involved in the Decade was further strengthened by the kind invitation of the Steering Committee to attend its meeting in October. Participation in several other regional and national Decade consultations further added to increased co-operation with developing countries as well as external support agencies. In addition to linkages with the programmes of the organizations represented in IRC's Governing Board, new programme contacts were established with a number of bilateral donors and non-governmental organizations.

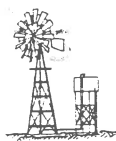
In addition to technical information exchange, IRC also carried out activities pertaining to public information. Newsletters and publications are the most tangible products of IRC's knowledge base. These annually reach thousands of readers on request, more than half of whom are in developing countries. They cover a wide range of subject areas in which IRC is active, which is also reflected in articles and presentations, and participation in national and international workshops and conferences. Public relations activities also drew attention to the importance of the work in the sector.

Newsletter

In 1988 production of the IRC Newsletter switched entirely to desktop publishing. This resulted in increased flexibility and a more professional layout. In all, eight newsletters in English and six in French were produced and distributed during the year. In the English version 46 items on a wide range of subjects appeared. Maintenance, community-based financial management, community-based water treatment in Colombia and the follow-up of the Water Decade received special attention.



Renewable Energy Sources for Rural Water Supply



SUPPLEMENT NO. 2 December 1988

This is the second of a series of supplements on renewable energy sources for rural water supply published in the IRC newsletter. They are prepared with co-funding of the Netherlands Ministry of Housing, Physical Planning and Environment with contributions from IT Power Ltd in England and Consultancy Services Wind Energy in Developing Countries (CWD) in the Netherlands.

For the third issue planned for May 1989 IRC welcomes interesting news from the field. You can address typed copy with a maximum of 500 words to the IRC Newsletter department at the address below.

WATERPUMP PRODUCTION IN NICARAGUA

The Nicaragua National Energy Institution (INE) has started up production of two waterpump models in conjunction with the People's Metallurgic Industries (IMEP) of Managua. A three meter model follows the design concept of most traditional machines. A second model is the five meter, faster running, direct drive waterpump by Consultancy Services Wind Energy Developing Countries, reports CWD's Jos van Beek.

WINDPUMP PRODUCTION IN AFRICA

Local organizations in six developing countries have in the last eight years been testing the Intermediate Technology windpump. In three African countries local companies carry out manufacture of the IT pump under licence from Development Techniques, a subsidiary of the Intermediate Technology Development Group.

Kenya was the first country which manufactured the "kijoto" model based on the IT windpump design. Windpumps are a low-cost alternative to diesel or electric pump sets, operating effectively even in low wind regimes.

In Nigeria UAC Nigeria Ltd has started local manufacture of the pump following a successful demonstration in 1986 and 1987 in northern Nigeria. Shipped from the licensee in Pakistan the windpump was sited at Goronyo, 100 kilometer north-east of Sokoto near the border with Nigers. The pump was very well received by the villagers in this semi-desert scrubland with only a short rainy season.

UAC Nigeria is with 10 000 employees operational in all 19 states and is also to service the windpumps. The estimated market for windpumps in Nigeria is thought to be considerable, and UAC Nigeria expects to

The Renewable Energy Sources for Rural Water Supply supplement in the IRC Newsletter is co-funded by the Netherlands Ministry of Housing, Physical Planning and Environment. (VROM)

As part of the contract with the Ministry of Housing, Physical Planning and Environment two one-page supplements were produced on renewable energy sources for water supply. Two specialized agencies on this subject contributed materials: IT Power from the United Kingdom and CWD, Consultancy Wind Energy Services in Developing Countries from the Netherlands.

Newsletter subscribers make regular use of the change of address form, which keeps the computerized mailing list up to date. An increasing number of agencies order bulk copies for internal redistribution. In total some 4400 individuals and agencies receive the newsletter. Of the English version, 3900 individual and 600 bulk copies were distributed, and of the French newsletter, 600 individual and 200 bulk copies.

Publication Distribution

The publication unit handled nearly 1000 orders in 1988, resulting in the distribution of 3658 IRC publications. Although this was a decrease from 1987, sales in Dutch guilders of Dfl 73 00 in 1988 (approximately US\$ 36 700) were slightly higher. Over 30 bulk orders were processed involving redistribution of over 1000 books, mainly to developing country requestors.

The number of individual paid purchases from developing countries is increasing. Nearly 200 orders were mailed directly to developing countries involving 700 publications, of which 65 percent was sold at the 40 percent discount that applies for clients in developing countries. The new title "Handpumps, Issues and Concepts in Rural Water Supply Programmes" in the Technical Paper Series was the best seller in 1988, with 498 copies sold. It was followed by "Slow Sand Filtration for Community Water Supply", "Renewable Energy Sources for Rural Water Supply", "Ten Years of Experience: Community Water Supply and Sanitation Programme, Pokhara, Western Development Region, Nepal", "Small Community Water Supplies in Developing Countries", and "Participation of Women in Water Supply and Sanitation, Roles and Realities" in the same series. Of each of these titles, between 200 and 250 copies were distributed.

In the Occasional Paper Series "What Price Water? User Participation in Paying for Community-Based Water Supply", was with 133 copies the bestseller in 1988. Another software related publications, "Maintenance Systems for Rural Water Supplies" in the Occasional Paper Series sold 94 copies. For both titles reprints were needed to satisfy the demand.

In the newly established Training Series the course modules and guide "Evaluating Water Supply and Sanitation Projects" sold 167 and 147 copies respectively.

In a special arrangement IRC agreed with UNICEF to act as distributor of UNICEF's latest water hardware guidelist "Aqua Plus" to non UN persons/agencies. This guidelist provides specifications and equipment information on appropriate technology for water supply and sanitation in developing countries, and comprises annotated lists of materials supplied by UNICEF to government programmes or purchased for other organizations through the UNICEF Supply Division in Copenhagen, Denmark. UN agencies and their staff can order the publication from UNICPAC. Together with Aqua Plus, UNICEF distributes a copy of the IRC 1988 publication catalogue.

The China National Publications Import and Export Corporation started to display 41 IRC publications in the newly opened Information Centre in the library of Beijing University.

In 1988, desktop publishing of IRC books and catalogues commenced on a number of productions. Total production amounted to sixteen : ten new publications in the various publication series, three reprints, and three brochures were produced.

Papers Presented

The following papers were presented by IRC-staff as a contribution to attended conferences and seminars:

- Handpump Standardization and Maintenance, presented by Teun Bastemeijer at the Technical Days of the 14th Ministers' meeting of the Comité Interafricain d'Etudes Hydrauliques (CIEH) in Ouagadougou, Burkina Faso, 6-9 February;
- Needs Assessment/Market Analysis for CEHANET, paper submitted by J.M.G. van Damme to the first Consultative Group Meeting on CEHANET in Amman, Jordan, 6-8 June;
- Water, Sanitation and Health: Learning from Evaluation, background paper submitted by Marieke Boot to the Round Table Session on Community Water Supply and Sanitation at the XIIth International Congress for Tropical Medicine and Malaria in Amsterdam, 18-23 September;
- The Work of IRC: Making Information Exchange Work, presented by Jan Teun Visscher at the Latin American Seminar on Water and Sanitation for Low-Income and Peri-Urban Populations in Recife, Brazil, 29 September -5 October;
- International Aspects of the Piped Supplies for Small Communities Programme, presented by Michael Seager at the National Workshop on Piped Supplies in Blantyre, Malawi, 10-15 October;
- Water Treatment by Slow Sand Filtration: Considerations for Design, Operation and Maintenance, presented by Jan Teun Visscher at the Advances in Slow Sand Filtration seminar organized by the Public Health & Water Resources Department of Civil Engineering of the Imperial College in London, United Kingdom, 23-25 November.

Participation in Workshops and Conferences

In the context of project work and general external relations the following workshops and conferences were attended:

- National Workshop on Pre-project Activities for the Establishment of a National Information Centre in Water Supply and Sanitation (NWSIC) in Thailand, organized by the Provincial Waterworks Authority in Bangkok, Thailand, 25 January;
- Launching of the Indonesian Water and Sanitation Information Network, jointly organized by the Directorate-General for Human Settlement of the Public Works Ministry, the Directorate-General for Communicable Diseases Control of the Ministry of Health, and the Centre for Documentation and Information of Indonesia (PDII/LIPI) in Bandung, Indonesia, 27 January;
- Technical Workshop on Handpump Standardization and Maintenance at the 14th Ministers' meeting of the Comité Interfrancain d'Etudes Hydrauliques (CIEH) in Ouagadougou, Burkina Faso, 6-7 February;
- First National Workshop for Instructors and Trainers on Low-cost Water Supply and Sanitation, organized by the International Training Network on Low-cost Water Supply and Sanitation Unit at the Institute of Technology (ITB) Bandung and the International Institute for Hydraulic and Environmental Engineering (IHE) Delft in Bandung, Indonesia, 15-26 February;
- ZOPP - Objectives-Oriented Project Workshop to develop the Collaborative Framework for the Remainder of the Decade and Beyond, organized by UNDP/World Bank in Washington D.C., United States of America, 21 -22 March;
- ZOPP - workshop to further develop the International Training Network, organized by UNDP/World Bank in Washington D.C., United States of America, 23-25 March;
- Third Informal Consultation on Institutional Development: Cost Recovery in Community Water Supply and Sanitation, organized by WHO in Geneva, 11-15 April;
- Meeting of the Working Group Endemic Fluorosis, organized by the Institute of Applied Research TNO in Delft, the Netherlands, 25 April;
- Workshop for Operators of Slow Sand Filtration organized by the University of Valle in El Retiro, Colombia, 5-6 May;
- Review Workshop of the Public Standpost Water Supply project 1983-1987, organized by the PSWS project team in Lilongwe, Malawi, 3-6 May;
- Review Workshop of the PSWS project 1983-1987, organized by the PSWS project team in Lusaka, Zambia, 7-10 May;
- Piped Supplies for Small Communities Project Planning Workshop, organized by the PSSC project team in Lilongwe, Malawi, 10-14 May;

- 21st ESCAP Interagency Task Force on Water for Asia and the Pacific, organized by the Economic and Social Commission for Asia and the Pacific in Bangkok, Thailand, 27 May;
- First Consultative Group Meeting on CEHANET, the Centre for Environmental Health Activities, organized by the WHO Regional Office for the Eastern Mediterranean in Amman, Jordan, 6-8 June;
- Third meeting of Librarians and Documentalists working on Third World Issues, in Nijmegen, the Netherlands, 8 June;
- Study Group meeting on Cost Recovery in Water Supply and Sanitation, organized by IRC in the Hague, the Netherlands, 21-23 June;
- Organizing the Rational Use of Water, Annual Forum 1988, organized by Intermediate Technology Development Group in Rugby, United Kingdom, 24-25 June;
- Seminar on Maintenance System Development and Social Activation, organized by the Ministry of Natural Resources in Guinea Bissau, 3-10 September;
- Committee meeting of IWSA's Committee for Developing Countries (COCODEV), organized by IWSA in Rio de Janeiro, Brazil, 12 September;
- Seminar on Developing Countries during the International Congress of the International Water Supply Association (IWSA), organized by IWSA in Rio de Janeiro, Brazil, 15 September;
- Country External Support Information (CESI) System, consultation among interested parties, organized by WHO at Sophia Antipolis, France, 20 September;
- XIIth International Congress for Tropical Medicine and Malaria, Round Table Session on Community Water Supply and Sanitation, in Amsterdam, the Netherlands, 18-23 September;
- SATIS North Documentalists' Meeting 1988, Bergen, the Netherlands, 3-5 October;
- ITN - Indonesia Co-ordination Meeting at Institute of Technology Bandung (ITB), Bandung, Indonesia, 4 October;
- Latin American Seminar on Water and Sanitation for Low-income and Peri-urban Populations, organized by the UNDP/World Bank in Recife, Brazil, 29 September-5 October;
- Lome IV and the Environment Conference, organized by the European Environmental Bureau in Brussels, Belgium, 5-6 October;
- National Workshop on Piped Supplies for Small Communities, in Blantyre, Malawi 10-16 October;

- Sixteenth Meeting of the Steering Committee for Co-operative Action for the International Drinking Water Supply and Sanitation Decade, in Geneva, Switzerland, 19-20 October;
- International Consultation for the Co-ordination of Drinking Water Supply and Sanitation Programmes, jointly organized by the Dutch Directorate General of International Co-operation, the WHO and IRC in the Hague, the Netherlands, 2-4 November;
- Fourth Consultation on Institutional Development on Cost Recovery in Water Supply and Sanitation, organized by WHO in Geneva, Switzerland, 20-25 November;
- Advances in Slow Sand Filtration, seminar organized by the Public Health & Water Resource Unit, Department of Civil Engineering, Imperial College in London, United Kingdom, 23-25 November;
- Inter-agency Round Table on Water Supply and Sanitation in East and Southern Africa, organized by WHO in Harare, Zimbabwe 28-30 November;
- GTZ/WASH Meeting to prepare Guidelines for Evaluating Human Resources Development in Water Supply and Sanitation Projects, organized by IRC in the Hague, 5-9 December.

Other Public Relations Activities

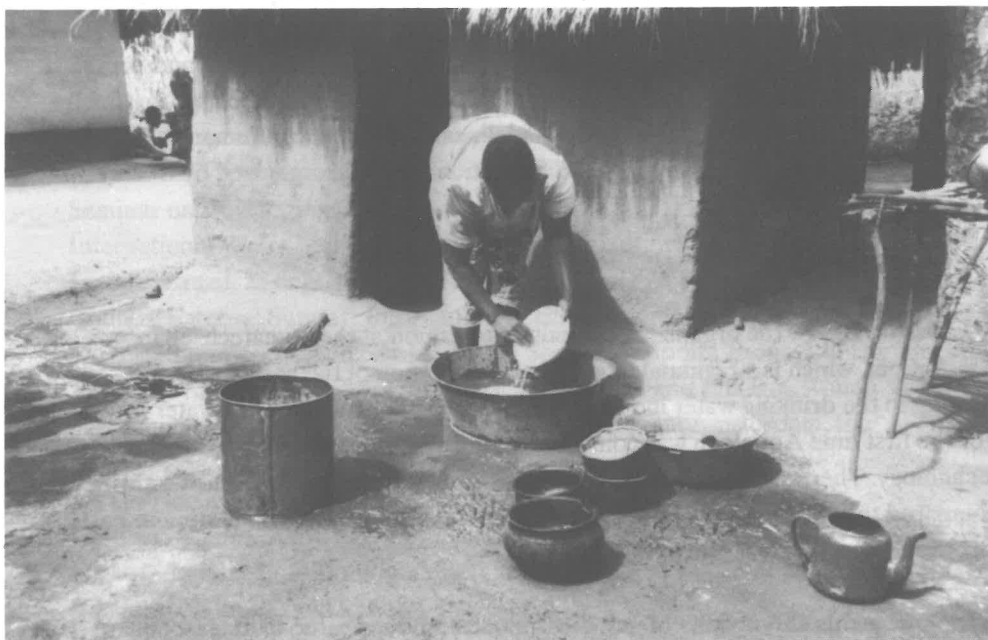
IRC was invited by the organizing committee to exhibit at the Aquatech '88 in Amsterdam, which is a biannual international exhibition of the newest developments relating to the drinking water industry, water quality control and wastewater processing. For the first time Aquatech was combined with Environ, an exhibit for environmental technology. There were noticeably fewer visitors from developing countries this year as compared to 1986, both for the accompanying Water Supply and Sanitation in Fast Growing Cities seminar and at the exhibition.

Announcements and reviews of new IRC publications appeared in at least 60 periodicals in 1988. The large International Consultation for the Co-ordination of Drinking Water Supply and Sanitation Programmes in the Hague in November was covered by three Dutch radio stations, the Dutch national press agency carried two stories, and the Inter Press agency and Reuters Press agency carried one feature story each. Internationale Samenwerking, the magazine of the Netherlands Development Co-operation Information Department, published an interview with IRC's director on the outcome of the meeting at the end of the year.

In its January issue (Volume 6 no.3) Waterlines published an IRC article entitled Hygiene Education in Primary Schools. UNICEF's Electronic Information Network (UNET) featured several "Newswire" stories citing new IRC publications as well as outcomes of conferences reported in IRC Newsletters.

Categorized Address System

In the first full year of operation, substantial work was done on cleaning and updating the address system running on the MINISIS software. All the records in the system receive specific subject and organization codes, which makes selective searching for marketing purposes possible. At the end of the year the system contained 4900 records.



— *Salina, the chairperson of the Tap Committee in one of the Malawi villages participating in the piped supplies development and demonstration project, demonstrates the good use she makes of the tap water. (photo Mary Boesveld/IRC)*

5. Management and Organization

The international Governing Board met in May and October of 1988. In May, IRC's annual programme was reviewed, resulting in the board members expression of their satisfaction at results booked by IRC in the area of information exchange. The most significant product of IRC's efforts in this area was the Framework for Technical Information Exchange (TIE) and the accompanying TIE Strategy.

Attention was given to the role of IRC beyond the International Drinking Water Supply and Sanitation Decade, particularly in the context of the Collaborative Framework for Global Co-operation proposed at Interlaken in October 1987. In a meeting with the Professional Staff members of IRC, presentations were made to the Board members about IRC's potential role beyond the Decade on five topics: case studies, community participation, technical information exchange, inventories and publications, and idea-generating meetings.

IRC welcomed two new members to its Governing Board in the spring: Mr. Curt Carnemark, Chief of the Infrastructure and Urban Development Department of the World Bank and Mr. Ger Ardon, Head of the Water Supply Division of the Dutch Ministry of Housing, Physical Planning and Environment's Directorate-General for Environmental Protection. Mr. Ardon, who will act as Secretary, filled the vacancy left by Mr. Jan Haijken in 1987. Mr. Frank Hartvelt of the Division for Global and Interregional Projects of UNDP New York acted for Mr. Alexander Rotival in the May meeting.

In the October meeting, the focus was on the upcoming International Consultation for the Co-ordination of Water Supply and Sanitation Programmes, and how it would influence IRC's role in the future, particularly in the area of technical information exchange, which together with applied research and knowledge transfer, are IRC's main areas of concern. The Indicative Medium-Term Plan 1989-1991, as well as the Indicative Annual Plan and Budget for 1989, in which the mentioned areas were emphasized, were reviewed and approved. Discussions focussed on five areas in particular: technical information exchange (TIE), maintenance systems development, indicators for sustainable projects, case study methodologies, and community-based financial management.

In the meeting with Professional Staff members, presentations were made on training course monitoring and evaluation in Sudan and proposed contributions by IRC in the context of the Collaborative Framework. A brief overview was also given of IRC's planned activities for 1989.

On the whole, the Governing Board endorsed IRC's plans to conduct activities with an environmental component, and saw IRC's role in technical information exchange as an increasingly valuable one. Support from UNDP for a publication ordering service for UNDP Res Reps, continuing co-operation and support from WHO in general and the Division of Environmental Health in particular, support from the World Bank for strengthening of Technical Information Exchange at ITN Centres, and collaboration with UNICEF on the development of evaluation training modules are all evidence of continued co-operation between IRC and the agencies represented in its Governing Board. Endorsements from the Ministry of Housing, Physical Planning and Environment (VROM) for the environmental components of IRC's work, and continuing close cooperation with the Ministry of Foreign Affairs are further indications of the productive relationship IRC has with its board members.

Management Team

Due to a vacancy in the position of Senior Programme Officer for Information as of February, the Management Team functioned with three members for the remainder of 1988. The team, consisting of the Director, Administrator and Senior Programme Officer for Knowledge Generation and Transfer made policy decisions on financial planning, project reporting, publication management, the stepping up of training and briefing programmes, and IRC's intended role in technical information exchange for the remainder of the Decade and beyond. Recruitment was a major issue, with two vacancies in the Information Department needing to be filled.

Budget

As a contribution to the work of the international community in the water and sanitation sector, IRC receives its core operating budget from the Netherlands Government (Ministry of Housing, Physical Planning and Environment, and the Ministry of Development Co-operation). The budget is supplemented with extra-budgetary resources from various international institutions which support IRC's specific programme activities, and a modest amount is also generated from the sale of publications and services. Costs incurred in securing extra-budgetary resources, as well

as costs associated with knowledge base development, documentation acquisition and general management are financed by the core budget.

In 1988, IRC worked with a total budget of close to 1.8 million dollars. The core budget was approximately US\$ 950 000 (Dfl 1.9 million), with an additional programme budget amounting to approximately US\$ 850 000 (Dfl 1.7 million).

Personnel

IRC employs a staff of 30 individuals of various nationalities. The programme staff at IRC is currently comprised of five engineers (planning, public health and sanitary), three sociologists/anthropologists, a journalist, a documentalist, and an information expert. Of these programme staff, nearly 40% are women.

Since May, IRC has been able to benefit from the loan of a UNICEF staff member with expertise in technical information exchange, for the period of one year. Existing vacancies, including the one to be left by the UNICEF staff member in mid-1989, are to be filled with experts in the field of information exchange, thereby strengthening IRC's potential role in these activities vis a vis work in the sector through the 1990's.

The programme support staff at IRC is gaining increasing responsibilities in content-related work, resulting in a more informed, involved, and well-rounded staff, and a less pronounced division between support and 'professional' staff members. This is envisaged to increase IRC's flexibility and productivity, and to free those working in specialized areas to increase IRC's knowledge base.

In addition to its regular staff, IRC also employs consultants for short and long term contracts. This year there were contractual agreements with 14 individuals and three agencies, for work on among others slow sand filtration, information exchange, piped supplies for small communities, public standpost water supplies and maintenance systems development projects.

IRC had two staff meetings during 1988, both of which brought to light the importance of good communication skills. Films were shown on the subject, and discussions led to better understanding of what causes communication to fail.

Staff education received more attention this year than in the past, with courses having been followed by various staff members in personnel work, automation, Spanish and management.

The continuation of IRC's pleasant working climate was assured by the social activities held during the year. The staff went on a half-day bicycle ride, a full day sailing trip, and had a barbecue and a dinner party both in honour of the foundation's 20th anniversary.

Automation

The Hewlett Packard 3000 mini-computer installed in 1987 became fully operational in 1988. For automation of the financial administration, a new system was installed towards the end of the year, which will become operational in 1989. After the inevitable start-up difficulties, desktop publishing on the Ventura software has become fully operational, permitting in-house publishing of IRC's Newsletter, Annual Report, and several publications in IRC's series.

Of major importance was the increased staff efficiency as a result of the acquisition of 15 Tulip PCs during the course of the year. The users quickly learned the ins and outs of the new PCs, partly due to the fact that many of them took advantage of an offer from the Ministry of Housing, Physical Planning and Environment, in which home PCs could be purchased interest-free on a three-year payment plan.

10,000,000,000

6. Programme Emphasis 1989

In its endeavours to ensure the application of appropriate information by water supply and sanitation related personnel working in or for developing countries, in 1989 as in previous years IRC will continue to carry out applied research, and to generate and transfer knowledge and information through its projects and publications. The projects in the areas of development and demonstration, advice and evaluation services and training and briefing programmes, as well as those on technical information exchange will together contribute towards IRC's overall strategy.

Particularly the development and demonstration projects offer great potential for adapting information to suit local conditions. By helping developing country nationals to come to grips with new approaches, they become the best promoters of low-cost sustainable technology. Through its development and demonstration projects, the centre will continue to support work in selected developing countries via its Piped Supplies for Small Communities and Pre-Treatment Methods for Rural Water Supply projects. Two new projects will be initiated regarding community self improvements in water supply and sanitation and maintenance systems development in West Africa.

There is an increasing demand for IRC's advice and evaluation services. In 1989, support will be given to programmes in India, North Yemen, Guinea Bissau, Kampuchea and Zambia.

Training and briefing programmes are also becoming more popular, and form an excellent means for information support. Decisions will be made in 1989 regarding the possible extension of other training activities.

Knowledge base development, another information-oriented category, deals primarily with inventorying of available and recorded information. In the coming year, knowledge base development will primarily concentrate on environmental and urban fringe issues, case study methodology and community-based financial management. Work on sanitation will continue, as will the development of evaluation methodologies. Community- and women-oriented issues will be kept up to date.

New planned publications include a Technical Paper on hygiene education, Occasional Papers on piped supplies and on-site sanitation, and an Interwater Glossary of Terms. Several earlier IRC publications will be translated into Spanish and French.

In the area of Information Exchange, strong emphasis will be placed on furthering the earlier work on INFO-IMPACT (the Information Exchange Plan of Action), which led to the recently developed strategy for Technical Information Exchange (TIE). This includes supportive work to the World Bank's International Training Network Centres, as well as an inventory of training materials. The initiative to provide an ordering service to UNDP Resident Representatives for titles in the earlier developed List of Basic Publications will be set forth as planned.

The strong emphasis on social components (community education, hygiene education, role of women, etc.), and their integration with technology components will be maintained in all of the projects. The same is true for the execution of country-level activities by nationals, rather than by IRC or other expatriate staff.

1989 will mark IRC's first involvement in environmental issues. A report on water source protection and an inventory of environmental issues have been planned to date.

I. Governing Board

Mr. H. Scheltema
(Chairman)

Former Ambassador

Mr. G.W Ardon
(Secretary)
(from April 1988)

Head, Water Supply Division,
Directorate General for
Environmental Protection,
Netherlands Ministry of Housing,
Physical Planning and Environment

Mr. W.J. Kakebeeke
(Treasurer)

Head, International Environmental
Affairs Department,
Directorate General for Environmental Protection,
Netherlands Ministry of Housing,
Physical Planning and Environment

Mr. G. Ringnalda

Chief, International Organizations Department,
Directorate General for International Co-operation,
Netherlands Ministry of Foreign Affairs

Dr. R.C. Harkema

Chief, Sector Programmes
Co-ordination and Technical Advice Department
Directorate General for International Co-operation,
Netherlands Ministry of Foreign Affairs

Dr. M.G. Beyer

Senior Policy Specialist,
Water and Environmental Sanitation Team,
United Nations Children's Fund

Mr. A.H. Rotival

UNDP/WHO Co-ordinator for the International
Water Supply and Sanitation Decade,
United Nations Development Programme

Mr. C. Carnemark

Chief, Water and Sanitation Division,
Infrastructure and Urban Development
Department,
The World Bank

Mr. M.A. Acheson
(observer)

Manager, Community Water Supply and
Sanitation Unit,
Division of Environmental Health,
World Health Organization

II. IRC Staff in 1988

Director

* Hans M.G. van Damme

Knowledge Generation and Transfer

* Jan Teun Visscher	Senior Programme Officer Knowledge Generation and Transfer
Teun F. Bastemeijer	Programme Officer Training and Maintenance Development
Ms. Marieke T. Boot	Project Research Officer Evaluation, Hygiene Education
Ms. Lizette A.M. Burgers	Support Officer Hygiene Education
Michael Seager	Programme Officer Piped Supplies for Small Communities and Community-Based Financial Management
Jo E.M. Smet	Project Research Officer Technology
Ms. Christine van Wijk- Sijbesma	Project Research Officer Community Education and Participation and Roles of Women
James G. Wilson	Programme Officer Sanitation

* *Members of Management Team*

Ms. Anneke Groenendal Programme Assistant

Ms. Brigitte M. Guillaot Programme Assistant

Technical Information Exchange

* Toon A. van Dam Senior Programme Officer
(until April 1988) Information

Ms. Eirah Gorre-Dale Programme Officer
(from May 1988) Information
seconded from UNICEF

Ms. Bettie E. Westerhof Senior Documentalist

Cor H. Dietvorst Documentalist

Eric van Veen Documentalist
(until August 1988)

Ms. Karin de Korte Programme Assistant

Ms. Antoinette A.M. Oosterveer Information Assistant
(until May 1988)

Ms. Hanneke Barten Project Assistant
(from August 1988)

Public Information

Dick de Jong Public Information Officer

Ms. Irene van Dieten Public Information
(from April 1988) Assistant

* *Members of Management Team*

Administration and Finance

* Krijn M. Peterse	Administrator
Michel Lugtmeijer (until December 1988)	Financial Officer
Ms. Nicolette Wildeboer	Management Assistant
Ms. Hülida W. de Vries	Staff Assistant
Ms. Carmen Slood	Publication Assistant
Ms. Lia Wahab	Publication Assistant
Ms. Hanneke Cusell-Schaap	Bookkeeper
Ms. Lauren Wolvers	Word Processing
Ms. Izabel Wimmers	Receptionist
Michel van der Leest	Office Assistant

Mr. T.K. Tjiook serves as Advisor, with particular emphasis on relations with East Asian countries and water quality and treatment issues.

* *Members of Management Team*

III. IRC's Organization and Strategy

In 1981, coinciding with the beginning of the International Water Supply and Sanitation Decade, IRC became an independent non-profit organization, which allowed for impartial and effective expenditure on water and sanitation-related projects. The international character of IRC is reflected not only in its mandate and working relationships, but particularly in its Governing Board. The latter comprises representatives of the international agencies WHO, the World Bank, UNDP and UNICEF, and of the two sponsoring Netherlands ministries, the Ministry of Housing, Physical Planning and Environment, and the Ministry of Foreign Affairs (Directorate General for International Co-operation). The members of the Governing Board are listed in Appendix I. IRC acts as Collaborating Centre for Community Water Supply and Sanitation for WHO.

IRC's overall strategy to achieve its objective is the generation and transfer of knowledge and applied research, and the development of technical information exchange. In this context, these include knowledge and experience; technology and methodology, and public information.

The strategy is performed through four main transfer mechanisms, 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 mechanisms is knowledge base development (knowledge generation and applied research). IRC also has a more general role in providing technical information exchange which includes general information dissemination, documentation services, and support to information activities in developing countries. Projects, which in principle require external funding, are developed directly and indirectly in consultation with target groups and their support agencies. An overriding consideration in IRC's multidisciplinary work is the integration of various technical and non-technical aspects. 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. IRC works closely together with UNDP, UNICEF, WHO and the

World Bank. It also co-operates with other UN agencies, financial donors and non-governmental organizations.

IV. List of Available Publications

TECHNICAL PAPER SERIES

- Participation and Education in Community Water Supply and Sanitation Programmes: a Literature Review. (TP 12**) 2nd revised edition, 1981
- Public Standpost Water Supplies. (TP 13**) 1979
- Public Standpost Water Supplies: a Design Manual. (TP 14**) 1979
- Evaluation for Village Water Supply Planning. (TP 15) 1980
- POETRI, Programme on Exchange and Transfer of Information: Reference Manual, Volume I. (TP 16*) 1981
- Community Participation in Water Supply and Sanitation: Concepts, Strategies and Methods. (TP 17**) 1981
- Small Community Water Supplies in Developing Countries: Technology of Small Water Supply Systems in Developing Countries. (TP 18*) 1981
- Guidelines on Health Aspects of Plumbing. (TP 19**) 1982
- Practical Solutions in Drinking Water Supply and Wastes Disposal for Developing Countries. (TP 20) 1982
- A Groundwater Primer. (TP 21) 1983
- Participation of Women in Water Supply and Sanitation, Roles and Realities. (TP 22) 1985
- Renewable Energy Sources for Rural Water Supply. (TP 23) 1987
- Slow Sand Filtration for Community Water Supply. (TP 24) 1987
- Handpumps, Issues and Concepts in Rural Water Supply Programmes. (TP 25) 1988
- Ten Years of Experience: Community Water Supply and Sanitation Programme, Pokhara Western Development Region, Nepal. (TP 26) 1988
- Hygiene Education in Water Supply and Sanitation Programmes. (TP 27) 1988

OCCASIONAL PAPER SERIES

- The Colombian Field Manuals and Training Guides for the Promotion of Community Participation in Water and Sanitation Schemes. (OP 2) 1983

**) Also available in French.*

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

- Planning and Evaluation for Community Water Supply and Sanitation: a Literature Review and a Selected and Annotated Bibliography. (OP 4) 1982
- Making the Links: Guidelines for Hygiene Education in Community Water Supply and Sanitation with Particular Emphasis on Public Standpost Water Supplies. (OP 5) 1984
- The Environment of Simple Water Supplies: a Selected and Annotated Bibliography in Support of Public Standpost Water Supplies. (OP 6) 1984
- Drinking Water Supply and Sanitation: Co-operation between Countries and Agencies. (OP 7) 1986
- Maintenance Systems for Rural Water Supplies. (OP 8) 1987
- Artificial Groundwater Recharge for Water Supply of Medium-Size Communities in Developing Countries. (OP 9) 1987
- What Price Water? User Participation in Paying for Community-Based Water Supply. (OP 10) 1987
- Training Community Motivators in Water Supply and Sanitation. (OP 11) 1987
- Community Participation and Women's Involvement in Water Supply and Sanitation Projects, a Compendium Paper. (OP 12) 1988
- Water Supply and Sanitation in Primary School Education in Developing Countries, a Preliminary Study. (OP 13) 1988

BULLETIN SERIES

- Global Workshop on Appropriate Water and Waste-Water Technology for Developing Countries. Report on Proceedings. (B7) 1973
- Slow Sand Filtration for Community Water Supply in Developing Countries: a Selected and Annotated Bibliography. (B9) 1977
- Public Standposts for Developing Countries, Proceedings of an International Expert Meeting, Achimota, Accra, Ghana. (B11) 1978
- Participation and Education in Community Water Supply and Sanitation Programmes: a Selected and Annotated Bibliography. (B13) 1979
- Community Education and Participation in the IRC Slow Sand Filtration Project. Report of Proceedings. (B14) 1979
- Slow Sand Filtration for Community Water Supply in Developing Countries, Report of an International Appraisal Meeting, Nagpur, India. (B16) 1981
- Report of a Global Seminar on a Modular Approach in Small Water Supply Systems Design, Jakarta, Indonesia. (B17) 1981
- Informe del Seminario Internacional sobre Filtración Lenta de Arena Para el Abastecimiento Público de Agua en Países en Desarrollo. (B18) 1983

TRAINING SERIES

- Manual for Caretakers of Slow Sand Filtration. (TS 1**) 1985
- Evaluating Water Supply and Sanitation Projects, Course Modules and Guide for Course Moderators. (TS 2) 1987
- Human Resources Development for Water Supply and Sanitation, Case Studies on Togo, Sri Lanka, the Philippines, Zaire and Thailand. (TS 3) 1987
- Training Skills for Supervisors. (TS 4), 1987
- Community Self-Improvements in Water Supply and Sanitation. (TS 5), 1988

REFERENCE SERIES

- Directory of Organizations involved in Community Education and Participation in Water Supply and Sanitation. (RS1) 1983
- Interwater Directory of Sources of Information and Documentation on Community Water Supply and Sanitation. (RS2) 1986
- List of Basic Publications on Community Water Supply and Sanitation, a Selected Bibliography and Glossary of Expressions. (RS3) 1987
- Interwater Thesaurus for Community Water Supply and Sanitation. (RS4) 1987
- INFO-IMPACT - Report on a Working Meeting on Information Exchange for Water Supply and Sanitation. (RS5) 1988
- Framework for Technical Information Exchange. (RS6) 1987

OTHER PUBLICATIONS

- Symposium on Community Water Supply in Developing Countries. Report of Proceedings. 1977
- Procédures Simplifiées pour l'Examination de l'Eau. 1983
- Volanta-Pompe à Main, Instructions d'Entretien. 1986.

V. Country/Project Matrix

This matrix contains a list of countries in which specific activities were undertaken in 1988, in addition to general information exchange in more than 100 countries.

COUNTRIES	ACTIVITIES						
	Slow Sand Filtration/ Pre-treatment	Piped Supplies	Maintenance Systems Development	Advice/Evaluation	Training	Technical Information Exchange	
Development & Demonstration							
Africa							
Benin				*			
Burkina Faso (Regional)			*				
Guinea Bissau			*	*			
Kenya				*			
Malawi		*					
Niger			*		*		
Sudan				*			
Tanzania				*			
Zambia			*		*		
Zimbabwe		*					
Asia							
India	*			*			
Indonesia		*			*	*	
Kampuchea				*			
Nepal				*			
Sri Lanka							*
Thailand							*
Vietnam				*			
Eastern Mediterranean							
Jordan (Regional)							*
Yemen Arab Republic				*			
Latin America							
Colombia	*						

VI. List of Abbreviations

CEC	Commission of European Communities
CEHA	Centre for Environmental Health Activities
CEPIS	Pan-American Centre for Sanitary Engineering and Environmental Sciences
CESI	Country External Support Information
CIEH	Inter-African Committee for Water Resources Studies
DANIDA	Danish International Development Agency
DGIS	Directorate General for International Co-operation (The Netherlands)
ENSIC	Environmental Sanitation Information Centre
ESA	External Support Agency
FINNIDA	Finnish International Development Agency
GTZ	German Agency for Technical Co-operation
IDRC	International Development Research Centre
IDWSSD	International Drinking Water Supply and Sanitation Decade
INFO-IMPACT	Information Exchange Plan of Action (process towards the implementation of technical information exchange)
IRC	International Water and Sanitation Centre

ITN	International Training Network for Low-Cost Water Supply and Sanitation
NEERI	National Environmental Engineering Research Institute
NGO	Non-Governmental Organization
NORAD	Norwegian Agency for International Development
NOVIB	Netherlands Organization for International Development
PAHO	Pan-American Health Organization
PEPAS	Western Pacific Regional Centre for the Promotion of Environmental Planning and Applied Sciences
SATA	Swiss Association for Technical Assistance
SNV	Netherlands Development Organization
TIE	Technical Information Exchange
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNIVALLE	University of Valle (Colombia)
USAID	United States Agency for International Development
VROM	Ministry of Housing, Physical Planning and Environment (The Netherlands)
WASH	Water and Sanitation for Health Project
WHO	World Health Organization

