



IRC

International Water and Sanitation Centre
WHO Collaborating Centre

*Annual
Report
1991*



IRC INTERNATIONAL WATER AND SANITATION CENTRE

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 the latter it acts as a Collaborating Centre for Community Water Supply and Sanitation.

The centre aims to ensure the availability and use of appropriate knowledge and information in the water, sanitation and environment sector in developing countries.

Activities include capacity development for information management, exchange of available knowledge and information, and development and transfer of new knowledge on priority issues. All activities take place in partnership with organizations in developing countries, United Nations organizations, bilateral donors, development banks, and non-governmental organizations.

Emphasis in programme activities is on community-based approaches including rural and low-income urban water supply and sanitation systems, community participation and hygiene education, the roles of women, maintenance systems, rehabilitation and environmental management.

The multi-disciplinary staff provides support through development and demonstration projects, training and education, publications, documentation services, general information dissemination as well as through advisory services and evaluation.

For further information:

IRC
P.O. Box 93190
2509 AD The Hague
The Netherlands

Telephone: +31 - (0)70-33 141 33
Telefax: +31 - (0)70-38 140 34
Telex: 33296 irc nl
Cable: Worldwater, The Hague

ANNUAL REPORT 1991

IRC
International Water and Sanitation Centre

Cover photo: M. Boesveld, IRC

Table of Contents

Foreword	v
1. Information Management	1
2. Research and Development	7
3. Publication and Documentation Services	23
4. Training and Briefing Programmes	29
5. Advice and Evaluation Services	32
6. Partners	35
7. General Management	41
8. Looking Ahead	43
Annexes	
I. Members of the Governing Board	45
II. IRC Staff Members	46
III. New Publications	49
IV. Meetings, Workshops, Seminars and Symposia	52
V. Papers and Articles	54
VI. Country/Project Matrix	55
VII. List of Abbreviations	56



Women and children gather at a pump in Mali (Photo E. Bolt, IRC)

Foreword

"The only way we can work for the common cause, for the common interest to improve our conditions is through communication. Basically it has to do with democracy, with participation and the ability to take care of our future."

Gro Harlem Brundtland, Prime Minister of Norway

The world is changing rapidly, and the magnitude of these changes continues to grow. Our increasingly fragile environment continues to be further threatened by the exponential growth in world population, particularly in the parts of the world which require support from the outside. This population explosion negatively influences efforts and developments to improve basic living conditions in practically every region of the globe.

While population increases, and social development processes lead to increased demands for goods and services, the growing burden on our environment must be relieved with a comparatively stagnant level of financial resources. The much needed assistance to Eastern European countries, and widespread public debate on the effectiveness of development aid put a strain on the determination of donor governments to step up funding of third world projects or even continue funding on the same level as in the past. The water supply and sanitation sector is one of many to suffer from these changing circumstances.

To fulfill the competing demands of the future, solutions can only be achieved if we follow a new course, which is radically different than in the past - one of effective and efficient global cooperation. As concluded at the Global Consultation on Safe Water and Sanitation for the 1990s in New Delhi, political commitment is essential, and must be accompanied by intensive efforts to raise awareness through communication and mobilization of all sections of society. With this in mind, a Core Group on Information, Education and Communication (IEC), working under the aegis of the Water Supply and Sanitation Collaborative Council, recommends that the water and sanitation sector adopt a

comprehensive, integrated communication strategy, underlying all sector work as an essential ingredient for maximum effectiveness of efforts.

To beat the pace of population increase, there must be a substantial reduction in costs of services through increased efficiency and use of low-cost appropriate technologies. Additional funds must be mobilized from existing and new sources, including governments, donors, NGOs and the private sector. In the years to come, sustainability will be a keyword. Emphasis will need to be on capacity building for improved sector performance, and it is absolutely essential that knowledge and information about past experiences will be readily available to those working on solutions to the many problems at hand.

IRC, with its diverse partnerships, places emphasis on the integration of social and technical aspects in finding solutions to the problems facing the water and sanitation sector. Its mission is "to generate information and advance its communication with the particular aim to enhance the knowledge of those involved in water supply and sanitation, water resources and waste management and related environmental issues in developing countries."

To achieve this, its role is threefold. Firstly, IRC plays a key role in information and documentation support towards government agencies, professional institutions and NGOs. Projects and individuals are also provided with information and documentation services as needed.

Secondly, knowledge enhancement is the core of collaborative projects on specific key issues, in which information is generated and applied.

Thirdly, as a long-term aim, it works on the development of resource centres for technology transfer and information management together with partners in developing countries.

The strength of IRC has always been in water supply and sanitation. However, the global recognition of environmental problems has led to the gradual inclusion of environmental issues in its scope of activities. The International Conference on Water

and Environment in Dublin held early in 1992 has given rise to increased emphasis on water resources management in the future.

The water sector is entering a new era. Improved communication and the capacity to effectively share information and knowledge will provide the solutions for the future. That is what IRC is all about.

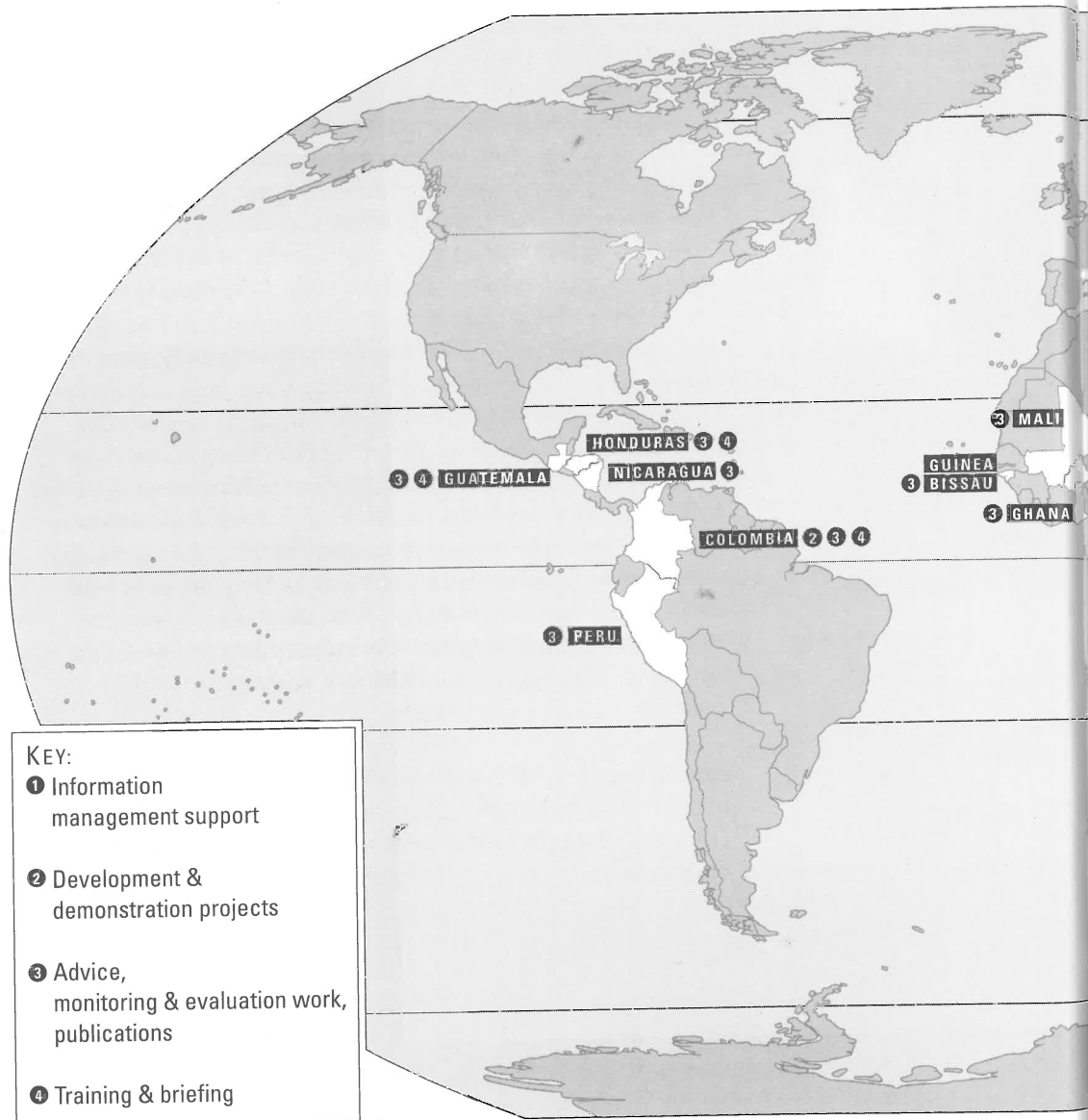
In response to global trends in the water supply and sanitation sector, 1991 was a year in which IRC intensified its activities in several important areas. Research work concentrated on community-based issues: community management, community self-improvements, hygiene education, community financing, and operation and maintenance. Gender issues, urban water supply and water resources management also received due attention.

Development and demonstration work continued in piped supplies and pre-treatment projects, and the transfer of slow sand filtration technology was expanded. Several publications were completed this year dealing with a host of topics from sustainable piped water supplies and economic benefits from improved rural water supply, to on-site sanitation and integration of hygiene education with water supply and sanitation. A periodical on woman, water and sanitation was also launched. Information holdings were expanded with the addition of several databases on CD-ROM. Information exchange work concentrated on capacity-building for information management, for which assessment and advisory missions were undertaken to several countries. The number of participants in training and briefing programmes continued to grow, as did the number of missions for which IRC was requested to lend its expertise in an advisory capacity.

Expansion and more in-depth work in these and similar activities in the 1990s will be IRC's contribution to greater effectiveness and efficiency of the developing countries' water and sanitation programmes.

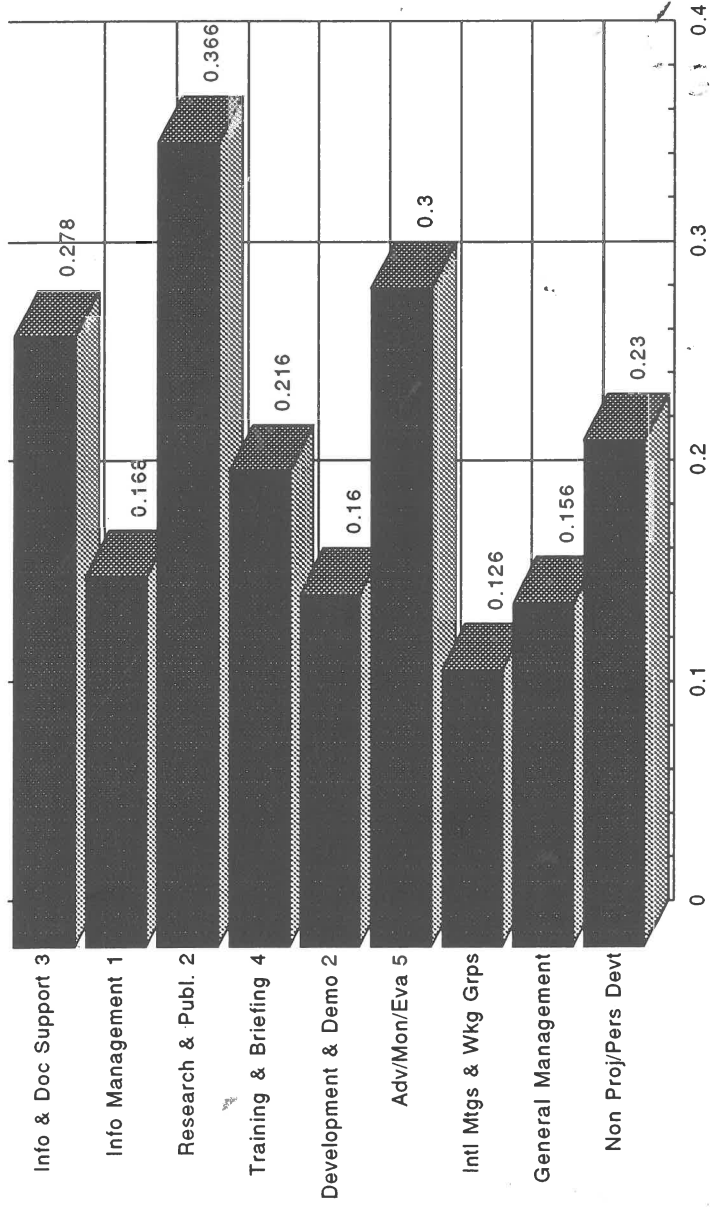
J.M.G. van Damme
Director
July 1992

Country support in 1991





Programme Execution 1991*



* Figures are based on time allocation as percentage of total time spent.
Numbers next to titles refer to chapters where programme activities are described.

1. Information Management

"Information Management is a crucial resource for effective water sector/resources management and is essential to any capacity building activity."

(in Capacity Building for Water Sector Management, an International Initiative for the 1990s)

Background

The years of the International Drinking Water Supply and Sanitation Decade (IDWSSD) are now behind us. During the IDWSSD, a significant amount of worthwhile work took place in many areas. New technologies were exploited on a large scale. Rediscovered technologies were adapted and improved. Earlier efforts in community participation matured into the community-based management concept. Thus, for the first time, communities, and particularly women, were involved as partners in project design and implementation. Engineers, sociologists, and technicians were trained in new techniques. And many data and experiences on technologies, water resources management and project delivery mechanisms were gathered and evaluated.

It has become clear that many of the achievements during the International Drinking Water Supply and Sanitation Decade have only partially contributed to broader skills development in the sector due to inadequacies in the communication and application of information. Past experience has clearly shown that the lack of information management, i.e. the capacity to manage information flows and ensure the effective use of information, has impaired optimum performance in water supply and sanitation, and in water resources management. Local structures and facilities must first be set up to facilitate information exchange. Only then is comprehensive information management possible.

The capacity to manage information is thus crucial for sound sector planning and management. It lays the foundation for effective monitoring and evaluation, (applied) research, water resources management, appropriate technology choice and community management approaches, human resources development and training, education and communication.

Earlier Work

Alongside the Global Consultation of September 1990 in New Delhi, India, a fresh impetus was created by a group of sector institutions active in information exchange, when they formed the Informal Information Group. This group resolved to foster capacity building by proposing an information management strategy for the sector. The strategy, which focused in particular on capacity building at country level, was presented in a paper at the Global Forum of the Water Supply and Sanitation Collaborative Council in Oslo in September 1991.

The Council acknowledged the concerns put forth by the Informal Information Group in its strategy paper, and endorsed the establishment of a Working Group on Information Management with a mandate to develop - on its behalf - strategies and activities to further capacity building in information management.

From information meetings and workshops in the late 1980s and its Framework for Technical Information Exchange, to its roles as convener of the Informal Information Group and leader of the Working Group on Information Management mentioned above, IRC has been instrumental in helping information management become one of the key components to be incorporated in future water and sanitation projects.

Partnership

At the professional support level IRC maintains contacts with a wide variety of sector support agencies and with a smaller number of institutions that have a direct mandate to further information exchange within the sector. These institutions work together to develop and update information management tools and methods. They further provide training opportunities and assist governments and NGOs in skills development in information collection, repackaging and dissemination. IRC plays an active role in seeing to it that these professional contacts are maintained and that support is generated for project activities in this field. Examples include its support to the update of the Interwater Thesaurus and the development of training manuals and modules in information management.

COUNTRY ACTIVITIES

Although international support activities in developing information management are important, it is at the country level that national sector institutions, NGOs and programmes are most directly in need of support for capacity building for information management. For that reason IRC concentrates its activities at the country level.

In the Philippines IRC has strong ties with the International Training Network (ITN) Centre based at the Local Water Utilities Administration in Manila. Progress made on the information aspects of the ITN-Philippines project since its inception in May 1990 was assessed this year, and IRC contributed to the further development of the information component, among others by the distribution of sets of Basic Libraries (key publications on water supply and sanitation) to the Manila centre and 12 of its associated centres. IRC assisted in the selection of a local information development scientist to guide the information development process envisaged for ITN-Philippines, and to provide hands-on training and confidence building in library and documentation skills for a number of centres associated with the Philippine ITN system.

IRC has been associated with WASIN (Water and Sanitation Information Network - Indonesia) since its inception. As funding from IDRC will expire by the end of 1992, suggestions were made by IRC on how to guide the project towards sustainability. At the end of the year three staff members from the project followed a course in information management at IRC, which aimed to introduce them to various information services that could be developed and provided within WASIN. By enhancing the network's service orientation towards its various users, it is expected that a stronger justification for continued (local) financing and a greater degree of sustainability can be achieved.

The emphasis of the long-standing relationship between IRC and Sri Lanka has shifted from inputs concentrating on human resources development and research and demonstration in community-based management, to developing information resources. For several years, support has been provided to the WASSDOC information resources centre of the National Water Supply and Drainage Board. In 1992 WASSDOC will lose IDRC information development financing. IRC will monitor the further development of the centre closely.

The NGO Decade Service acts as a resource centre for more than 30 members. Through its quarterly newsletter *Links*, which is published in Sinhala, Tamil and English, it reaches a large readership with sector news. IRC conducted a voluntary assessment of the information exchange potential of the Decade Service, on the basis of which HELVETAS, an international NGO active in Sri Lanka, agreed to secure the publication of *Links* for the next two years.

The Environmental Sanitation Information Centre (ENSIC), at the Asian Institute of Technology in Bangkok, Thailand has been working on the ENSICNET programme since 1988. The programme is funded by the Asian Development Bank. Institutions from China, Nepal, Pakistan, Indonesia, Philippines and Vietnam, all with a mandate in water supply, sanitation and environment, are working together to ensure adequate exchange of relevant documents amongst themselves as well as with the international network through ENSIC. The key elements of the programme are information exchange and simultaneous capacity building. IRC carried out an evaluation of Phase I of ENSICNET this year. The evaluation concluded that capacity building for information management takes more time than one thinks, that needs assessment enhances commitment, and that collaboration among similar networks probably helps to make capacity building more effective. Phase II of the project, which is also to be funded by ADB, has been approved for another three years as of January 1992 and will start its funding phase with a regional seminar to explore the benefits of collaborating with other networks active in the region.

IRC was invited by the Commissioner of Water Development of Uganda to provide follow-up to an earlier mission in 1990, which assessed the information situation with respect to the water sector in Uganda. The conclusions of the report led to the formulation of a number of project activities to improve aspects of information management. The mission resulted in a set of proposals for comprehensive development of the various information aspects relevant to the Water Development Department. Efforts are being made to integrate these proposals into a larger water resources capacity-building programme.

Contacts were maintained in Ethiopia following IRC's assessment input towards the development of a national information system. Due to a change in government in the second half of the year, activities have temporarily been suspended.

INFORMATION, PROMOTION AND SUPPORT

In November, IRC organized a workshop on information management. The participants discussed global cooperation and priorities in capacity building for information management at country level. The workshop was a preparatory meeting for the first meeting of the Working Group on Information Management scheduled to be held in Bangkok in April 1992. A range of actions were agreed upon in the workshop, for implementation in the coming year. These include an update of the Interwater Thesaurus and the classification, an overview of training opportunities in information management, and promotion of the need for capacity building in information management.



Participants in the workshop on information management (Photo N. Wildeboer, IRC)

In Brussels, the participants of the information management workshop mentioned above, together with IRC, attended an international seminar on the management of information related to water and environment, organized by the UNESCO International Hydrological Programme, which exchanged views on the title subject, with a specific focus on sustainable development in developing countries.

On behalf of the Water Supply and Sanitation Collaborative Council, IRC attended the seminar "Portugal - Bridge between Continents" in Lisbon. IRC presented the Council's Lusophone initiative, a proposal for an assessment of the issues involved in improved exchange, access and ultimately management of information on aspects of water supply and sanitation in African Lusophone countries. In support of the initiative, IRC developed a proposal to prepare a background paper for the proposed second Round Table. Two main activities are envisaged: assessment of the information in two Lusophone African countries, and preparation of an inventory of information sources on water supply and sanitation available in Portuguese.

At the end of the year, IRC gave professional inputs in the third meeting of the managers of African ITN Centres, which had as its theme, the development of a strategy for ITN in Africa. Recommendations that could influence the work of IRC in the future were made on human resources development and information.

Publications

Another integral part of making information accessible to those working in the sector is informing them of the wide range of materials that are available. To keep this information up-to-date the *List of Basic Publications on Community Water Supply and Sanitation*, first published in 1987, was revised. The new edition contains 130 publications covering new developments in water supply, sanitation and for the first time, environmental aspects. Furthermore, an *Inventory of Selected Training Materials for Water Supply and Sanitation* was compiled, which lists selected materials in English, French and Spanish that in themselves are comprehensive and complete training courses, or, with minor adaptation, can be made into training material to train sector staff.

2. Research and Development

Background

Research and development activities are essential in the effort to improve the effects of sector work. Sociological issues are as much a part of this work as the technical aspects of the water supply systems. While in the 1980s keywords included human resources development and the role of women, the 1990s has shown a shift towards community-based management and the consideration of environmental aspects.

As new issues arise, IRC takes the initiative to develop or broaden its information base in that area. It brings together experience in these issues - be it social or technical - through various types of projects, translates it into information, makes it accessible, and presents it to managers and project staff in such a way that a community-based approach will allow beneficiaries to make their own choices.

The broadening of its information base forms part of a constant, circular flow of information within IRC and between IRC and the partners with whom it works, and in that sense, information and experience are things which can be usefully applied to benefit many projects. The Water and Sanitation Collaborative Council has formed a Working Group on Applied Research, which has the identification of sector research needs as its mandate. As part of member of this group, IRC will continue to keep abreast of the sector's most urgent information needs.

In its research and development work, IRC focused on five basic issues over the past year. Technology transfer and integration, community management, hygiene education, water resources management, and urban water supply and sanitation, all of which are unique in their own right, but which, taken together, form an integrated whole.

Through development and demonstration projects, IRC aims to integrate the technical aspects of water and sanitation provision with the community-based approach which is so essential for the success of water and sanitation projects.

Development and demonstration projects provide developing country organizations with the capacity to implement and adjust approaches, learn from mistakes and achievements, and gradually step up activities while gaining expertise. This is particularly important to come to grips with the integrated nature of the projects. There are currently four such projects being implemented by IRC. Piped Supplies for Small Communities (PSSC), Simple Pre-Treatment Methods for Rural Water Supply (PRET), Community Self-Improvements in Water Supply and Sanitation (COSI), and Transfer of Slow Sand Filtration in Colombia (TRANSCOL).

TECHNOLOGY TRANSFER/INTEGRATION

Background

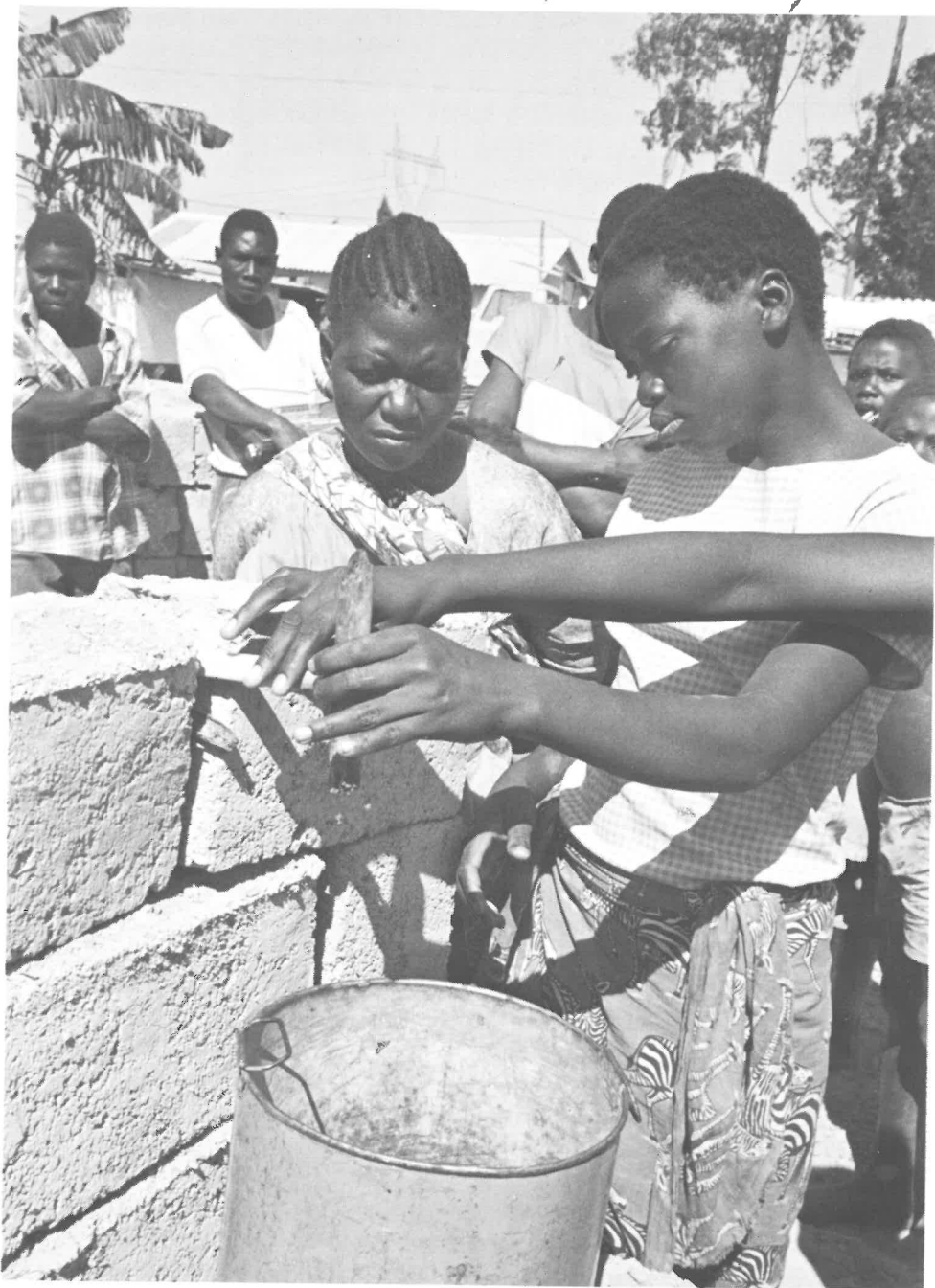
Essential in the transfer and integration of technology is that it is adapted to the local setting, and that it makes use of local expertise. After having successfully tried the new technology in a realistic setting through a development and demonstration project, the technology is ripe for implementation in a larger area.

The successful integration of technology can be seen in IRC's PSSC and PRET projects.

Piped Supplies

The PSSC project is IRC's longest running project. Since 1987 it has assisted national staff in developing better methods for community-based approaches towards piped supplies by involving the community in decision making and management. Furthermore, new knowledge generated by the programme has been shared and its application promoted.

The funding from the Dutch Directorate-General for International Cooperation will be coming to an end in 1992. At the end of the year the PSSC teams in Malawi and Zambia conducted a project self-evaluation analysis, and analyzed results in a structured and critical way with the communities involved. Evaluations used in such a way are a powerful learning tool and help project staff to identify and implement improvements. The self-evaluation showed the need for improvements towards clear delegation of tasks on all projects activities from the national to regional and district levels. Partly as a result of the PSSC project, the Water Department has



Women as beneficiaries of piped supplies help determine tap placement in Malawi
(Photo M. Boesveld, IRC)

proposed the establishment of a Community Water Supply Management Section to the government. This clearly shows the awareness in the department on the importance of community management in water supply. The methodology developed in the PSSC project in Malawi has now also been introduced in several other projects in the country.

To make the experiences from this project and from earlier projects in Indonesia and Sri Lanka (1983-1986) available, Technical Paper no. 28, *Partners for Progress: An Approach to Sustainable Piped Water Supplies* was compiled, and published in 1991. It reviews and summarizes current experiences and translates them into more general project guidelines for the entire project cycle.

Pre-Treatment

Another development and demonstration project, PRET, is currently being carried out in Colombia. The PRET project focuses on technical research to improve the performance of simple, non-chemical treatment and by slow sand filtration and pre-treatment on the one hand, and on introduction of these technologies in community water supply systems on the other hand. The results clearly show the enormous potential of these technologies, and the multi-barrier concept towards water treatment adopted in the project, which provides a much lower hygienic risk for the users. This project has very much supported the capacity development of CINARA's multi-disciplinary team, which could freely experiment with this technology and with the community-based approach. The potential for the combination of slow sand filtration and pre-treatment is very large, particularly in countries such as Colombia, with a large potential for gravity piped supplies. CINARA was founded in 1989 to carry out activities on slow sand filtration and now supports a wide range of organizations in Colombia. As a result of the project's successful findings, CINARA and IRC were invited to the American Waterworks Association's conference on slow sand filtration, "Timeless Technology for Modern Application", in New Hampshire, USA, to present their results.

More than half of the population of Colombia, which lives in villages of less than 30,000 inhabitants, can potentially benefit from IRC's work. Half of the villages of this size have water supply systems, but most of them are inoperable, and only about 4% deliver good quality water.

To carefully promote solutions to this large problem faced by these smaller communities, a programme was launched by CINARA and IRC under a bilateral agreement between Colombia and the Netherlands Government. The TRANSCOL programme introduces the pretreatment technology through 18 development and demonstration projects in 8 regions. These projects are implemented by regional groups in collaboration with the communities concerned under guidance of CINARA, thus creating the necessary opportunity for the regional group to gain experience, and enabling them to show concrete examples in their own region. Another way the information from the project was spread was through a workshop held in Cali, in which 150 people took part, including people from other Latin American countries.

COMMUNITY MANAGEMENT

Background

Since the beginning of the International Drinking Water Supply and Sanitation Decade (1981-1990), a growing trend has been evident in support of a move towards greater management of water supply systems in developing countries by communities themselves. This trend grew out of many years of experience in seeking to promote increasing community participation in sector programmes. The adoption of a community management approach is now being advocated as a possible key to solving long-standing problems such as sustainability, financing, cost effectiveness, and technical and socio-cultural appropriateness.

The community management concept is seen by many as a next step in the approach to community participation. At the recent Global Consultation on Safe Water and Sanitation for the 1990s, held in New Delhi, India, community management was placed on the agenda as one of four 'guiding principles' for the 1990s. The New Delhi Statement, published at the end of the consultation, puts forward the view that: "Community management goes beyond simple participation. It aims to empower and equip communities to own and control their own systems". The implications of adopting this approach, for both communities and sector agencies, seem to be far-reaching, but, as yet, are by no means fully understood.

Learning from past experience, and examining the roles which communities are already playing in managing water supplies, will

very much help in clarifying key issues and problem areas in community management, and identifying the preconditions and implications of adopting this approach.

With the endorsement of the Governing Board, which expressed the need for a partnership approach to community management, IRC has embarked on a study in collaboration with international level organizations, including the UNDP/World Bank Water and Sanitation Programme and WHO, with support from different sources including the Netherlands Government and the UNDP/World Bank Programme. The study is necessary not only to clarify the concept itself, but also to pave the way for effective support to communities and agencies in developing this role. It will help in generating a body of knowledge and operational tools and guidelines, accessible to implementors and sector policy makers in both developing countries and external support agencies, who wish to adopt and develop this approach. This approach is a logical extension of the long years IRC has worked with developing country organizations in community participation, partnership approaches, and the role of women.

IRC's work continues on several important components within the larger scope of community management.

Community Self-Improvements

The idea of a demand-driven approach towards water supply and sanitation, in which communities are encouraged and guided by community-based workers to improve their own facilities, offers a solution to the needs of both outlying and urban areas who want to help themselves.

An approach is required which will support community-based processes of problem identification, priority setting, and solution seeking which will lead to the selection of sustainable and appropriate technologies, suitable for implementation, maintenance, and management at the community or household level. Through this kind of an approach to community self-improvements (COSI), IRC hopes to support local and national organizations in providing the people in both outlying and urban areas with the skills to improve and maintain their own water supplies.

In Colombia the COSI approach is being applied in the urban environment by CINARA with support from IRC. Due to the lack of properly functioning sanitation systems in urban areas, there is a great potential for low-cost improvements.

In collaboration with institutions in Tanzania, Ecuador and Ethiopia, proposals are being developed for a five-year programme to test and refine a COSI methodology, to establish and test a training programme for community development and health workers to implement COSI, to test the method in five pilot communities in each country, and to develop local organizational and technical backstopping systems for community self-improvements.

The Ministry of Health and the National Primary Health Care Steering Committee in Tanzania reacted favourably to the proposal, and funding is being sought to initiate activities there. A pilot project is being discussed with Plan International in Ecuador, and interest was expressed in Ethiopia by the Gondar College of Sciences.

At IRC, activities have been initiated to expand the earlier manual on community self-improvements to include a number of environmental issues.

Gender Issues

In most cultures men and women have complementary roles, making the answer for successful water supply and sanitation projects, the involvement of both.

The role of women in water supply, sanitation and hygiene education has been part of IRC's work since the early 1980s. Current research and analysis of information on women-related issues has a double function: to see where women's involvement is essential in water supply and sanitation projects, and in how much their involvement improves the tasks and situations of the women involved. IRC conducts its research and analysis work through activities such as training, publication of journals, and submission of relevant papers on the subject, but also through integrating the role of women into ongoing activities and publications about other subjects. It is also a member of the Water and Sanitation Collaborative Council's Working Group on Gender Issues.

This year IRC issued the first of three numbers of the Annual Abstract Journal *Woman, Water, Sanitation*. The abstract journal, which is published together with PROWESS with funding from the Norwegian Government, gives readers in the water and women-in-development sectors a quick and easily accessible overview of recent documents and a state-of-the-art review which indicates where we stand in taking differences in gender better into account and avoiding that water and sanitation projects have a sub-optimal or adverse effect on women's positions and resources.

IRC also commissioned a review of quantitative research on economic benefits of water projects for women. In the Occasional Paper Series, *Economic Benefits from Improved Rural Water Supply: A review with a focus on women* shows a greater availability of water, more time and easier time management for home production, which are direct benefits, occur only under specific circumstances and inputs. However, such benefits can be enhanced by consciously planning for them, for which specific recommendations are given. The study further provides a framework for quantitative research and indicates under which conditions such research is meaningful.

Community-Based Financial Management

Discussions in the water and sanitation sector in recent years have placed increasing emphasis on the need for higher levels of community financing as a key to the long-term sustainability of improved systems. IRC has already contributed to the development of knowledge and information about this issue through the Resources Coverage and Community-Based Financial Management (RC/CBFM) project, and related activities. IRC activities in this area of work in the past have included a publication on revenue raising methods, *What Price Water* (OP 10), and substantial inputs into the development by the WHO Working Group on Cost Recovery of a *Handbook of Financial Principles and Methods*, now published in English, French, and Spanish and circulated during 1991 with IRC assistance.

During 1991, further development of the knowledge base was undertaken as essential preparation for IRC's next phase of work in this field. An extensive review of literature was undertaken and a

draft document prepared, with a view to the production of a publication in the Occasional Paper series during 1992. An informal project document, *Planning for Sustainable Handpump-Based Rural Water Supplies*, was also prepared.

IRC participated in a national review workshop on cost recovery and resources coverage in Liwonde, Malawi. The workshop was held to review the findings of a pilot study which field-tested the guidelines on financing and resources coverage developed by the WHO Working Group on Cost Recovery, and to assess the likely sustainability of four sector projects in Malawi that were selected as pilot testing sites.

Sustainable Systems

Community-based improvement of existing water supply and sanitation systems requires urgent attention, as operational problems are reported on almost all water projects in the developing world. It is clear that enormous losses of investment will continue to occur unless considerable efforts are made towards making new and existing systems more sustainable. The most evident problems that need to be tackled are inefficient management of maintenance, insufficient training, inadequate revenues and high leakage. A community-based approach seems the most realistic answer.

IRC has been a member of the WHO Working Group on Operation and Maintenance since the establishment of the Water and Sanitation Collaborative Council in 1987. At the meeting of the Council's Global Forum in Oslo, the working group was mandated to continue its activities as an official working group of the Council.

At the end of the year, in the framework of the work of the Working Group on Operation and Maintenance, IRC was asked to prepare a training course package concerning operation and maintenance in rural drinking water supply and sanitation, which is intended to contribute to improved management of programmes and institutions so as to enhance their capacity to sustain adequate operation and maintenance activities. Work on the package was scheduled to begin immediately.

Together with the Management for Development Foundation in the Netherlands, IRC organizes the course *Management for Sustainability in Water Supply and Sanitation Programmes in Rural and Peri-Urban Areas*, a three-week course which enables participants to ensure integration of long-term sustainability objectives in their projects. The course was also successfully offered in the French language in Burkina Faso in December.

Monitoring and Evaluation

Monitoring and evaluation hold promise as a management information-gathering tool for planners and managers working in the sector.

In order to reach adequate water and sanitation coverage, governments, supported where appropriate by ESAs, must run programmes and projects according to a dynamic plan, based on sector-wide goals. Planning and management of programmes and projects need to be adapted regularly on the basis of progress. Progress thus needs to be monitored following a methodology which ensures the gathering of the right data and information, so that replanning and adapted management is possible. The information obtained should motivate the planners and managers to actually use this in future programmes. Collectively, such information can provide useful information for global monitoring of water supply and sanitation coverage.

For planners and managers, the monitoring information must be supplemented with technical information and general sector information, for use when implementing new projects. Aside from its usefulness for planners and managers, the information also has a significant promotional value for global management and coordination, and as public information for users. With monitoring information, coordinated and long-term sustained promotion of sector goals and progress can be greatly improved at all levels: users, government officials and the international community must be kept informed so as to ensure their increasing involvement and support.

UNICEF, in collaboration with WHO, assists developing country governments in implementing national-level monitoring in several countries.

Information gathered from monitoring at the project level forms the basis for monitoring at the national level. At the same time, within the project it can help staff review their own work more systematically. They gain a better insight into their own projects and into possible improvements, thus optimizing the use of available resources.

IRC and UNICEF prepared training modules for project monitoring and evaluation. The techniques developed in these modules now form the basis for the participatory approach used by IRC in the monitoring and evaluation activities it carries out. Sector-wide, the focus now lies in gaining experience with the establishment and use of monitoring systems, in order to satisfy the growing need for information on this important subject.

An excellent example of the application of the monitoring and evaluation techniques is the earlier mentioned self-evaluation carried out this year in the PSSC project. Following a planning workshop where objectives, criteria, key questions, and methodology were addressed, the PSSC teams in both Malawi and Zambia conducted the project self-evaluation analysis with assistance from IRC in the analysis of the data. The evaluation revealed successful community management of the water points, and good recovery of water costs and maintenance costs. Hygiene education and sanitation components were lagging behind, however. It also revealed the need for continuous information on approaches, targets, and activities. The self-evaluation will be used to measure achievement of the project since its inception. In Malawi, where the project will be replicated in other areas, the findings will be applied to further the approach. DGIS has planned an external evaluation for both countries in March 1992, for which results of the self-evaluation can be used.

An evaluation workshop was held at IRC for the International Development and Demonstration Project on Slow Sand Filtration (SSF), which officially came to an end at the end of 1990. The conclusions of the reports by the participants are promising for the future of such projects. Simplification of design and operation enable beneficiaries to operate and maintain their own plants; innovative pretreatment systems have led to significant reductions in the capital and running costs of SSF plants; and further savings are possible with improved pre-treatment technologies.

The potential of the capacity-building element in SSF demonstration projects is clear: a massive momentum has been developed in Colombia to implement SSF on a wide scale, and there are demands for the technology from neighbouring countries.

During the past year IRC has been contracted by several agencies including DANIDA and FINNIDA to participate in evaluations of large-scale water and sanitation programmes in various developing countries. More can be read about this work in Chapter 5.

HYGIENE EDUCATION

Background

It is apparent that when hygiene education activities are effectively included in water supply and sanitation programmes, they can positively contribute to maximizing the health benefits from improved water supply and sanitation facilities, and increase the users' motivation to enhance the sustainability of these facilities.

Hygiene education is, therefore, increasingly being recognized and accepted as an important component for successful water and sanitation projects, particularly when one considers long term effectiveness and sustainability. From both donors and developing countries, a growing interest in hygiene education can be signalled, and at IRC, an increasing number of participants in the training programmes also show an interest in the subject. IRC was asked by its Governing Board to stimulate increased activities in hygiene education together with WHO, UNICEF, and UNDP.

Publications

The work on hygiene education at IRC continues to gain importance in the overall programme, as is evidenced by its presence in all of IRC's types of activities. Significant contributions towards expansion of the knowledge base on hygiene education, as well as towards the exchange of information on the subject are the two most recent publications, Technical Papers 27 and 29, *Hygiene Education in Water Supply and Sanitation Programmes. Literature review with selected and annotated bibliography* and *Just Stir Gently: The way to mix hygiene education with water supply and sanitation* respectively. Hygiene education also appears regularly in other publications. "*Just Stir Gently*", published this year, provides options and methods for

integrating hygiene education with water supply and sanitation projects. Its aim is to facilitate decision making in the integration of hygiene education in the various phases of water supply and sanitation projects; negotiation and cooperation among agencies and institutions at various levels on hygiene education-related matters; and better planning and management of hygiene education programmes as a first requirement for increasing the success of such programmes.

Information Collection Activities

Although school sanitation and school hygiene education are not to be separated from community hygiene, it must be recognized that children must gain the knowledge about good hygiene behaviour at an early age. The school environment provides a very good setting, and the practicing of good hygiene behaviour there is an important factor in its success. For this reason, IRC continued its knowledge-base development activities in this field through stepped-up information collection. A number of reviews of school



Children in Colombia get involved in school sanitation (Photo L. Burgers, IRC)

sanitary facilities and hygiene education activities were initiated in schools in Colombia, Ghana, Guinea Bissau, India, Nicaragua, Pakistan and Peru. Preliminary results indicate that the hygiene conditions of sanitary facilities leave much to be desired, which in turn indicates that considerable effort are necessary to remedy this situation, and to make the school a healthy environment.

At the end of the year a study on the success factors in hygiene education projects was in progress.

Workshops

The main challenge in assuring the implementation of hygiene education in water and sanitation projects is capacity development at the agency level. In Mali, where UNICEF is supporting hygiene education activities, IRC assisted in workshops held in Bamako and Mopti. The workshops aimed to develop strategies and methodologies for the integration of sanitation and hygiene education into water and sanitation projects.

General Support Activities

In Honduras and Guatemala, together with government agencies, IRC is active in the development of suitable techniques to support good hygiene behaviour.

Several activities in the area of hygiene education are linked to the advisory and evaluation services carried out by IRC, which are described in more detail in Chapter 5. They include assistance in a review of the sanitation component of the UNICEF-supported Integrated Area-Based Project (IABP) in the Uukwaluudhi District in Northern Namibia, and advisory services to the joint Indo-Dutch water projects in India.

WATER RESOURCES MANAGEMENT

Background

Water resources management is becoming increasingly important as the threats to our environment mount. The International Conference on Water and the Environment, in Dublin, Ireland in January 1992 focused global attention to critical fresh water issues for the future. Prior to completion of this report, guiding principles from the Dublin Statement were available, which recommended that water development be based on a participatory approach,

involving all levels; that women play a central part in the provision, management and safeguarding of water; and that water, as a finite and vulnerable resource which is essential to sustain life, development and the environment, has an economic value and should be recognized as an economic good.

The protection of water resources and the improvement of water harvesting and conservation techniques are crucial elements of water resources management. Furthermore, as awareness rises that users can play an important role and benefit from protection of this valuable resource, it should be an integral part of community-based management.

In follow-up to a fact-finding mission conducted in 1990, IRC assisted the Uganda Rural Water Supply Association (RUWASA) with the development of a water resources management proposal. Components of the proposal include a rapid assessment study of the water resources management situation in Uganda, the development of comprehensive water resources management capacity, development of information capacity to sustain water resources management activities, and a water supply development programme in north eastern Uganda to apply and field-test water resources management activities.

Publications

In the context of IRC's work in this area, *Drinking Water Source Protection: An overview of problems, causes, experiences and needs* was published. This Occasional Paper (no. 15) provides a summary of current experiences in source protection and outlines future research needs to develop effective, preventive solutions to the growing range of environmental problems. Following positive external review, a document on water harvesting is also being published in this series.

With WHO, a training package for operation and maintenance of water supply systems is being prepared as part of the activities identified by the Collaborative Council's Working Group on Operation and Maintenance.

Workshops

IRC participated in a workshop on legal issues of environmental management in Geneva, which included a discussion on the community aspect of the water resources problem.

URBAN WATER SUPPLY AND SANITATION

Background

Providing adequate water and sanitation in urban areas is a complex task. Urban areas are becoming increasingly polluted and more densely populated and slum areas are proliferating, thus putting stress on the available services. Many systems cannot cope with the pressure resulting from substandard performance. Water has to be piped in from even greater distances than in the past, and resulting wastewater is largely left untreated. These vast problems need urgent attention, and some efforts have already been made which hold potential.

General Support Activities

In India, IRC assisted in a formulation mission for an institutional and community development programme in Kanpur and Mirzapur. This programme will form part of the Kanpur/Mirzapur Sanitary Engineering Project supported by the Indo-Dutch cooperation programme on environment, to assist in the further development and consolidation of community involvement and development activities that have taken place. The mission clearly revealed the necessity of support for sustainability of both operation and maintenance of the urban services and ongoing community developments.

Publications

In Pakistan the Baldia Soakpit Project, funded by the Dutch Government through UNICEF, ran from 1979-1986. In preparation for a case study about the project, a follow-up survey in Baldia took place at the end of 1990 to review the impact of the project four years after its completion. The publication concentrates on an analysis of the community-based approach and the technical and social achievements in Baldia, with the intention of enhancing replication other places. At the end of the year the publication had received favourable reviews and was ready for printing.

Courses

In-house, IRC offers a course together with the Institute for Housing Studies on *Community Water Supply and Environmental Sanitation for Low-Income Urban Communities*, which is now in its third year.

3. Publications and Documentation Services

Background

In its function as a clearing house for information relevant to the water supply and sanitation sector, IRC has a central role in providing a wide range of topical information. This is done both through its publications and through its documentation services.

PUBLICATIONS

IRC's publications are an important way in which the knowledge and experience gained is brought to those in the sector who need it. In its series, IRC provides information about current sector issues. The Technical Paper (TP) Series aims to integrate software components such as community involvement and operation and maintenance, and technical issues. The Occasional Paper (OP) Series reflects activities and progress of IRC's ongoing work, covering subjects worthy of quick, low-key production for selected target groups. The Training Series (TS) comprises practical information and knowledge for use in training various groups, and the Reference Series (RS) comprises directories, inventories, thesauri and other information tools in support of technical information exchange for community water supply and sanitation.

In 1991, IRC published two Technical Papers: *Partners for Progress: an approach to sustainable piped water supplies* (TP28) and *Just Stir Gently : the way to mix hygiene education with water supply and sanitation* (TP29).

Three Occasional Papers were published: *Drinking Water Source Protection: an overview of problems, causes, experiences and needs* (OP15); *On-Site Sanitation: building on local practice* (OP16) and *Economic Benefits from Improved Rural Water Supply: a review with a focus on women* (OP17).

Three publications appeared in the Training Series: *Slow Sand Filtration: guide for training of caretakers* (TS6); *A Manual on Operation and Maintenance of Communal Standposts for Extension Workers and Caretakers* (TS7) and *Why a Pit Latrine? A manual for extension workers and latrine builders* (TS8).

In the Reference Series the two new publications were *List of Basic Publications on Community Water Supply and Sanitation* (RS6) and *Inventory of Selected Training Materials for Water Supply and Sanitation* (RS7).

Over 4750 publications were distributed, with total sales of over dfl 93,000. The first of three annual abstract journals on *Woman, Water, Sanitation* was also published. Further information on these publications can be found in Annex III.

Translations

Translations of IRC publications were made into Spanish, French and Arabic. For their textbook distribution programme, which spreads key texts at low costs throughout Latin America, PAHO in Washington, DC ordered 1000 advance copies *Renewable Energy Sources for Rural Water Supply* (TP23), which was translated into Spanish by CINARA in Colombia. For use in its Urban Water and Sanitation Project, the Honduras office of UNICEF translated *Making the Links - guidelines for hygiene education in community water supply and sanitation* (OP5) into Spanish. Interesting to note is that all the illustrations in the Spanish version were adapted entirely to the Honduran situation. The translation, which had an initial print run of 1000 copies, has also been sent to PAHO in Peru for possible use in its low-cost textbook distribution programme.

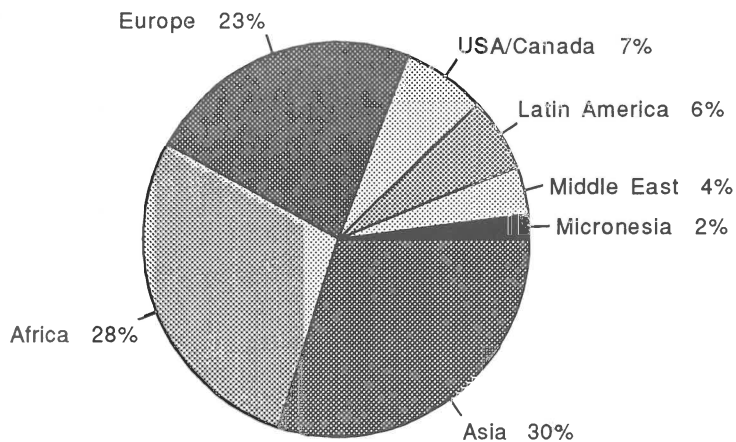
The *Interwater Thesaurus for Community Water Supply and Sanitation* (RS 4) has been translated into Arabic. A bilingual edition (English/Arabic) will be published shortly by CEHA in Jordan. This edition will include all the original English terms and their Arabic equivalents, in addition to about 400 terms added to the Thesaurus in both languages. An Arabic/French version of the Thesaurus will also be produced by CEHA as part of the second phase of their CEHANET information project. In collaboration with CEHA, CEPIS and ENSIC/AIT, the Interwater Thesaurus will be updated to include, amongst others, environmental and urban related terms.

Newsletter

The IRC Newsletter is an important medium which spreads information about sector work to large groups in developing countries. The fact that IRC is specialized in information exchange makes the Newsletter a reliable source for sector news. The Newsletter in English and French continued to be distributed to over 5000 subscribers. For the coming year, changes in the name and appearance are being considered.

Overview Newsletter 1991

Distribution by Region



DOCUMENTATION SERVICES

Not only must the work and experience of IRC staff be recorded in its broad publication series, a significant effort must also be put into gathering the widespread published information needed by those active in the sector.

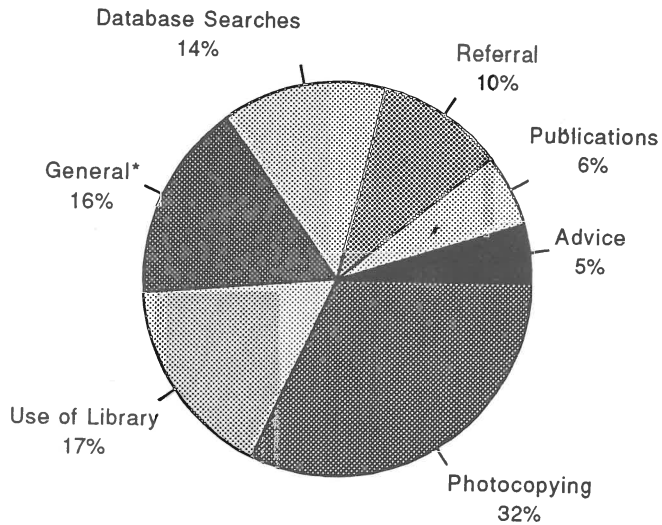
Finding and collecting information on water and sanitation is a complex task. First of all, the multidisciplinary nature of the sector means that many subject areas are involved. These include technology, health, sociology, management and communication. Secondly, a lot of valuable information is "grey", i.e. contained in unpublished project reports with a limited circulation. Finally, information is scattered over many sources, few of which are entirely dedicated to the sector.

If it is hard for people to understand that water supply is not free, it seems even harder for those working in the sector to comprehend that the supply of information also has a price which someone has to pay. Acquisition of publications, making information accessible through proper indexing, providing abstracts, and storing documents are all very labour-intensive activities. If no revenue is collected from information services, institutions may feel that maintaining an in-house library and documentation unit is not worth the cost. This may be true if it is cheaper for them to obtain the information they need from external sources. More likely than not, however, any cost savings will be nullified by the cost of staff required for each to maintain their own personal "library".

The Documentation Unit keeps up on sector information in a variety of ways, including the use of the latest technologies. Since 1990 library users at IRC have access to several databases on CD-ROM. A CD-ROM (ROM stands for read only memory) is a compact disc containing text which can be read using a CD-ROM player connected to a personal computer.

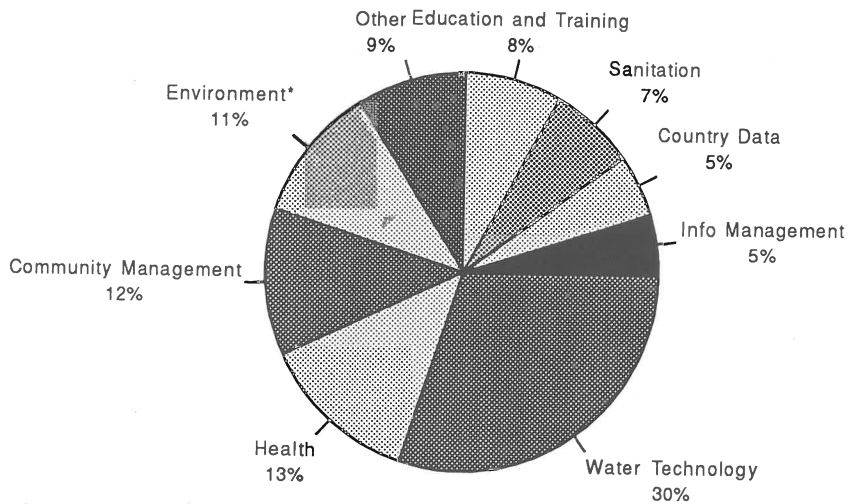
IRC's collection includes a CD-ROM on *Women, Water and Sanitation* which contains the full text of 55 reports published by UN agencies. At present IRC subscribes to the Royal Tropical Institute's database on tropical agriculture and rural development, and PAHO's *LILACS* CD-ROM on health sciences in Latin America and the Caribbean. The latter contains, among others, the REPIDISCA bibliographic database which includes a subset of several hundred references to material found at IRC. The merging of these databases and their inclusion on the CD-ROM is a first attempt to bridge the information gap between English and Spanish, and between information from Latin America and the rest of the world. To make the information exchange between language areas and between continents even more effective, more international databases will in the course of 1992 be integrated in the REPIDISCA database for dissemination on CD-ROM. Another subset of nearly 400 references was sent to CEHA for inclusion in their CEHANET system. Together with WASH and AIT, the feasibility of making a CD-ROM for the water supply and sanitation sector is currently being investigated.

External Information Services 1991 Type of Service Provided



*general background info on IRC

Topics



*Environment and Water Quality

IRC continued to expand its documentation holdings on microfiche. The material that is copied on microfiche is largely grey literature, with emphasis on a large selection of training materials.

EXTERNAL INFORMATION SERVICES

Despite the complexity of the information collection task, IRC's Documentation Unit has one of the world's largest and most comprehensive collections on low-cost water supply and sanitation. Besides acting as the "central memory" for the organization, the Unit also serves external users. It not only endeavours to give them access to its collection but also to lend its expertise to those institutions wishing to set up their own library.

To be able to classify requests according to background, subject and target group, a special database was created in the MINISIS system to register inquiries handled by staff members. By expanding the database to include the answers to the inquiries, a useful reference database is created which can be referred to at a later date if similar inquiries are made. In using this database, intensive use is also made of IRC's documentation and address databases.

To give an insight into the content of the documents in IRC's database beyond the keywords already provided, abstracts are essential. With the help of outside abstractors, nearly 300 of the entries in IRC's database were provided with abstracts by the end of the year.

For those in the sector who do not have ready access to the large quantity of information published in a myriad of journals and periodicals, *Highlights*, the current awareness bulletin published by IRC, is an increasingly popular solution. *Highlights* is published bi-monthly and contains a selection of news items and contents pages from 250 journals, newsletters and other sources related to the water supply, sanitation and environment sector. *Highlights*, which appeared for the first time under that name in 1990, continues its growth process, both in the fine-tuning of its contents, and in the steady increase of its subscribers.

4. Training and Briefing Programmes

Regular updating of information and exchange of experiences with other water and sanitation professionals are two important elements of the enhancement of professionals' knowledge. IRC has been sharing its professional expertise and documentation resources with national and expatriate staff working in water supply and sanitation in developing countries through briefing programmes and short courses since 1986. The various programmes offered by IRC relate directly to the issues in which IRC is actively developing its knowledge base, some of which include community development, hygiene education, operation and maintenance, monitoring and evaluation, appropriate technology, cost recovery, environmental protection of water resources and information management.

BRIEFING PROGRAMMES

In the job-oriented, five-day *standard briefing programmes*, job descriptions are used to identify the participants' main needs and interests when preparing for an assignment. A working document providing initial guidance for the job to be performed and an organized information package are the outcomes.

The 5- to 15-day subject-oriented, *tailor-made briefing programmes* are useful for national level and senior staff involved in planning, management, evaluation and strategy development. Objectives and specific wishes concerning subjects, inputs from resource persons and duration are agreed upon in advance.

For senior professionals with a wide range of experience in the sector, three-day *intensive briefing programmes* are organized to provide specific up-to-date information that may be job, subject or policy-oriented. To support the implementation of these programmes a guide for briefing programmes was completed this year, and the compilation of readers on specific topics, like sanitation, community-based management and rainwater harvesting has begun.

In 1991, 39 persons attended IRC's briefing programmes of which 23 participated in standard briefings. Compared to 1990 the 1991 participants were more diverse with respect to background,

nationality and funding agency. Three new IRC staff members and consultants also participated in briefing programmes to update their knowledge, prepare for their assignments and develop plans of action.

For the first time, special Spanish and French briefing programmes were organized at IRC for country nationals working in programmes with future IRC involvement: two Peruvian senior social scientists used the updated knowledge for the development of a proposal for peri-urban sanitation, and three staff members from the UNICEF Mali water and sanitation programme prepared themselves for the development and organization of national and regional workshops on hygiene education.

For the first time a course on information management was given for participants from WASIN in Indonesia, which aimed to introduce the participants to various information services which could be developed and provided within that organization.

SHORT COURSES

Together with specialized training institutes in the Netherlands, IRC also organizes short courses on key subjects in the sector.

With the Management for Development Foundation (MDF), IRC organizes *Management for Sustainability in Water Supply and Sanitation in Rural and Peri-Urban Areas*. The course deals with management subjects as well as key issues like operation and maintenance, cost recovery, community management, women development, water source protection, environment and hygiene education. Special emphasis was given to monitoring of projects and the development of management information.

With the Institute of Housing Studies (IHS), IRC organizes *Community Water Supply and Environmental Sanitation for Low-Income Urban Communities*. The subjects covered include institutional and financial options, human resource development, technology selection and service levels, and community self improvement. These three-week courses comprise workshops, lectures, participatory exercises and group work. On an individual basis, specific information is sought and working strategies are developed.

A total of 32 individuals participated in the short courses. Various multilateral and bilateral organizations sent their field staff or sponsored staff working in government structures, who were assigned to their projects. In a few cases three to four staff members of a project participated together, which is likely to increase the impact of the course at the project level.

Together with the Pan African Institute for Development (PAID), IRC organized the first *Management for Sustainability* course in the French language, in Ouagadougou, Burkina Faso. The water institutions CREPA and CIEH also cooperated in this endeavour. The course was organized on special request of several projects, and participants came from Mali, Morocco, Niger, Burkina Faso and Guinea Bissau. It was deemed very successful by all involved, with the result that future courses can be foreseen.

5. Advice and Evaluation Services

Background

Because of its access to extensive information sources, its wide network of contacts, and its experienced staff, IRC is in a good position to provide advice and evaluation services. On request of third parties, IRC offers its services in these areas selectively, participating primarily in missions directly related to its programme focus in countries where it has previous experience, and for organizations whose approach is in line with current appropriate development cooperation principles. IRC's motivation for carrying out such assignments is to generate new information and to make its information base available to a wider audience.

ONGOING ADVISORY SERVICES

The vast knowledge gained over the years in the slow sand filtration projects in India, Thailand and Colombia is used to provide services including information support, advice on slow sand filter design, establishment of demonstration projects, advice on monitoring and evaluation, problem solving, and training. This support has been requested by several countries including Colombia, Egypt, Haiti, India, Mozambique and Zambia.

Advisory services to NOVIB's slum upgrading project in Phnom Penh have been provided since 1988. Services consist of review and monitoring project progress twice yearly; providing advice and information on community-based maintenance, hygiene education urban water supply and sanitation, and slum upgrading; assisting in training development; and providing backstopping services to NOVIB staff in Phnom Penh.

In India, IRC has been supporting the joint Indo/Dutch water and sanitation programmes since 1989. The projects, financed by DGIS, are located in Andhra Pradesh, Uttar Pradesh, Kerala and Gujarat, and are starting up in Karnataka. IRC's role has been to assist through advising on the development of the monitoring process, the implementation of the programme, and on key issues. An important recent development is that IRC is now requested to make thematic discussion papers which are used in support of

development of approaches to tackle major sector problems. This year the papers concerned institutional development and sanitation, and a third is being prepared on operation and maintenance. The Dutch-financed rural water supply programmes in India for which IRC gives advice have a total annual turnover of dfl 40,000,000.

In Pakistan, assistance has been given to projects supported by DGIS in Balochistan and the North West Frontier Province since 1989. DGIS is supporting the process of policy implementation for the Provincial Strategic Investment Plans for Rural Drinking Water Supply and Sanitation (SIPs) coordinated by the World Bank. IRC assists by monitoring the projects and advising both DGIS and the Dutch Embassy in Pakistan. IRC's role in these projects towards both the Netherlands Embassy and DGIS is evolving steadily, to the point that the Embassy would like to see a more formalized advisory role for IRC in the future.

After an evaluation mission in 1990, IRC continued to provide advisory services for UNICEF in Mali. Inputs were provided for a study report proposing a national strategy, a national workshop on sanitation and hygiene education, and a regional training workshop on community participation and integration of drinking water supply, sanitation and hygiene education. The result of these inputs is that good progress is being made in reorienting the sector to integrated, community-based approaches.

As part of the 'Advisory Group Land and Water', IRC has been contributing to advisory services provided to the Netherlands Government for the Yemen Arab Republic since 1984, and continues to do so.

SHORT MISSIONS

Other advice and evaluation services of a shorter duration were provided for several organizations, and in several countries.

- an assessment of the information situation in Uganda for the Commissioner of Water Development;
- an assessment of progress of information activities in the ITN-Philippines project for the World Bank ITN Network;
- an evaluation of Phase I of the ENSICNET information network for ENSIC in Thailand;

- an assessment, and identification of approaches for future development for the NGO Decade Service in Sri Lanka;
- a review of the rural water supply and sanitation programme in the Rukwa region, Tanzania for NORAD;
- a review of the sanitation component in the Integrated Area-Based Project for UNICEF in Namibia;
- a review of the third phase of the Kenya-Finland Western Water Supply Programme for FINNIDA;
- an evaluation of the hygiene education component of their water supply projects in Honduras and Guatemala for KfW and UNEPAR;
- a participatory review of the role and potential of water committees in Honduras for UNICEF and COSUDE (SDC).

6. Partners*

Background

In view of the variety of problems facing the water supply and sanitation sector in developing countries, partnerships are crucial for efficient and effective action. Most importantly, they are crucial for the countries themselves: they are important at each level of activity, from ministries, professional institutions and industries to NGOs and donors. All are represented in the Water and Sanitation Collaborative Council, which has as one of its mandates, to support and stimulate these partnerships.

IRC sees partnerships as the pillar of its work. They have led to its current approach to its mandate: the generation and communication of information leading to enhanced knowledge among its partners, through information exchange, research, training, and advisory work. Over the years this approach has led to the development of a large network of partners related to the issues IRC has worked on.

IRC's oldest and most trusted partners are the members of its Governing Board from the Netherlands Government and four UN organizations: the Netherlands Ministry of Housing, Physical Planning and Environment, the Ministry of Foreign Affairs' Directorate-General for International Cooperation (DGIS), The World Bank, UNDP, UNICEF and WHO. Since IRC's establishment, the Netherlands Government has been providing IRC with a basic subsidy to enable it to develop programmes, and to generate funds for specific country-oriented activities. The international agencies provide advice and general support to IRC's activities, the most recent of which are mentioned below.

IRC focusses its work at the country level. Rather than carrying out the work itself, IRC's role tends to be more of a guidance and advisory nature towards the local project staff. Although in the past IRC has conducted its activities with approximately 20 developing countries at any one time, over the last few years, it has also begun

* To enhance readability, abbreviations have been used. Full titles can be found in the List of Abbreviations (Annex VII).

to concentrate on a smaller number of selected countries for specific subjects, often with selected partners such as ministries, NGOs, professional organizations and universities.

At the global and regional levels, IRC works closely with UN organizations. International donor organizations were the source of important progress on all of IRC's major issues, and gradually closer relationships with NGOs are developing.

IRC regularly participates in a wide variety of forums, including the Water and Sanitation Collaborative Council, the United Nations Interagency Steering Committee for Water Supply and Sanitation, technical meetings at individual UN agencies, and a variety of others at the country level.

As we enter further into the 1990s, partnerships with like-minded allies form a powerful way to successfully apply the lessons that have been learned as a result of the International Drinking Water Supply and Sanitation Decade.

Collaborative Council

During its Oslo Global Forum the WSS Collaborative Council requested IRC, as a council member, to lead two of the Council's seven working groups, one on IEC - Information, Education, Communication, and one on Information Management. It also contributes to the Working Groups on Country-Level Collaboration, Operation and Maintenance, Gender Issues and Applied Research.

The Working Group on IEC is devoted to the development of a strengthened communication approach in the sector, in which equal partnerships between sector people, policy makers at all levels and users form a fundamental basis. At the Council's Global Forum, IRC presented the case for Information Management in a paper presented by Eng. B.K. Kabanda from Uganda, which set the scene for the institutional development focus for the Working Group on Information Management. IRC also represented the Collaborative Council in a meeting in Portugal, where it promoted the Lusophone initiative, which aims to improve information exchange in Portuguese speaking countries. As member of a Working Group on Council Activities, IRC contributed to the set-up of the Collaborative Council's programme.

UN Organizations

IRC was established on the initiative of WHO in an agreement with the Netherlands Government in 1968, and continues to be a WHO Collaborating Centre for Water Supply and Sanitation. IRC currently supports WHO initiatives in operation and maintenance, relating to legal aspects of water resources management and on water quality. In information management IRC assists WHO in strengthening information management and sector monitoring through its association with the CESI-Plus information management system. Country level applications of CESI-Plus are expected to lead to further cooperation in capacity building for information management between WHO and IRC. Other areas of close collaboration include community finance and hygiene education, particularly school sanitation.

UNICEF has been a close partner since IRC's beginnings. Issues on which UNICEF has supported IRC in the recent past include rainwater harvesting, community management, and school sanitation. Evaluation and advisory services were provided for UNICEF projects in Namibia, and IRC facilitated in workshops for UNICEF-supported projects in Mali. Late in the year, UNICEF provided funding for consultancies and initial activities in support of the Working Group on IEC - Information, Education, Communication. UNICEF has been one of the foremost users of IRC's training and briefing programmes: 20% of the participants in 1991 were from UNICEF projects.

UNDP has also been a close partner since IRC's establishment. Together with UNDP/PROWESS and NORAD the annual abstract journal *Woman, Water, Sanitation* was compiled to sustain the promotion of the role of women and the importance of gender-sensitive planning and implementation in the sector. IRC continues to update a list of basic publications for water supply and sanitation with UNDP.

In the context of the UNDP/World Bank Water and Sanitation Programme, contributions continue to be made in various ways. Information support is routinely provided to the Regional Water Supply Groups, as well as to individual World Bank projects. An example of a link to up-to-date information support is the Programme's subscription to IRC's *Highlights* bulletin.

An even closer association exists with the International Training Network (ITN) for Water and Waste Management that is implemented by the Programme. Information development support to nearly all existing ITN centres is a regular feature of IRC's inputs, with general advice and occasional support to the development of training courses and modules being of lesser importance. IRC takes part in regional consultations on the policies and directions of the ITN network.

Collaboration with the World Bank occurs on an ad-hoc basis on other programmes, including continuous updating of a list of basic publications on water supply and sanitation, and an inventory of selected training materials. IRC staff provides specific support to the Pakistan Strategic Investment Plans programme and is associated with a range of other Programme-sponsored projects and activities in a number of countries.

Other UN organizations with which IRC collaborates are INSTRAW, UNDTCD, and UNESCO, all of whom are in the Interagency Steering Committee for Water Supply and Sanitation.

Bilateral Donor Organizations

IRC's close relationship with DGIS continues. Aside from the annual subsidy it provides, DGIS has been funding the pre-treatment project in Colombia since 1987, the PSSC projects in Malawi and Zambia since 1988, and the project to transfer slow sand filtration techniques in Colombia since 1989. A case study on urban sanitation in Baldia, Pakistan was also funded by DGIS. DGIS makes frequent use of IRC's evaluation and advisory services, particularly in the Indo-Dutch Water and Sanitation Programme in four regions in India, water and sanitation projects in Balochistan and Northwest Frontier Province in Pakistan, and the Advisory Group Land and Water for Yemen.

In close cooperation with KfW, IRC has begun to expand its activities in Central America. After having evaluated the KfW-funded programmes in Guatemala and Honduras and advising on the hygiene education component, a training programme was given for community extension workers. Together with KfW and local organizations programmes have been initiated to develop community management strategies in Guatemala and to strengthen the hygiene education component in Honduras.

The bilateral donor agencies NORAD, DANIDA and FINNIDA were also important donors with whom IRC worked closely during the year. NORAD funded the annual abstract journal *Woman, Water, Sanitation* mentioned above, and requested IRC's advisory services in a review of the rural water supply and sanitation programme in Rukwa Region, Tanzania. With financial assistance from DANIDA a draft Technical Paper on rainwater harvesting was prepared.

For FINNIDA IRC coordinated and implemented the mid-term review of the Kenya-Finland Western Water Supply Programme.

During the course of the year, contacts were also intensified with SIDA, SDC, and other donor organizations.

NGOs

IRC works with a wide variety of non-governmental organizations, such as with WaterAid on IEC - Information, Education, Communication; AWWA on slow sand filtration and information management; with the Dutch NOVIB on slum upgrading in Cambodia; and with many local NGOs in developing countries. Contacts with NGO-information networks such as the DIVINER network coordinated by APPROTECH ASIA for Asia, and the International Secretariat for Water representing "water" NGOs worldwide are also being strengthened.

Regional Centres

For many years ENSIC/AIT in Bangkok has been a trusted partner of IRC for Asia. In 1991 this relationship was further cemented by IRC's evaluation of the ENSICNET information exchange network in China, Vietnam, Philippines, Nepal, Pakistan and Indonesia.

Collaboration with the Latin American PAHO and REPIDISCA chiefly concerned the compilation of databases on CD-ROM, including merging the IRCDOC database with the REPIDISCA bibliographic database. This activity was a first attempt to bridge an information gap between English and Spanish and between information from Latin America and the rest of the world.

With CEHA, IRC has been working on the development of the CEHANET information network for the Middle East and Maghreb region, and CEHA has transcribed IRC's Interwater Thesaurus into Arabic.

The Pan African Institute for Development (PAID/IPD), headquartered in Douala, Cameroon, is a partner with whom contacts have been re-established in the past year. Aside from its strengths in rural development, institution building and human resources development, it runs a series of training courses for African cadres. Joint activities with IRC have so far included a training course for Francophone participants on *Management for Sustainability* held in Ouagadougou, and the training of one of PAID's professional trainers at IRC.

Further development of the training potential as well as of evaluation and applied research activities are foreseen in 1992.

The Network for Water and Sanitation (NETWAS), an ITN centre operating under AMREF, has been an active IRC partner during the last few years. So far, the partnership relation with IRC has focused mainly on information development for the AMREF/NETWAS constituency in Eastern Africa, including information development activities in Uganda and a book distribution programme. In 1991 AMREF/NETWAS conducted the field survey part of the FINNIDA sponsored Mid-Term Review of the Kenya-Finland Western Water Supply Programme for IRC. IRC also participated in the preparation of the next five year plan for AMREF/NETWAS in September 1991.

National Centres

There are many national centres in developing countries with which IRC works. One example is CINARA, which was founded in 1989 to carry out the activities on slow sand filtration in Colombia. Since then it has become a prime example of a resource centre within a developing country, which exists to facilitate information and technology transfer, conduct research, and enhance communication and knowledge at national and sub-national level. Together with IRC, current work consists mainly of transfer of the slow sand filtration technology to eight new regions through training of staff from regional organizations, initiation of slow sand filtration activities in four regions, and initiation of demonstration schemes in the other four regions.

Other national centres include NEERI, and a variety of professional institutions and university departments.

7. General Management

Governing Board

The Governing Board of IRC is one with a strong international character. Its representatives from WHO, UNDP, UNICEF and the World Bank, as well as the Netherlands Government (Ministries of Foreign Affairs, and of Housing, Physical Planning and Environment) meet twice each year to approve the Plans and Budgets compiled by the Management Team, and to discuss IRC's involvement in global water supply and sanitation issues. The representatives of the Netherlands ministries also meet separately twice a year to review financial and administrative matters. Issues occupying the Board this year included preparations for the Global Forum in Oslo, initiatives in cooperation with UNDP, the UNDP/World Bank Programme, UNICEF and WHO regarding community management and hygiene education, and decisions regarding financial and manpower investments in new areas of work.

Management Team

The Management Team, which consists of the Director, two Senior Programme Officers and the Administrator, is the decision-making body within the organization. Meeting on an average of twice monthly, the Management Team formulates the Indicative Medium Term Plan for the coming three-year period and in that context, compiles the Annual Plan, and Annual Budget. In 1991 key decisions were made regarding recruitment, the development of new areas of work, focus countries, and issues around the Water and Sanitation Collaborative Council's Global Forum in Oslo, Norway.

Staff

IRC's multi-disciplinary staff consists of approximately 35 individuals of various nationalities, and includes planning, public health and sanitary engineers; sociologists; anthropologists; documentalists; a psychologist; a geologist; a journalist; an information specialist and support staff. The permanent staff is supplemented by consultants who carry out a multitude of assignments related to various pertinent issues. Topics for which consultants were hired in 1991 included information management,

rural sanitation, rainwater harvesting, school sanitation, information-education-communication, preparation of technical papers, development of courses both internally and externally, literature reviews on various subjects, and automation.

Budget

IRC operates with a core subsidy of dfl 2,058,200 (US\$ 1,100,641*), provided by the Netherlands Ministry of Housing, Physical Planning and Environment and the Directorate-General for International Cooperation of the Ministry of Foreign Affairs. Extra-budgetary resources amounting to approximately dfl 3,100,000 (US\$ 1,657,750*) were provided by contracts from third parties, and revenues from training courses and publication sales.

* US\$ 1.00 = approx dfl 1.87

8. Looking Ahead

1992

In 1992 IRC will expand and strengthen its information and communication activities, contributing to greater effectiveness and efficiency of water and sanitation projects. This will be done with an increased focus on intensifying its partnerships with other organizations.

In the area of information management, IRC will set forth its support to the development of information management capacities at the country level. In its role as leader of the Collaborative Council's Working Group on Information Management, activities will include organization of a workshop in Bangkok in the beginning of the year.

Research and development work will focus primarily on all aspects of community management, with a workshop planned for late in the year. Activities in support of projects in Guatemala and Honduras, which contain a large hygiene education component, are being intensified. Hygiene education activities as such will also be expanded. As a result of research done in the area of community-based financial management, a publication on community financing is planned. Funding will be sought for demonstration work on community self-improvements. Relating to the topic of gender issues, the abstract journal on *Woman, Water, Sanitation* will continue, and a project will commence concerning applied methodology to involve women in rural water supply, sanitation and water source protection. As member of the Working Group on Operation and Maintenance, focus will lie on completion of a training package for O&M.

Support will continue to be given to research and application of pre-treatment technology and the transfer of slow sand filtration technology in Colombia. Follow-up proposals will be made for the Piped Supplies for Small Communities project, which officially ends in June of 1992.

As demand for IRC's training courses grows at home and abroad, and after the successful course in Burkina Faso, courses in Francophone Africa will be expanded. Advice and evaluation services will continue to concentrate on IRC's areas of focus. A larger role in advisory work for the joint Indo/Dutch water projects in India is also foreseen.

A pertinent issue which will influence the direction of IRC's work is the current situation in low-income urban areas, for which a paper will be written on participatory approaches to urban water and sanitation. Enhanced activities in water resources management and the environment will be strongly influenced by the conferences in Dublin, Ireland and Rio de Janeiro, Brazil, which will focus on these issues.

Long-Term

Improved communication of information, contributing to increased knowledge and capacity building are crucial for successful project implementation. Sustainability of facilities and services is essential, and an important role towards this goal can be played by the establishment of resource centres for information, research, communication and knowledge enhancement at both national and sub-national levels.

Through its varied activities, IRC will continue to stimulate the establishment of such centres in developing countries. As these new resource centres become operational, IRC's role will, in the long term, evolve into one of information and management support on a partnership basis, as is already the case with existing centres.

I. Members of the Governing Board

Mr. H. Scheltema (Chairman)	Former Ambassador
Mr. G.W. Ardon (Secretary)	Head, Water Supply Division Directorate-General for Environmental Protection Netherlands Ministry of Housing, Physical Planning and Environment
Prof. W.J. Kakebeeke (Treasurer)	Director, International Environmental Affairs Department Directorate-General for Environmental Protection Netherlands Ministry of Housing, Physical Planning and Environment
Mr. I.M. de Jong	Chief, International Organizations Department Directorate-General for International Cooperation Netherlands Ministry of Foreign Affairs
Dr. R.C. Harkema (until February)	Chief, Sector Programmes Coordination and Technical Advice Department Directorate-General for International Cooperation Netherlands Ministry of Foreign Affairs
Mr. K. Kuiper (from February)	Chief, Sector Policy, Spearhead Programmes and Technical Advice Department Directorate-General for International Cooperation Netherlands Ministry of Foreign Affairs
Mr. A.H. Rotival (until September)	UNDP/WHO Coordinator for the International Water Supply and Sanitation Decade United Nations Development Programme
Mr. F. Hartvelt (from September)	Deputy Director Division for Global and Interregional Programmes United Nations Development Programme
Dr. J. Christmas	Chief, Water and Environmental Sanitation Team United Nations Children's Fund
Mr. D. Howarth	Program Manager UNDP/World Bank Water and Sanitation Program The World Bank
Dr. D. Warner	Manager, Community Water Supply and Sanitation Unit, Division of Environmental Health World Health Organization

II IRC Staff Members

Director

Hans M.G. van Damme *

Programme Activities

Jan Teun Visscher *	Senior Programme Officer Dept. Head Programme Activities
Teun Bastemeijer	Programme Officer Training and Maintenance Development
Ms. Marieke Boot	Programme Officer Evaluation, Hygiene Education
Phil Evans	Programme Officer Community Management
Jo Smet	Programme Officer Technology Development
Ms. Christine van Wijk-Sijbesma	Programme Officer Community Education and Participation and Roles of Women
Ms. Eveline Bolt from 16 April	Research Officer Training Development
Ms. Lizette Burgers	Research Officer Hygiene Education
Ms. Norah Espejo from 1 January	Research Officer Community Management
Ms. Madeleen Wegelin-Schuringa	Research Officer Social Sciences with respect to Urban Issues
Ms. Mary Boesveld	Consultant Community Participation and Demonstration Project Support
J. Michael O'Brien from 17 January	Consultant Environmental Issues
Peter Heeres	Consultant Sanitation

* *Members of Management Team*

Ms. Evelien Kamminga	Consultant Socio-Economic Issues
Ms. Monique Kromhout from 1 September	Consultant Training and Briefing Programmes
Ms. Loekie Broersma from 16 May	Programme Assistant
Ms. Pocha Horton from 1 July	Programme Assistant
Ms. Anneke Groenendal	Programme Assistant
Ms. Lupe Salazar until 16 March	Programme Assistant
<u>Apprentices</u>	
Leo Ancher from 6 May	Community Self-Improvements/ Environmental Issues
Ms. Danielle van den Berg from 4 February to 1 June	Gender Issues
Ms. Wilma van Driel from 1 November	Hygiene Education/Hygiene Behaviour
Ms. Maria Sörensen from 1 September	School Sanitation/Hygiene Education

Information Management

Han Heijnen *	Senior Programme Officer Dept. Head Information Management
Ms. Bettie E. Westerhof	Senior Documentalist
Nigel Browne from 1 April	Documentalist
Cor Dietvorst	Documentalist
Ms. Monique Schouten from 23 January until 1 April	Programme Assistant
Ms. Annick Coulon from 1 July	Programme Assistant

* Members of Management Team

Public Information .

Dick de Jong

Public Information Officer

Administration and Finance

Mr. Paul d'Haens *
from 1 May

Administrator

M. Krijn Peterse *
until 30 September

Administrator

Ms. Hulda W. de Vries

Personnel Officer

Ms. Nicolette Wildeboer

Management Officer

Ms. Hanneke Cusell-Schaap

Bookkeeper

Ms. Irene van Dieten

Automation Officer

Michel van der Leest

Office Assistant

Ms. Carmen Sloom

Publication Assistant

Ms. Lia Wahab

Receptionist

Ms. Izabel Wimmers

Administrative Assistant

Ms. Lauren Wolvers

Image Processor

Ms. Sacha van Damme
from 1 July until 30 November

Temporary Office Assistant

Ms. Colleen Walsh
from 1 December

Temporary Office Assistant

Consultants based in Developing Countries

Dr. I.L. Nyumbu
until 31 July
Zambia

Consultant
Piped Supplies for Small Communities and
Community-Based Financial Management

Stephen Parker
Sri Lanka

Consultant
Information Management

Advisor

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. New Publications

TECHNICAL PAPER SERIES

Partners for Progress: An Approach to Sustainable Piped Water Supplies
TP 28, 181 pp.

A concise overview of the state-of-the-art in piped supplies for small communities, with a strong emphasis on software and a community-oriented approach rather than on technical aspects. The partnership approach, where responsibility for projects is shared between agency and user community, is emphasized. The text integrates activity-supportive subjects like hygiene education and women's involvement - by phase - in the project cycle, rather than dealing with these subjects separately.

Just Stir Gently: The way to mix hygiene education with water supply and sanitation

Prepared by Marieke T. Boot, TP 29, 181 pp.

Provides options and methods for integrating hygiene education with water supply and sanitation projects. Aspects covered include the process of behavioural change, hygiene education planning, implementation, monitoring and evaluation, hygiene education approaches and methods, programme organization, manpower and costs.

OCCASIONAL PAPER SERIES

Drinking Water Source Protection: An overview of problems, causes, experiences and needs

Prepared by M.D. Lee and T.F. Bastemeijer, OP 15, 78 pp.

Describes problems and causes of deterioration in the quality, quantity and reliability of small and large water sources, especially from the point of view of small communities in developing countries. Provides a summary of current experiences in source protection and outlines future research needs to develop effective preventive solutions to the growing range of environmental problems.

On-Site Sanitation: Building on local practice

Prepared by Madeleen Wegelin-Schuringa, OP 16, 78 pp.

Provides insight into the cultural and social aspects which influence sanitation developments. It also provides an overview of technical options available for on-site sanitation in rural and peri-urban areas. Emphasis is put on improving existing facilities with communities.

Economic Benefits from Improved Rural Water Supply: A review with a focus on women

Prepared by Evelien M. Kamminga, OP 17, 78 pp.

Provides an overview of current information on the economic benefits derived from rural water supply interventions. Emphasis is put on factors which promote economic benefits, distribution and use of these benefits and the implications for project planning.

TRAINING SERIES

Slow Sand Filtration: guide for training of caretakers

Prepared in the International Research and Demonstration Project on Slow Sand Filtration, TS 6, 62 pp.

Serves as a basis and guide for instructors or supervisors of training courses on operation and maintenance of slow sand filters for caretakers in developing countries. Consists of a set of guidelines for planning, implementing and evaluating local training programmes, and is to be used jointly with the previously published Manual for Caretakers of Slow Sand Filtration (TS1).

A Manual on Operation and Maintenance of Communal Standposts for Extension Workers and Caretakers

Prepared by Douglas Ng'ambi, TS 7, 18 pp.

This manual assists extensions workers in supporting community water committees, and in particular caretakers, in appropriate operation and maintenance of their piped water supplies. Simple texts and illustrations on community participation in operation and maintenance, basic principles of operation, preventive and corrective maintenance, caretaker tools and financial management of operation and maintenance are given.

Why a Pit Latrine? A manual for extension workers and latrine builders

Prepared by Joseph Mate, TS 8, 26 pp.

This manual guides extension workers in supporting communities to build their own pit latrines. It is also a simple, illustrated do-it-yourself manual for those who want to build a latrine themselves with little outside help.

REFERENCE SERIES

List of Basic Publications on Community Water Supply and Sanitation

RS 6, 94 pp.

Revised edition Contains 130 publications covering new developments in water supply, sanitation and for the first time, environmental aspects. Designed to assist generalists at policy level, specialists at programme level and field staff at project level with a selection of titles on eight subject categories.

Inventory of Selected Training Materials for Water Supply and Sanitation
Prepared by IRC, RS 7, 164 pp.

Lists selected materials in English, French and Spanish that in themselves are comprehensive and complete training courses, or, with minor adaptation, can be made into training material to train sector staff. Includes background on didactic principles and course management.

PERIODICALS

Woman, Water, Sanitation

Compiled by Christine van Wijk-Sijbesma and Eveline Bolt
Joint publication IRC/PROWESS/NORAD, Annually 1991-1993

Annual state-of-the-art on women's roles in improving water supply, sanitation and hygiene. Contains a summary and some 50 abstracts of selected books, reports and audio-visual materials grouped into 11 subject areas, resources list and addresses, and an index.

Highlights: News on water supply, sanitation and environmental aspects
Compiled by IRC's Documentation Unit 6 times annually

Contains an edited selection of news items and contents pages from 250 journals, newsletters and other sources related to the water supply and environmental sector.

IRC Newsletter

English: 10 times annually, French: 6 times annually

Contains news, trends in the sector, selected courses and publications announcements.

TRANSLATIONS

Renewable Energy Sources for Rural Water Supply, TP 23, into Spanish by CINARA, Colombia.

Handpumps: issues and concepts in rural water supply programmes, TP 25, into French by IDRC, Canada and independent translator-editor Claire Weston.

Making the Links - guidelines for hygiene education in community water supply and sanitation", OP 5, into Spanish by UNICEF, Honduras.

Interwater Thesaurus for Community Water Supply and Sanitation, RS 4, into Arabic by CEHA, Jordan.

IV. Meetings, Workshops, Seminars and Symposia

Meeting of the Working Group on Public Information and Promotion Strategy. UNDP, Geneva, Switzerland, 31 January - 1 February

Informal Meeting on Primary Environmental Care. IIED, London, UK, 5 - 6 February

Meeting of WHO Advisory Committee on Operation and Maintenance. WHO Headquarters, Geneva, Switzerland, 27 February - 2 March

"In other words", Symposium on Western and African Journalism, organized by SNV, NVJ, 2 Schools of Journalism and Information, IPS, FNV. The Hague, The Netherlands, 28 February

Meeting on Capacity Development. TNO, Delft, The Netherlands, 4 March

National Review Workshop on Cost Recovery and Resources Coverage, organized by the Water Department. Liwonde, Malawi, 4 - 10 March

Workshop on Measurement of Hygiene Behaviour. London School of Hygiene and Tropical Medicine, Oxford, UK, 8 - 12 April

Workshop on Problem Identification and Community Monitoring of Water and Sanitation Facilities, organized by KfW-SANAA project. Choluteca, Honduras, 12 - 17 April

Meeting of the Core Group on Public Information and Promotion for Water Supply and Sanitation. UNICEF Headquarters, New York, USA, 20 May

Tools for Community Participation - Training for trainers, organized by IRC and Water Department, facilitated by PROWWESS-UNDP. Lilongwe, Malawi, 30 May - 12 June

"A Strategy for Water Resources Capacity Building", UNDP Symposium. IHE, Delft, The Netherlands, 3 - 5 June

Workshop on Revision of Volume 3 of the WHO Guidelines for Drinking Water Quality, organized by Robens Institute. Harare, Zimbabwe, 24 - 28 June

Agusan Workshop, organized by SKAT. Rotschuo, Switzerland, 1 - 5 July

Workshop for PSSC Self-Evaluation (Planning and Methodology), organized by IRC. Lusaka, Zambia, 19 - 28 August

Workshop on the Evaluation of the International Development and Demonstration Project on Slow Sand Filtration, organized by IRC. The Hague, The Netherlands, 2 - 4 September

Meeting on Legal Issues related to Water Resource Allocation and Waste Water Reuse, organized by WHO. Geneva, Switzerland, 10 - 12 September

NETWAS Review and Planning Workshop, organized by AMREF Kenya. Naro Moru, Kenya, 16 - 20 September

Global Forum of the Water Supply and Sanitation Collaborative Council. Oslo, Norway, 18 - 20 September

First Meeting of the United Nations Interagency Steering Committee for Water Supply and Sanitation, organized by FAO. Rome, Italy, 23 - 24 September

Slow Sand Filtration Workshop, organized by AWWA. Durham, New Hampshire, USA, 27 - 30 October

International Seminar on the Improvement of Treatment Systems for Drinking Water with Pretreatment Alternatives, organized by CINARA and IRC. Cali, Colombia, 4 - 8 November

Global Workshop on Information Management, organized by IRC. The Hague, The Netherlands, 11 - 13 November

Workshop on Hygiene Education and Sanitation at National Level, organized by DNHE, DNHA and UNICEF-Mali. Bamako, Mali, 12 - 18 November

Third International Seminar on the Management of Information related to Water and Environment, organized by UNESCO International Hydrological Programme. Brussels, Belgium, 14 - 15 November

Master Trainer's Workshop, organized by PROWWESS. Islamabad, Pakistan, 17 - 21 November

Workshop on Hygiene Education and Sanitation at Regional Level, organized by DNHE, DNHA and UNICEF-Mali. Mopti, Mali, 20 - 28 November

Workshop on Community-Based Water Management for COSUDE/UNICEF Officers. La Ceiba, Honduras, 10 - 15 November

Third African Regional Meeting of the International Training Network for Water and Waste Management (ITN), organized by the University of Zimbabwe. Kadoma, Zimbabwe, 4 - 6 December

"Portugal - Bridge between Continents", organized by UNDP. Lisbon, Portugal, 9 - 11 December

V. Papers and Articles

Papers

"*Women and the Water Sector in India*", Christine van Wijk, presented at an informal donor meeting on the occasion of International Women's Day, New Delhi, India, 8 March

"*The Study of Hygiene Behaviour in Water Supply and Sanitation Programmes - notes from the field*", Marieke Boot, presented at the International Workshop on Measurement of Hygiene Behaviour, Oxford, UK, 8 - 12 April

"*Overcoming Water Quality Limitations with the Multi-Barrier Concept: a Case Study from Colombia*", by Gerardo Galvis, Jan Teun Visscher and Barry Lloyd, presented at Slow Sand Filtration Workshop, sponsored by American Waterworks Association, University of New Hampshire, New Hampshire, USA, 27 - 30 October

"*Slow Sand Filtration Design and Construction: Learning from Experience*", Jan Teun Visscher, Gerardo Galvis and Jo Smet, presented at Slow Sand Filtration Workshop, sponsored by American Waterworks Association, University of New Hampshire, New Hampshire, USA, 27 - 30 October

"*Building Capacity for Technology Development and Transfer in the Water and Sanitation Sector*", Hans van Damme, presented at the International Seminar on the Improvement of Treatment Systems for Drinking Water with Pre-Treatment Alternatives, Cali, Colombia, 4 - 8 November

"*Results of the IRC International Development and Demonstration Project SSF Technology in Developing Countries*", J.T. Visscher, presented at the International Seminar on the Improvement of Treatment Systems for Drinking Water with Pre-Treatment Alternatives, Cali, Colombia, 4 - 8 November

Articles

"*Safe Water 2000 conferentie New Delhi: Verdubbel fondsen tot twintig miljard dollar en involveer de lokale bevolking*", Dick de Jong, in: H²O, vol 24, no 6, p. 162 - 163.

"*Water and Sanitation*", J.T. Visscher, in: Lessons Learned in Community-Based Environmental Management, Proceedings of the 1990 Primary Environmental Care Workshop, Rome, Italy, April 1991, p. 65 - 68.

"*Managing Information Resources in Water Supply and Sanitation: Towards a Strategy for Capacity Building*", Han Heijnen, in: ASEP Newsletter, vol. 7, no. 4, p. 6 - 7, 13.

VI. Country/Project Matrix

This matrix contains a list of countries in or with whom which specific activities were undertaken in 1991, (see also map on page viii and ix) in addition to general information exchange in more than 100 countries.

COUNTRIES	ACTIVITIES											
	<i>Information Management</i>	<i>Piped Supplies 1)</i>	<i>Slow Sand Filtration and Pre-Treatment 1)</i>	<i>Monitoring and Evaluation 2)</i>	<i>Health/Hygiene Education 2)</i>	<i>Gender Issues 2)</i>	<i>Low-cost Urban Systems 2)</i>	<i>Water Resources 2)</i>	<i>Low-Cost Sanitation 2)</i>	<i>Planning 2)</i>	<i>Training and Briefing</i>	<i>Community Management 2)</i>
Africa												
Burkina Faso	*											*
Ghana					*							
Guinea Bissau					*					*		
Kenya				*							*	*
Malawi		*			*			*				
Mali					*			*				
Namibia					*			*				*
Tanzania									*			
Uganda	*						*					
Zambia		*		*								*
Asia												
Cambodia							*					
India		*		*	*	*	*	*	*	*	*	*
Indonesia	*											*
Pakistan					*		*	*		*	*	
Philippines	*											
Sri Lanka	*											
Thailand	*						*				*	
Eastern Mediterranean												
Jordan	*											
Yemen Arab Republic										*		
Latin America												
Colombia			*		*		*		*			*
Guatemala					*							*
Honduras					*							*
Nicaragua					*							*
Peru					*		*					

1) development and demonstration projects

2) including advice, monitoring and evaluation work and/or publications

VII. List of Abbreviations

ADB	Asian Development Bank
AIT	Asian Institute of Technology
AMREF	African Medical Research Fund (Kenya)
AWWA	American Waterworks Association
CD-ROM	Compact Disc - Read-Only Memory
CEFIGRE	Centre de Formation Internationale à la Gestion des Ressources en Eau (International Training Centre for Water Resources Management (France)
CEHA	Centre for Environmental Health Activities (Jordan)
CEPIS	Pan-American Centre for Sanitary Engineering and Environmental Sciences (Peru)
CESI	Country External Support Information
CIEH	Inter-African Committee for Water Resources Studies (Burkina Faso)
CINARA	Centro Inter-regional de Abastecimiento y Remoción de Agua (Colombia)
COSUDE	Cooperacion Suize al Desarrolle (Nicaragua), see also SDC
CREPA	Centre Regional pour l'Eau Potable et l'Assainissement à Faible Coût (Burkina Faso)
DANIDA	Danish International Development Agency
DGIS	Directorate-General for International Co-operation (The Netherlands)
DNHA	Direction National d'Hygiène et Assainissement (Mali)
DNHE	Direction National d'Hydrologique et Energie (Mali)
ENSIC	Environmental Sanitation Information Centre (Thailand)
ESA	External Support Agency
FAO	Food and Agriculture Organization of the United Nations (Italy)
FINNIDA	Finnish International Development Agency

FNV	Federation of Dutch Trade Unions
GTZ	German Agency for Technical Cooperation
HELVETAS	Swiss Organization for Development and Cooperation
HRD	Human Resources Development
IABP	Integrated Area-Based Project
IDRC	International Development Research Centre (Canada)
IDWSSD	International Drinking Water Supply and Sanitation Decade
IEC	Information, Education, Communication
IHS	Institute for Housing Studies (The Netherlands)
IHE	Institute of Hydraulic and Environmental Engineering (The Netherlands)
IHP	International Hydrological Programme
IIED	International Institute of Environment and Development (England)
INFO-IMPACT	Information Exchange Plan of Action (process towards the implementation of technical information exchange)
IPS	International Press Service (The Netherlands)
IRC/WD	International Reference Centre for Waste Disposal (Switzerland)
ITN	International Training Network for Low-Cost Water Supply and Sanitation
IWSA	International Water Supply Association (United Kingdom)
KEFINCO	Consortium executing the enya-Finland Western Water Supply Programme
KfW	Kreditanstalt für Wiederaufbau (Germany)
MDF	Management for Development Foundation (The Netherlands)
NEERI	National Environmental Engineering Research Institute (India)
NETWAS	Network for Water and Sanitation (Kenya)
NGO	Non-Governmental Organization
NORAD	Norwegian Agency for International Development
NOVIB	Netherlands Organization for International Development Co-operation

NVJ	Association of Dutch Journalists
NWFP	North West Frontier Province (Pakistan)
PAHO	Pan-American Health Organization (Peru)
PAID	Pan African Institute for Development (Cameroon)
PROWCESS	Promotion of the Role of Women in Water and Environmental Sanitation Services
PSSC	Piped Supplies for Small Communities
REPIDISCA	Red Panamericana de Información y Documentación en Ingeniería Sanitaria y Ciencias del Ambiente (Peru)
RUWASA	Rural Water Supply Association (Uganda)
RWSG	Regional Water and Sanitation Group
SDC	Swiss Development Corporation
SDI	Selective Dissemination of Information
SNV	Netherlands Development Organization
SSF	Slow Sand Filtration
TIE	Technical Information Exchange
TRANSCOL	Transfer of Slow Sand Filtration in Colombia
UNDP	United Nations Development Programme
UNDTCD	United Nations Department of Technical Cooperation for Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UNIVALLE	University of Valle (Colombia)
VROM	Ministry of Housing, Physical Planning and Environment (The Netherlands)
WASH	Water and Sanitation for Health Project (United States)
WASIN	Water and Sanitation Information Network (Indonesia)
WASP	Water Source Protection
WHO	World Health Organization
WSS	Water Supply and Sanitation

