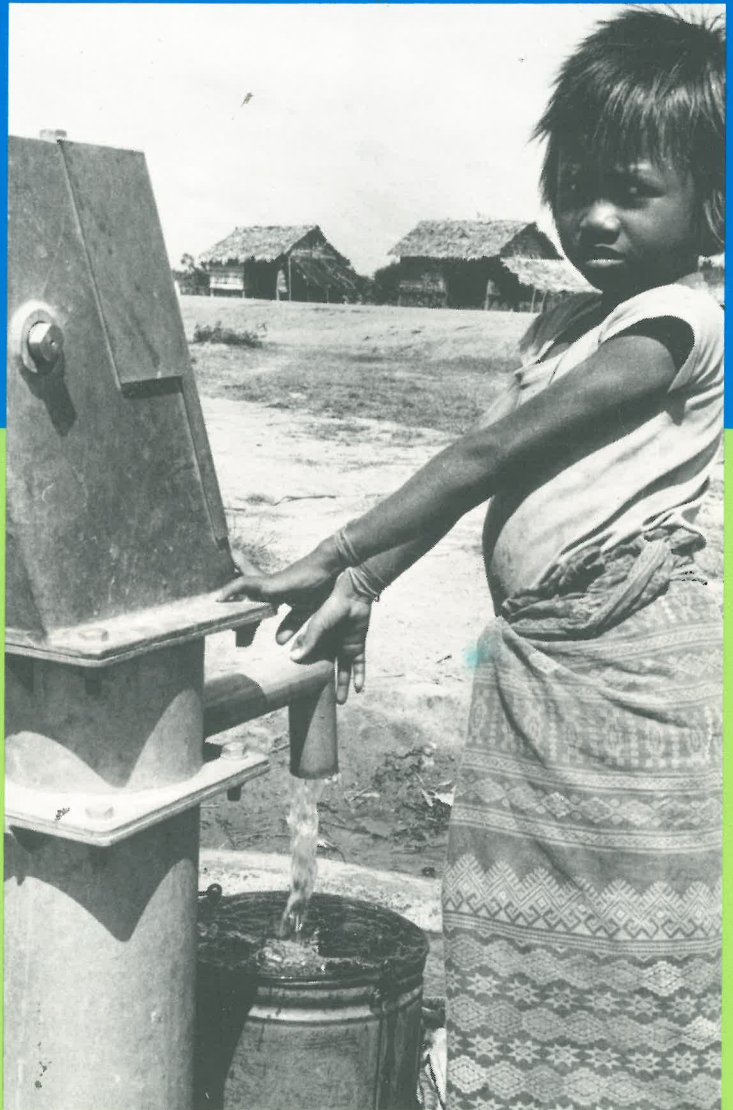




IRC

International Water and Sanitation Centre
WHO Collaborating Centre

*Annual
Report
1992*



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 1992

IRC
International Water and Sanitation Centre

Cover photo: Roel Burgler, Amsterdam

Table of Contents

Foreword	v
1. Information Management	1
2. Applied Research	7
3. Publications and Documentation Services	25
4. Training and Briefing Programmes	31
5. Advice and Evaluation Services	35
6. Partners	39
7. General Management	45
8. Looking Ahead	47
Annexes	
I. Members of the Governing Board	49
II. IRC Staff Members	50
III. New Publications	53
IV. Meetings, Workshops, Seminars and Symposia	55
V. Papers, Lectures and Articles	58
VI. Country/Project Matrix	60
VII. List of Abbreviations	61

Foreword

The year 1992 was distressing as well as promising.

Distressing because in spite of significant and commendable work during the International Drinking Water Supply and Sanitation Decade in the 1980s, population growth outpaced service expansion. The year 1992 knew the largest number of individuals at one point in time suffering from a lack of basic water and sanitation services.

The year was also promising since the water supply and sanitation lessons learned over many years were widely discussed and formally recognized by the Dublin and Rio Conferences as a basis for future actions. This will prove to be meaningful for many years to come.

These lessons point at breakthroughs in the thinking about the sector that hold promise for better integrated, increasingly effective, and more sustainable development of water and sanitation. Seeds for those breakthroughs were sown in meetings and gatherings around the globe, in local settings, and in conferences like Delhi, Dublin and Rio. The hard work necessary to let these seeds bear fruit is, and rightfully so, undertaken in the field.

The first breakthrough is that water and sanitation services will be closely tied to integrated water resources management. This will lead to increased cooperation between bodies and organizations in different sectors, such as environment, health, rural and urban development, agriculture and water. This must be the case at both national and global levels, and must be supported through partnerships, by donors and other external support agencies.

IRC will strongly support this trend, both in terms of applied research, information exchange, and training programmes, and in terms of evaluation and advisory services.

The second breakthrough is community management. A multitude of experiences during the Water Decade have indicated that "putting the community in charge" makes a major difference in sustainable water and sanitation services, financing of facilities, protection of catchment areas, and reduction of wasteful water use. The community management approach puts due emphasis on the right balance between community and agency responsibilities, as well as on gender-specific operationalization.

IRC, with the support of the major UN organizations in the sector, was recently able to take the thinking about community management one step further through the organization of a global workshop on community management. In the coming years community management will have a strong emphasis in all of IRC's programmes.

Capacity building is a third breakthrough. There is now full awareness that the intricacy of the water sector, being both an infrastructural and a social development sector, requires a multitude of institutions, professional capabilities, trained men and women, educated parents and children, and informed users. At the basis of this is knowledge development, of which knowledge and technology

transfer forms a component. Countries must be equipped with professional and institutional capacity to find solutions for their own problems. National resource centres as support mechanisms within the sector on the management of local and external knowledge and expertise, on appraisal and evaluation of projects, applied research and public information can go a long way in making the sector more effective.

IRC will pursue this line of thinking further, and will also continue, with renewed effort, its contributions to improved management of information in developing countries.

A fourth breakthrough is the increasing feeling that something is missing in the mobilization of all possible partners for the enormous challenge the sector is facing. It is now widely sensed that the lack of effective communication in many ways forms an impediment to developments in the sector, both regarding the involvement of the population and regarding commitment at policy and political level. Here, too, capacities need to be developed, along with increased effectiveness of ongoing public information and communication programmes.

IRC is fortunate to lead an initiative under the Water Supply and Sanitation Collaborative Council directed to establish programmes to raise awareness, initiate capacity building and implement actions on IEC - Information, Education, Communication.

A fifth breakthrough: partnership and team approach among the developing country governments and external support agencies, as well as nationally and locally among professional institutions in different sectors, politicians, bureaucrats, and men and women in the communities and urban fringes. The Water Supply and Sanitation Collaborative Council, which emerged from the IDWSSD of the 1980s, is a promising undertaking in this respect and merits the support of all sector people. But equally important is the relationship between people and institutions locally.

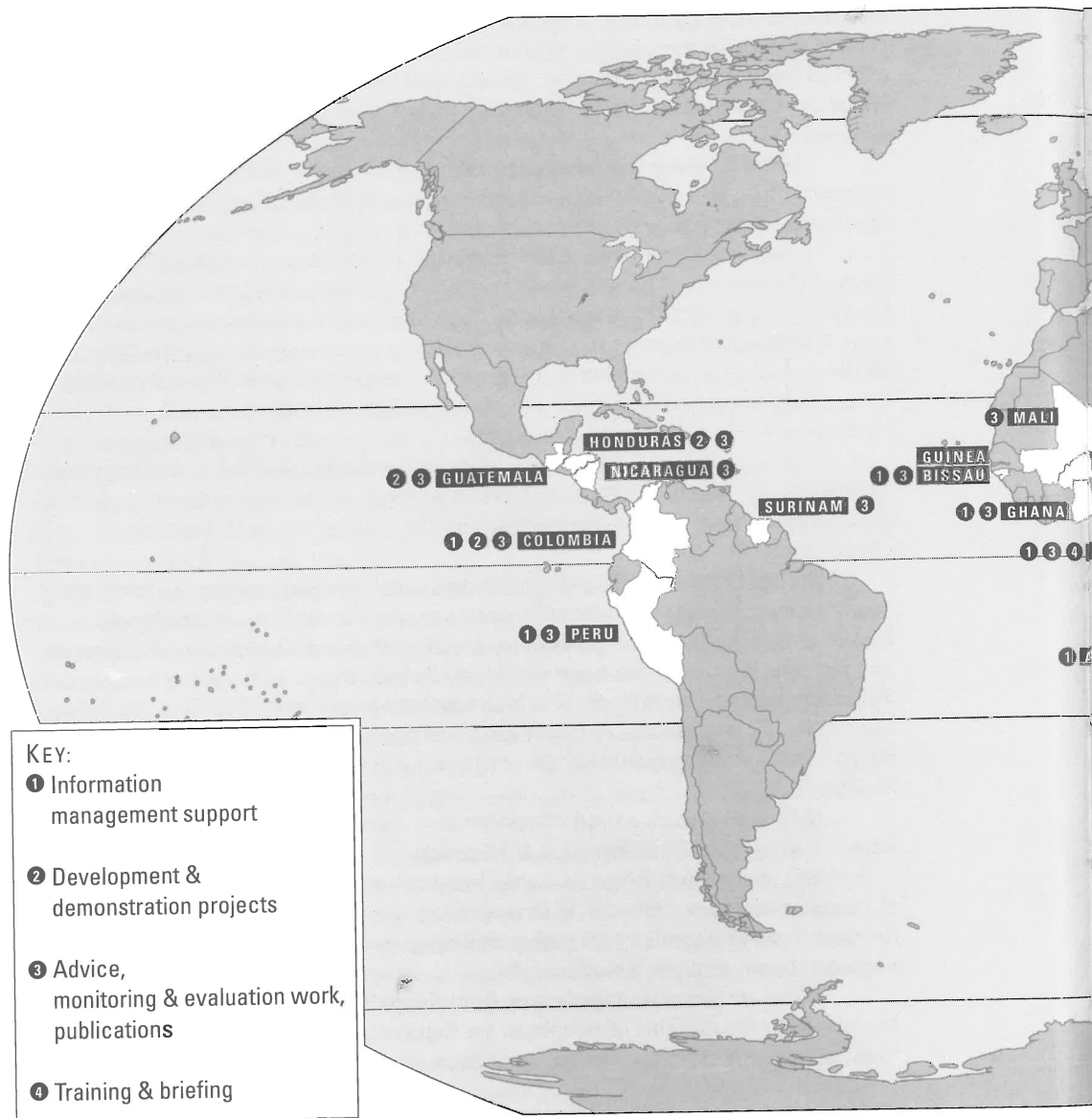
IRC, with a track record of cooperation since its establishment, will do what it can to support partnerships at all levels.

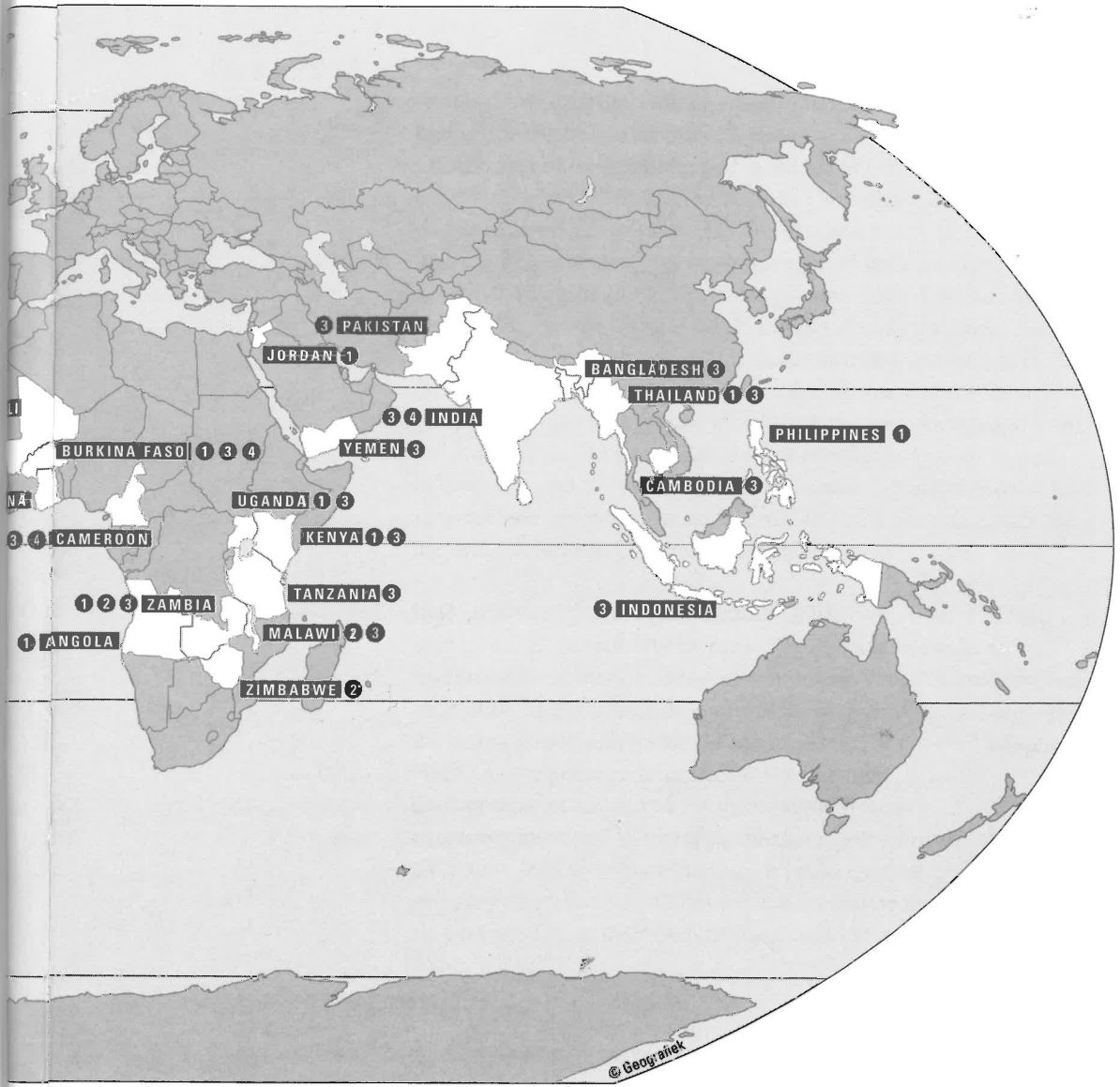
The above "breakthroughs" may presently not be much more than a change in thinking, and then, not even shared by everyone in and around the sector. But at the same time that provides us with a challenge to study the 'hows' and ensure the implementation of these breakthroughs.

There are valuable experiences from the past. There are ample new ideas. We owe it to the millions of people as yet deprived of water and sanitation to translate this available knowledge into action, sooner rather than later.

Hans van Damme
Director
March 1993

Country Support in 1992





1. Information Management

Background

The lack of capacity to manage information has been recognized as one of the major constraints affecting the effective use of information in the planning and management of sector activities at the country level. The United Nations Conference on Environment and Development in Rio de Janeiro devoted a chapter in its *Agenda 21* to the need for the implementation of programmes that deal with bridging the information gap and improving information availability. It was recognized that in developing countries there is a general lack of capacity for the collection and assessment of data, for their transformation into useful information, and for their dissemination to user groups at political and implementation level. Information should be available in an accessible manner in information and documentation centres, and in particular extension services and mechanisms should exist to reach out and ensure the use and application of the valuable information.

IRC aims to assist local and national initiatives on information management, particularly by providing support to needs and resources assessment, product development, capacity building and promotion of the information resources available. It also supports the development and testing of mechanisms for national capacity building in aspects of information management. With the development of capacities for information, research, communication and knowledge enhancement, all of which ultimately lead to better planning and management of programmes and projects, valuable sector information can be made available for all who need it, in their own language, and at a central location.

COUNTRY ACTIVITIES

Capacity building for information management is needed most at the country level. IRC is active with national organizations in providing support to their countries' information development.

Strong ties with the International Training Network (ITN) in the *Philippines* continue. Assessments revealed that the ITN centre's information component needs strengthening, and in that context IRC, as in past years, continues to provide information support

through distribution of packages of basic libraries on water supply and sanitation for the ITN's collaborating centres. The ITN Centre received five basic libraries this year.

The International Institute for Infrastructural, Hydraulic and Environmental Engineering (IHE) in the Netherlands is working on capacity building with ITN Philippines, and in that context, the ITN's training coordinator spent three weeks at IRC to further refine the training strategies for the centre. Among the conclusions from the training coordinator's report are that the trend within the centre to move from a supply-driven to a demand-driven approach must be sustained in order to maintain the level of motivation built up within the Network and that financial resources must be secured to ensure the ITN Project's sustainability.

IRC has been involved with the Environmental Sanitation Information Centre (ENSIC) in Bangkok, *Thailand* since 1980 and its ENSICNET programme since 1991. Phase II of the programme, which is funded by the ADB, began in January. A regional meeting was held in April where collaboration with other networks in the region, sharing of resources, and compensation for information services were discussed. IRC assisted in the organization of the meeting, which brought together representatives from sector information centres from Cambodia, China, Indonesia, Nepal, Philippines, Thailand and Vietnam.

Since 1990 IRC has been assisting the Water Development Department in *Uganda* with the rehabilitation and the setting-up of an appropriate information structure respectively. Consultancies and information activities initiated by the Commissioner of Water Development generated interest for information management at various levels within the government. The Water Development Department, using its own resources and with the support of IRC and its local partner AMREF/NETWAS, is gradually developing capacities in information management and documentation. It is also planning to rehabilitate the national (geo)-hydrological database. Consultations between the Government of Uganda, DANIDA and DGIS are under way to share the information development and management tasks necessary to build a comprehensive water resources management plan and create the ability to maintain the information base needed for effective use of water for drinking, agriculture, industry and hydro-power.

In *Cameroon* and *Burkina Faso* collaboration continues on the subject of capacity building at the national level with the Pan-African Institute for Development (PAID). Each of PAID's five institutes (Zambia, Burkina Faso and three in Cameroon) received a complete set of IRC publications to update their water supply and sanitation information collection.

In the context of DGIS support to the water sector in *Tanzania* IRC assessed the community management and the information situation in the Morogoro and Shinyanga regions. The assessment led to a proposal to DGIS for the establishment of local documentation units within the Ministry of Water Development, which resulted in IRC sending two complete sets of its publication series to these units.

IRC Support to Capacity-Building for Improved Support Services at National and Regional Level

<i>Resource Centres</i>	CINARA	AMREF	PAID	IPD	ITN Philippines
<i>Subject Field</i>					
Information & Documentation Services					
Training & Briefing					
Publications					
Advisory Services					
Field Research & Demonstration	1	1	1		
Awareness Raising for the Sector					
Desk Research/Study					

1) Communication Management/Research & Development beginning in 1993

REGIONAL ACTIVITIES

In order to improve access and utilization of information in and among Portuguese-speaking, primarily African countries the Water Supply and Sanitation Collaborative Council has started the 'Lusophone Initiative'. Mechanisms which are being studied are information and training. In the context of this initiative, which is being carried out under the aegis of the Collaborative Council, various activities were begun under the theme 'Capacity Building in Information Management and Human Resources Development'. IRC is handling the information-related activities for this initiative. These comprise an assessment on the information situation in *Angola* and *Guinea Bissau* including an evaluation of current access and how this affects human resources development and planning in the sector in each country; and an inventory of information materials already available in the Portuguese language, which will include an overview and appraisal of the information materials situation in Lusophone countries. IRC's reports will be presented at a Round Table meeting in Lisbon in May of 1993. The result of the Round Table will be a basic document with guidelines on how to implement information projects.

IRC's long-standing relationship with the regional Centre for Environmental Health Activities (CEHA) in *Jordan* continued in an advisory capacity. IRC was invited to advise on aspects of the third phase of the CEHANET information network project, which will respond to the WHO Global Strategy for Health and Environment's objective of supporting information development and the corresponding 'strategic actions' to be undertaken at regional and national level. The CEHANET project will be extended to include among others the implementation of management information.

IRC has been requested by the Netherlands Ministry of Housing, Physical Planning and Environment to conduct an assessment of the information needs in the area of drinking water and sanitation in the *CIS countries*, and how the Netherlands could answer to this need. A link has been made with UNICEF to cooperate on this assessment, which will take place in 1993.

WORKING GROUP ON INFORMATION MANAGEMENT

The Water Supply and Sanitation Collaborative Council established a Working Group on Information Management at the Council's Global Forum in Oslo in September 1991. The group's mandate was to develop strategies and activities to develop information capacities in institutions in the water and sanitation sector. In its role as leader of the Working Group IRC convened its first meeting, which took place at the Asian Institute of Technology in Bangkok in April. The meeting considered the group's terms of reference, discussed an outline of the activities, and planned its progress report for the Collaborative Council, which will include recommendations for further actions to be taken by individual members of the Council, for consideration at its next meeting in September 1993.

Under the auspices of the Working Group a questionnaire was prepared to investigate the information needs of people working in sector institutions, the kinds of information sources they use, and the ways in which they use them. The questionnaire, designed to be used during interviews, is being tested among sector personnel in various countries and regions. Results to date indicate that sector people do not find that available information suits their needs. The Working Group is developing a strategy for the Collaborative Council on how to implement capacity building for information management at the country level, which will be discussed at the group's next meeting early in 1993. Work also continues on raising awareness about information management at the international level.

A need has been recognized for further integration of data- and text-based information for planning and decision making in the sector. In this context the Working Group is discussing the establishment of effective links between monitoring systems such as WHO/UNICEF's WASAMS, geo-hydrological databases and geographical information systems (GISs), with the information available in documentation units.

PUBLICATIONS

At the end of the year a draft version of a manual entitled *Sources of Information on Low-Cost Rural and Urban Water Supply and Sanitation for Developing Countries* had been sent out for review. It will be published in the Reference Series in 1993. Three Occasional Papers were near completion at the end of the year. One is intended for sector training staff, and is based on the experiences in the Management for Sustainability courses held in **Cameroon** and **Burkina Faso**; another describes IRC's experiences in information management support; and the third contains guidelines for managers and practitioners on the establishment of documentation centres.

2. Applied Research

Background

Despite the abundance of existing sector information, new problems continually arise which require innovative solutions. IRC's activities, carried out together with partners in developing countries, are aimed at creating a better insight into both the problems and the potential solutions. One of the mechanisms IRC uses to gain this insight is applied research in the form of both desk and field research. The results of IRC's applied research activities are translated into an accessible form and shared with those working in the water supply and sanitation sector, thereby making an important contribution to the innovative approaches sought for sector problems. As member of the Water Supply and Sanitation Collaborative Council's Working Group on Applied Research, IRC will continue to keep abreast of the most pressing information needs in the sector.

The development and demonstration projects in particular have a strong learning component in that IRC aims to provide developing country nationals with the possibility to learn through experience and enable them to adapt technologies and methodologies to their specific situation. Thanks to its extensive information holdings IRC is in a position to provide targeted information support together with advisory services regarding issues at the forefront of development, including integration of technical and social components into water supply and sanitation programmes, capacity building, community management, and other pertinent subjects. Current projects of this type include Piped Supplies for Small Communities (PSSC) in Malawi and Zambia, Simple Pre-Treatment Methods for Rural Water Supply (PRET) in Colombia, and community management projects in Honduras and Guatemala.

INTEGRATION OF TECHNOLOGY

Background

Essential in integrating technology and the social aspects of a project such as gender, community management, monitoring and evaluation, is that the technology is adapted to the local setting, that it makes use of local expertise. This integration is incorporated into all of IRC's activities. Once a new technology or

implementation strategy has been successfully adapted to the local setting and national staff has gained hands-on experience, the foundation has been laid for implementation on a larger scale. In these integration projects the transfer of the technology in question is often an important aspect.

Piped Water Supplies

IRC's longest running development and demonstration project, the PSSC project, will be drawing to a close in 1993. Since 1987 it has been helping national staff in *Malawi* and *Zambia* develop better methods for community-based approaches towards piped water systems with financial support from the Dutch Directorate-General for International Cooperation. The other main objective was to collect and share information on piped water supplies with the national level agencies in the project's countries and at international level.

During the course of the year the project managers from both countries attended the IRC/MDF *Management for Sustainability* course. In view of the completion of the project, proposals were written up for follow-up activities, and an external evaluation was conducted by two Dutch consultants on request of DGIS. A mission at the end of the year to round off the project brought the project teams in both countries together to discuss the external evaluation, final reporting, consolidation of the approach, and follow-up activities. Two project documents, one on community-based maintenance of piped water supplies and one on a learning-action approach to community management are nearing completion. Both will be suitable for international application in the sector.

Malawi

In Malawi the PSSC project produced three important products for local use this year. IRC Technical Paper *Making the Links: guidelines for hygiene education in community water supply and sanitation* was translated into Chichewa [*Kuyambitsa M'Gwirizano: Zoyenera kutsata pa maphunziro a zaukhondo m'madela momwe muli madzi a m'mipope*] for the project's and health department's extension workers. For Tap Committees a hygiene education manual was prepared, as well as a manual for operation and maintenance of piped supplies.

Representatives from the member organizations of the National Action Committee (NAC) in Zimbabwe travelled to Malawi on a study tour of the piped water supply systems to learn from the Malawi experiences, especially with respect to community involvement and management. A report with recommendations was presented to the NAC, with suggestions for developing community management in piped water supplies in Zimbabwe, as well as suggestions for a development and demonstration project on sustainable piped water supplies.

A national workshop was organized for national and regional sector staff to synthesize the PSSC project findings on sustainability, effectiveness and replicability and to identify follow-up plans. A one-day national seminar was held for national staff from sector departments, NGOs, ESAs, representatives from the NAC in Zimbabwe, and senior sector staff from Zambia to disseminate the project findings on sustainability of piped water supplies in Malawi.

As for the future of the PSSC achievements, consolidation of the approach is ensured. A UNDP-supported project on borehole rehabilitation adopted and adapted many of the project's methodologies for the rural water supply sector. As external funds are hardly available for the urban water supply projects, application of PSSC approaches in new projects in low-income urban areas is limited. Because of low donor interest in Malawi two potential follow-up activities will have to be postponed: information management and dissemination with district focus, and support to development of community management in rural groundwater projects. Britain's ODA, however, is considering funding a 14-town water supply project which will most likely apply the PSSC approach.

Zambia

In Zambia a *Manual on Community Participation* was prepared by a project team member for Tap Committee members and extension workers who are involved with water supply and sanitation projects. A training workshop for Tap Committees was held at the end of the year, and another course was planned for caretakers of piped water supplies.

The PSSC approach developed over the past several years will be developed further by the Departments of Water Affairs, Community Development and Health. They will incorporate the training materials developed by the project in their regular support to community development activities.

Pre-Treatment

The PRET project is a research project on water treatment without the need for chemicals, that was established in *Colombia* in 1987 with CINARA, at that time a working group from the University of Valle. Since then significant progress has been made on technical research to improve the performance of a combination of different pre-treatment technologies and slow sand filtration. The project also focuses on the introduction of these technologies in community water supply systems. The very good results show the vast potential for those combinations, particularly where there is a potential for gravity piped supplies, as is very much the case in Colombia and other Andean countries.

In 1992 research results continued to be excellent. Very important water quality improvements were brought about by combining two-stage roughing filtration with slow sand filtration. Research proves that it is technically possible to provide good quality drinking water to rural centres and small to medium towns without need to use chemical coagulants applying a multi-barrier treatment concept. Both pilot-scale and full-scale research results from this project show the great potential for pre-treatment technology. The least expensive combination of dynamic and upflow roughing filtration in layers seems sufficient to cope with the majority of raw water qualities in Colombia and the Andean region. These findings may help to change the fact that many Colombians in small towns (30,000 people) have to depend on polluted surface water.

DGIS has extended the project, which would have come to an end mid-1992, until August 1993 to enable the completion of a preliminary guidance document for the planning, design, operation and maintenance of pre-treatment systems. The good results have triggered the development of a proposal for a second phase aiming at the technical and economic optimization of pre-treatment technology, which is now under consideration by DGIS.

Transfer of Slow Sand Filtration

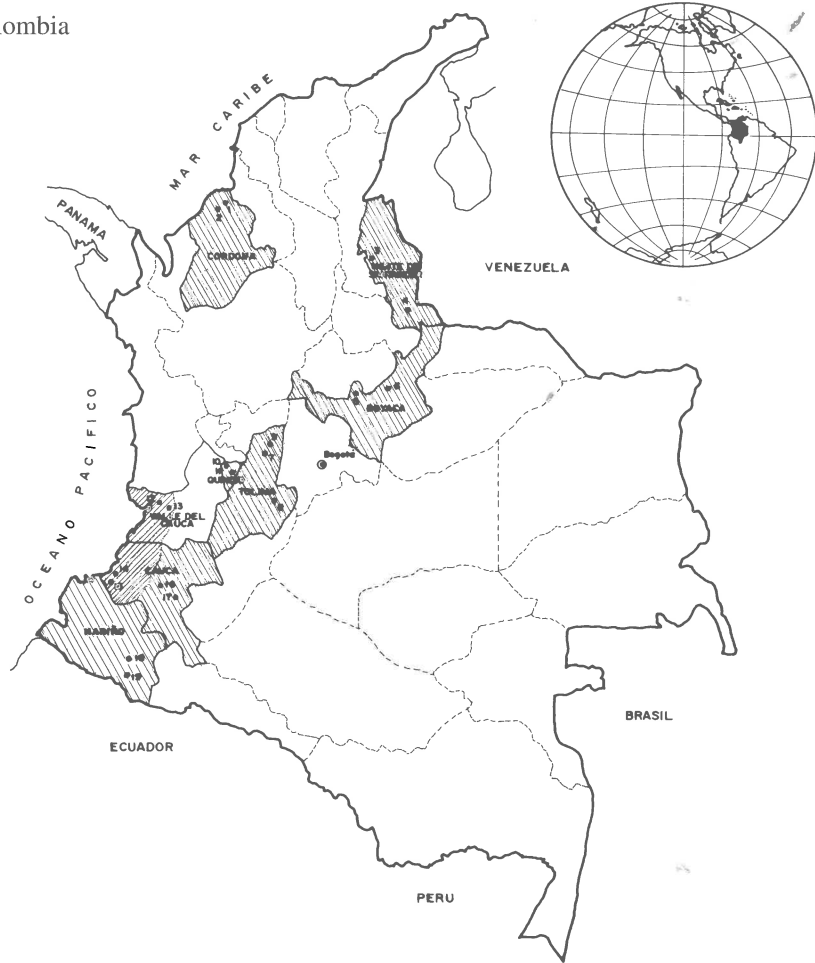
In *Colombia* IRC's development and demonstration approach has been taken a step further in the Transfer of Slow Sand Filtration in Colombia (TRANSCOL) project. In this project the Centro Inter-regional de Abastecimiento y Remoción de Agua (CINARA), with support from IRC, has taken the lead in a guided process of technology transfer through implementing development and demonstration projects, together with regional groups, in eight regions in that country. This has not only contributed to capacity building in these regions, but also to the development of other projects supported by the regional groups. Other regions in Colombia, as well as groups in neighbouring countries, have now shown a great deal of interest in this approach.

The TRANSCOL programme was launched in 1989 by CINARA and IRC under a bilateral agreement between Colombia and the Netherlands Government, for the purpose of introducing slow sand filtration technology through a series of development and demonstration projects in eight regions in Colombia. The programme was launched after strong interest arose as a result of the good performance of full-scale plants in Valle del Cauca region.

The project has two key components: the establishment of regional groups involved in the water sector who can continue to support the transfer of technology in their region, and the implementation of two development and demonstration schemes in each region to enable the regional groups, under guidance of CINARA, to gain experience and adapt the methodologies and technologies to their conditions. The results clearly show that this guided technology transfer process enables the regional teams to learn from CINARA's and IRC's experience, but even more important, from each other and from their own experience.

Three projects have thus far been developed and constructed together with the communities concerned, 13 are currently under construction, and three more are planned. Communities respond very well to the regional teams which are supported by CINARA. The implementation process puts a lot of emphasis on integration of the technology with people's culture and roots, and allows sufficient time for them to learn from one another's experiences. The learning approach used in the project and the respect for local

Colombia



LOCATION OF THE 19 DEMONSTRATION PROJECTS

REGION	COMMUNITY	REGION	COMMUNITY
Córdoba	1 El Huesco (Purísima)	Quindío	10 Puerto Alejandria (Quimbaya)
	2 Corregimiento La Doctrina (Lorica)		11 Quebrada Negra (Calarcá)
Norte de Santander	3 Aguas Claras (Ocaña)	Costa Pacífica	12 Zaragoza (Buenaventura)
	4 Pamplonita		13 Triana (Buenaventura)
Boyaca	5 Toguí		14 Santa Bárbara (Timbiquí)
	6 Cerinza		15 Limones (Guapi)
Tolima	7 El Convenio (Libano)	Cauca	16 El Tambo
	8 Suárez		17 Paispamba (Sotará)
	9 San Felipe (Guayabal)	Nariño	18 Yacuanquer
	19 Contadero		

culture create a dialogue amongst the communities, bringing them together in striving for a common goal. Interesting project activities reported by CINARA were: tariff setting, selection of female plant operators, establishment of water committees, and inclusion of sanitation improvements as part of the project. Some of the regional teams have already started to develop activities by themselves, including the development of other projects and some slow sand filter research activities.

The magnitude of the project necessitated that the working group CINARA be established into an independent foundation. This proved to be very important as they are now expanding their activities into other issues including disinfection, rainwater harvesting, school sanitation and low-cost urban water and sanitation.

COMMUNITY MANAGEMENT

Background

The transfer of greater management responsibility for water supplies to user communities has been set as a major goal in the sector for the 1990s. Community management is an approach which should be an integral aspect of project development, as it could well provide the key to solving long-standing problems related to sustainability, financing, cost effectiveness and technical and socio-cultural appropriateness.

There is a significant amount of project experience from both communities and agencies concerning the management of water supplies and from the communities themselves in managing their own resources. This information has yet to be compiled and analyzed, and approaches and support systems must be developed for the further strengthening of communities' roles in the management of their systems.

Community Management Development

From an initiative within its Governing Board and with support from the UNDP/World Bank Water and Sanitation Programme, UNICEF and DGIS, IRC hosted a pioneering international workshop on community management in November. Case studies were presented from Cameroon, Guatemala, Honduras, Indonesia, Pakistan, Uganda and Yemen, and background papers were

prepared by IRC and the UNDP/World Bank Water and Sanitation Programme. A report containing the workshop's findings, substantiated with evidence from the field, will be published for widespread circulation in 1993.

DGIS funded the first phase of a research project on the roles of communities in the management of water and sanitation projects, which entailed preparation of a review document of the existing literature available on the subject. The funding also included development of a proposal for an action-research project with partners in Central America, Asia and Africa. This proposal has been submitted, together with the review document.



Participatory methods used in Tanzania: village mapping
Photo: M. Boesveld, IRC

In *Honduras* IRC is providing support to a project being implemented by the Ministry of Health with financial support from KfW. IRC support focuses on community management and hygiene education in this project, which covers 46 rural communities close to the township of Choluteca. IRC initiated the setting up of a multidisciplinary team within the programme and is developing the materials necessary for hygiene education and monitoring, as well as a hygiene education strategy which involves community monitoring.

In *Guatemala* a similar KfW-financed project is being implemented with the Ministry of Public Health to construct 113 water supply systems in Quetzaltenango. Here, too, IRC's support focuses on community management and hygiene education and the establishment of a support group within the programme to develop a training strategy for water committees. This strategy will be pretested in six communities before it will be used throughout the programme.

Within the context of some of its other projects IRC is currently supporting the development of training materials for community management skills for use by both communities themselves and by supporting agencies.

Community Self-Improvements

A demand-driven approach towards water supply and sanitation is required if the needs of urban dwellers and those in outlying areas, where isolation makes provision of standard services impossible, are to be met. Community-based processes leading to the selection of sustainable and appropriate technologies are essential. Through an approach based on community self-improvements (COSI), IRC hopes to support local and national organizations in providing the people in these areas with the skills to select, improve and maintain their own water supplies.

In *Tanzania* potential donors are being sought by AMREF and IRC to initiate a COSI approach, and a low-income urban project containing COSI aspects has been formulated in *Peru*. In *Colombia* an inventory of communal and individual water supply and sanitation problems has been made in different neighbourhoods of Cali by CINARA with inputs from IRC. This is now being followed up with an analysis of priority problems and potential

solutions, which will subsequently be tried out through several development and demonstration projects in the area. In *Ghana* a consultant is currently preparing an inventory of NGOs involved in the sector which would potentially be interested in the COSI approach.

During the year a significant amount of information on environmental issues and delivery mechanisms was collected which will be incorporated into a supplement to the existing COSI manual in the Training Series.

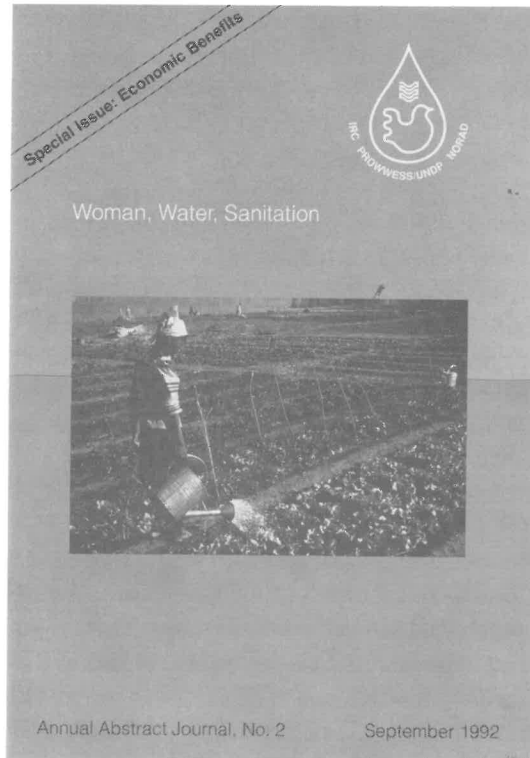
Gender Issues

Crucial to the success of water supply and sanitation programmes is the involvement of both women and men. For years insufficient attention was paid to the consequences of not involving women in planning and implementation of programmes. Since the 1980s valuable experience has been gained on the involvement and participation of women in all phases of water supply and sanitation projects, and in more general terms, on gender-specific ways of working.

Over the years IRC has received various requests to follow up its Technical Paper *Participation of Women in Water Supply and Sanitation* with a more practical training document compiling these experiences. With funding from DGIS's Spearhead Programme for Women, IRC has begun working on applied methodologies to involve women in rural water supply, sanitation and water source protection. This work began with a paper entitled *Methods to Involve Women in Rural Water Supply, Sanitation and Water Resource Protection*, which will serve as background paper for regional workshops in Africa, Latin America and Asia in 1993. At these three workshops experiences from individual field projects will be compiled into regional guidance documents, which, after a validation period of six months, will be published jointly by IRC and the regional partners for regional use. The participant's groups from each workshop will carry out the validations in their own project areas and will also be the authors of the documents.

IRC further continued its work on gender issues through its membership in the Water Supply and Sanitation Collaborative Council's Working Group on Gender Issues. The Council met at IRC in September, and at that time it was decided that this working group would split up, with members joining each of the other

working groups. This will ensure that the gender issue becomes and integral part of every other major sector issue.



The second of three annual issues of the Abstract Journal *Woman, Water, Sanitation* was published at the end of the year. The journal is published in collaboration with PROWWESS with funding from the Norwegian Government. It gives an easily accessible overview of recent documents, and a state-of-the-art review of the gender issue.

Community-Based Financial Management

Financial and economic issues in developing countries tend to be centralized at the agency level. It has become increasingly clear, however, that communities should have an increased share of the responsibility in the coverage of the necessary resources. Sound economic and financial management are necessary to ensure that improved water supplies continue to function. Only when this incorporates the partnership role of the communities and is based on the communities' awareness of the value of their water supply

systems and their sense of commitment towards their maintenance, can long-term sustainability of water supply and sanitation programmes be ensured. This necessitates the development of guidelines so that communities can effectively manage the financing of their water systems.

In an attempt to provide an overview of a number of the issues involved in the changing relationship between communities and agencies, IRC has published *Paying the Piper: an overview of community financing of water and sanitation* in its Occasional Paper series, as a follow-up to the Occasional Paper *What Price Water? User participation in paying for community-based water supply*. The book deals with issues such as the case for user payment, costs and cost effectiveness, demand and willingness to pay, managing cost recovery and community financing, and an outlook on resources coverage and sustainability in the 1990s.

Sustainable Systems

Sustainable systems and their operation and maintenance (O&M) form a crucial aspect of the long-term sustainability of water supply and sanitation interventions. There is widespread evidence that although O&M is recognized as one of the major constraints for further development of the water sector, little progress has been made in this field during the past decade. National governments and external support agencies have now recognized proper O&M towards sustainability of water and sanitation systems as a priority activity for the safeguarding of infrastructure investments.

Management for Sustainability in Water Supply and Sanitation Programmes, a three-week course which enables participants to ensure the integration of long-term sustainability objectives in their projects, continued to be organized with the Management for Development Foundation in the Netherlands. For the first time the course was also successfully held this year in Buea, **Cameroon**, in collaboration with the Pan-African Institute for Development.

Since the establishment of the Water Supply and Sanitation Collaborative Council in 1988 IRC has contributed to the O&M issue through its membership in the Council's Working Group on Operation and Maintenance, which is chaired by WHO, and which was established with the objective of improving performance of O&M. At the end of 1991 the Working Group asked IRC to

produce a training course package aiming to contribute to improved management of O&M in rural drinking water supply and sanitation. The package has been completed with financial support from WHO, and field-testing in *Namibia* is under negotiation. Several other countries have also expressed their interest in testing the training package including Pakistan, Yemen, Tanzania and Sudan.

HYGIENE AND BEHAVIOURAL CHANGE

Background

Experience in rural and low-income areas has shown that access to improved water supply and sanitation does not automatically lead to a significant reduction in water and hygiene-related diseases. Changes in technology have little effect when they are not accompanied by simultaneous changes in behaviour. Integrating a hygiene education component in a water supply and sanitation programme can contribute to maximizing the health benefits from new or improved facilities, and increase the users' motivation to enhance the sustainability of these facilities.

Hygiene Education

Through a mail survey to health and hygiene education professionals a study was carried out to determine which factors contribute to the success of hygiene education programmes, showing the evidence of links between participatory human activities and the prevention of water and sanitation-related diseases. The results of this study, together with a literature review prepared on the latest developments in hygiene education, will be combined into a publication in the Occasional Paper Series.

IRC is involved with the Partnership for Child Development Programme in the UK, which was established in 1992 to improve the health and education of children through school-based services. IRC contributes to the health education component, and will play a supporting role in health education initiatives in the next two years.

A hygiene education training course is currently being developed at IRC, which will be offered for the first time in October 1993. More information can be found in Chapter 4.

Hygiene Behaviour

It is through the hygienic use of new facilities that improved water supply and sanitation systems seek to deliver the health benefits for which they are designed. To help people protect themselves and their children from water and sanitation-related diseases the multiple links between human behaviour and disease transmission have to be recognized and understood. It is also important to understand the socio-economic and cultural influences which affect hygiene behaviour.

A workshop dealing specifically with the measurement of hygiene behaviour was held in Oxford, UK in 1991. As a result of that workshop, IRC and the London School of Hygiene and Tropical Medicine have prepared *Actions Speak: The study of hygiene behaviour in water and sanitation projects*, which will be published at the beginning of 1993. The publication is a comprehensive analysis of the ways that hygiene behaviour can be studied and interpreted so as to provide the information needed to get the best out of water supply and sanitation and hygiene education projects.

School Sanitation

The school environment is a good setting to teach children good hygiene behaviour from an early age. After discovering a lack of consolidated information on this subject, IRC took the initiative to gather information on school sanitary facilities.

WHO, SIDA and SDC agreed to fund a workshop to review the situation in several Latin American countries and come up with practical ideas for improvements. Country reviews have been initiated in *Colombia, Ecuador, Guatemala, Honduras, Nicaragua* and *Peru*, and a background reader is being prepared for discussion in Colombia in March of 1993. This reader, the results of the country reviews, and the workshop outcome will form the basis for a guide on improving sanitary facilities at schools in Latin America.

Proposals for similar activities in Africa and Asia have been prepared, for which reviews have already been initiated in *Ghana, Guinea Bissau, Kenya, India* and *Pakistan*.

MONITORING AND EVALUATION

Background

A dynamic approach to the planning and management of water supply and sanitation programmes is necessary to reach adequate coverage. Monitoring and evaluation throughout the life of a programme provides useful information not only for the programme itself, but also for future programmes. Collectively, such information is valuable for the global monitoring of water supply and sanitation coverage; with monitoring information, coordinated and long-term sustained promotion of sector goals and progress can be greatly improved at the local, national and global level.

Country-Level Monitoring

Monitoring is increasingly being recognized as a valuable tool for planning and management, as are knowledge, experience and lessons learned. Moreover, monitoring outputs can be transformed into valuable information for policy makers and politicians. IRC sees a close link between monitoring, information and promotion at the country level. With this approach, and with united efforts between governments and ESAs and a more comprehensive approach towards reaching sector goals, more effective management of programmes can be realized and coverage results will improve.

On invitation of the WHO-UNICEF Joint Monitoring Programme IRC attended a workshop on country-level monitoring in *Bénin*. The continued need for monitoring, above all at the country level, to enhance decision making for planning, design, implementation, functioning and utilization of water and sanitation facilities was emphasized at the workshop, and a strategy for the establishment of monitoring systems at country level was formulated. The strategy included the use of the global WASAMS (Water and Sanitation Monitoring Systems) software developed by WHO and UNICEF, which can be adapted for country-level use.

Methodologies

Programme planning and management need to be adapted regularly on the basis of progress. Methodologies must be developed which ensure the gathering of the proper data and information, so that adjustments in planning and execution can be made as necessary.



During evaluation of a water project in Tanzania, a project staff member notes observations of the users. Photo: M. Boesveld, IRC.

Participatory research methods for more effective monitoring and evaluation of water supply and sanitation programmes and projects have proven to raise the accuracy of research results. Such methods were developed by IRC and successfully applied at both the village and the government levels in an evaluation conducted on request of SIDA for HESAWA in *Tanzania*. The results were promising, and further development and dissemination of the methods, their testing, and their application will be continued.

WATER RESOURCES MANAGEMENT

The International Conference on Water and the Environment in Dublin and the United Nations Conference on Environment and Development in Rio de Janeiro highlighted the importance of protecting the world's water resources. Among the recommendations were the delegation of water resources management to the lowest appropriate level, and the use of a participatory approach. This approach should be coupled with training of water management staff, including women, at all levels. In view of the need to integrate actions in water supply and sanitation with those in water resources management, and as a

follow-up to recommendations made at these conferences, IRC has broadened the scope of its programme emphasis in the direction of water resources management, publishing the Occasional Paper *Water Source Protection* at the end of 1991.

Publications

With funding from DANIDA IRC published *Water Harvesting: a guide for planners and project managers* in its Technical Paper Series. The book describes key issues to take into consideration when planning water harvesting systems. It also emphasizes the aspects related to community involvement, which is shown to be crucial to the development of sustainable systems, and summarizes financial and economic issues related to rainwater harvesting.

URBAN WATER SUPPLY AND SANITATION

Background

A natural increase in the urban population, along with immigration from rural areas, is confronting municipal authorities in developing countries with explosive urban growth. This growth is leading to a downward trend in the coverage of basic urban services such as water supply, sewerage and drainage. Many governments have come to realize that with conventional strategies they will not be able to extend services to all urban residents, and therefore in many countries projects are being carried out in which innovative approaches are being tried out, not only with respect to technical solutions for basic services, but also in ways to involve target communities.

Ongoing Projects

Since 1989 IRC has been involved with IHS in the Netherlands, HSMI/HUDCO in *India*, and NHA and CMU in *Thailand* in a project to improve low-cost sanitation programmes in India and Thailand. Specifically, operation and maintenance requirements for sanitation options in low-income urban areas, covering both on- and off-site technologies, are being investigated. In the context of the project a two-day national-level workshop 'Operation and Maintenance of Sanitation Systems in Low-Income Areas - Aiming for Sustainability' and a one-day inter-country seminar 'Operation and Maintenance Aspects of Sanitation Systems in Low-Income Shelter Areas' were organized by HUDCO in New Delhi, India, in which IRC participated.

In follow-up to these workshops India and Thailand will produce country research reports, after which IHS and IRC will finalize the project with an overall project report incorporating the major findings from the country research.

IRC was requested by UNICEF to assist in developing a participatory review of the UNICEF-supported water supply programme in Tegucigalpa, **Honduras**. This process is now being implemented and is expected to generate results in 1993.

Publications

The Baldia Soakpit Pilot Project was a community-based sanitation project carried out in a low-income urban area in Karachi, **Pakistan** between 1979 and 1986. In 1990 a follow-up survey took place to review the impact of the project four years after its completion. *From Sanitation to Development: the case of the Baldia soakpit pilot project* describes this project, with emphasis on the process through which local communities, particularly women, became involved and motivated for sanitation and how this led to the initiation of wider development efforts supported by the project.

Other Activities

On request of the DGIS Spearhead Programme for Urban Poverty Alleviation IRC prepared and presented a paper entitled *Participatory Approaches to Urban Water Supply and Sanitation* for the OECD/DAC Meeting on Aid for Urban Development held in Paris, France in November.

3. Publications and Documentation Services

Background

In its function as a clearing house, IRC has a central role in providing a wide range of information relevant to the water supply and sanitation sector. IRC provides this information through the production and dissemination of its publication series and newsletter, as well as through the services of its Documentation Unit.

PUBLICATIONS

The writing, production and distribution of publications is an excellent way for IRC to gather information which it can then share with others working in water supply and sanitation.

The basis of IRC's publications are field studies, state-of-the-art literature reviews, or a combination thereof on subjects emerging from field projects, international workshops and identified knowledge gaps, compiled by subject specialists and documentation staff.

There are four publication series published by IRC. The Technical Paper Series (TP) comprises mature texts reflecting new subject trends, externally reviewed and meant to be of use to a wide audience for several years into the future. Books in this series usually integrate software components such as community management and operation and maintenance, with technical issues. The Occasional Paper (OP) Series reflects activities and progress of IRC's ongoing work, dealing with specific subjects worthy of quick, low-key production for selected target groups, and may include material published for IRC's partners. The Training Series (TS) comprises practical information and knowledge for use in training various groups, and the Reference Series (RS) includes directories, inventories, thesauri and other information tools.

The new titles published in the Technical Paper Series in 1992 were *Water Harvesting: a guide for planners and project managers* (TP30), jointly produced with DANIDA and *From Sanitation to Development: the case of the Baldia soakpit pilot project* (TP31), a joint effort with DGIS and UNICEF.

Paying the Piper: an overview of community financing of water and sanitation (OP18) was published in the Occasional Paper Series.

After having produced two manuals in 1991 the Piped Supplies for Small Communities project in Zambia produced a third manual for the Training Series: *A Manual on Community Participation* (TS9).

The second of three annual abstract journals on *Woman, Water, Sanitation* was also published.

Nearly 4,000 publications were distributed to 825 clients. To overcome funding and currency problems a majority of IRC books are ordered through booksellers and 'books by post' arrangements, which redistribute mainly to developing country clients. The Peace Corps, IT Publications, SKAT, KODIS and training institutions such as WEDC, and ITN centres in the Philippines and Kenya placed bulk orders for their field staff and training programmes. UNICEF field offices around the world and other country-based donor organizations and non-governmental organizations are among the other major clients, which also order for their government and project staff.

Translations

Demand from the field often makes it desirable to translate IRC publications into other languages for local use. *Slow Sand Filtration for Community Water Supply* (TP24) was translated into French internally [*La Filtration Lente sur Sable pour l'Approvisionnement en Eau Collective: planification, conception, construction et entretien*], and *Making the Links: guidelines for hygiene education in community water supply and sanitation* was translated in to Chichewa for use in the PSSC project in Malawi [*Kuyambitsa M'Gwirizano: Zoyenera kutsata pa maphunziro a zaukhondo m'madela momwe muli madzi a m'mipope*].

At the end of the year a draft of the French translation of *Just Stir Gently: the way to mix hygiene education with water supply and sanitation* (TP29) funded by UNICEF Mali and SDC was complete [*L'union fait . . . la santé!: intégrer l'éducation à l'hygiène aux programmes d'eau et d'assainissement*], as was a Spanish translation of "*Slow Sand Filtration for Community Water Supply*" (TP24) funded by PAHO [*Filtración Lenta de Arena para el Abastecimiento de Agua en las Comunidades*].

Newsletter

For 24 years the IRC Newsletter has been an important medium for spreading innovative developments about water supply and sanitation to those active in the sector in both the developing and the industrialized world. The Newsletter in English and French is received by over 5500 subscribers worldwide.

The Newsletter spread news about new trends, field experiences and key sources of information to the sector. In 1992 it carried a series of six items on the important issue of fresh water which was discussed during the Earth Summit/UNCED in Rio de Janeiro. One special issue was published on information management. Community management in Latin America, planning and evaluation, community financing in Indonesia, handpump maintenance in Zimbabwe, borehole rehabilitation in Kenya, biogas technology in Nepal, well development in Kenya, hygiene education, sanitation coverage in Bangladesh, water resources and low-income urban water supply and sanitation were among the topics covered in the Newsletter.

DOCUMENTATION SERVICES

Gathering of the diverse and widespread published information needed by the water supply and sanitation sector is a complex task that requires considerable effort and time. The multidisciplinary nature of the sector implies the need to keep abreast of a multitude of subject areas including environment, technology, health, sociology, management and communication. Much of this information is 'grey' literature - unpublished project reports with a limited circulation. Information is scattered over many sources, few of which are entirely dedicated to the sector.

The acquisition of publications is dictated by the overall IRC policy and new developments in the sector. A Library Advisory Committee, which consists of two staff members, one technically-oriented and one socially-oriented, advises on acquisition for the IRC collection from the wealth of books and periodicals published each year.

Aside from its publications and collection of videos, slides and posters, the Documentation Unit also has access to other databases on CD-ROM and those available from commercial database hosts such as ESA/IRS and ORBIT.

As a member of the MINISIS User's Group (MUG) IRC attended the 13th annual MUG meeting in *India*, where the newest version of this software programme was introduced. It is expected that the new version will be operational at IRC in 1993.

IRC became a founding member of the newly established Association for Information and International Development, which links various Dutch organizations involved in collecting and disseminating information on development issues.

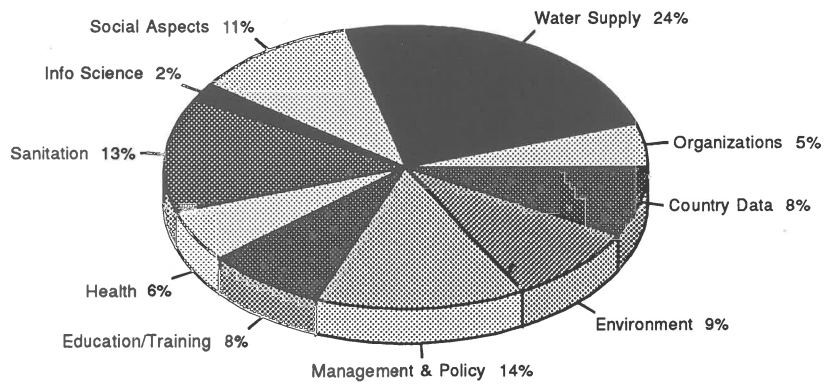
EXTERNAL INFORMATION SERVICES

The effort put into gathering documentation over the years has resulted in one of the world's largest and most comprehensive collections on low-cost water supply and sanitation literature. External users require this valuable information, and the Documentation Unit shares it by making the collection accessible and by lending expertise to institutions wishing to set up their own libraries. IRC responded to nearly 700 general requests for information during the year, and over 200 specific documentation requests (see pie chart on p. 29). Participants in IRC's training courses and programmes use the Documentation Unit extensively and consider it an essential aspect of their study.

To better serve the sector two new information services were added this year. A personalized current awareness service, called 'Selective Dissemination of Information' (SDI) keeps subscribers up to date by providing references to documents recently received by IRC. On a bi-monthly basis subscribers receive a list of references of subjects, regions or countries of interest that have become available in the languages they have chosen.

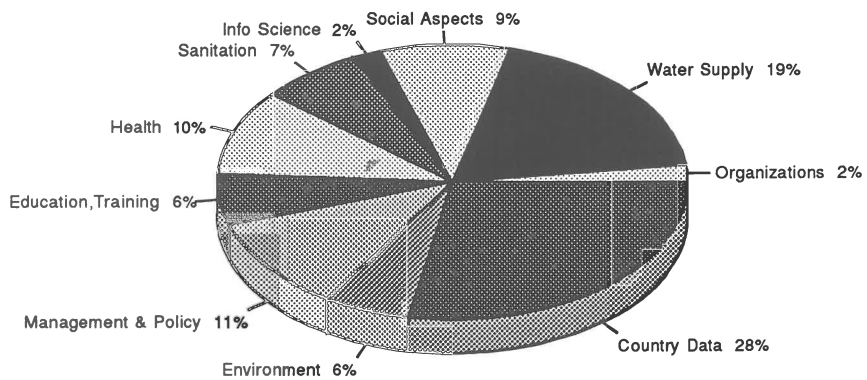
The second service is the literature report. These reports aim to provide an objective and up-to-date summary of information, experience, and current thinking on a particular subject. The Documentation Unit is able to compile literature reports to meet the specific information needs of individual clients. A thoroughly researched literature report can be used for further research, and in some instances it can form the basis for a concrete project proposal. IRC's access to external on-line bibliographic databases and databases on CD-ROM greatly facilitate preparation of these reports.

External Information Services Requests



Total subject queries: 218

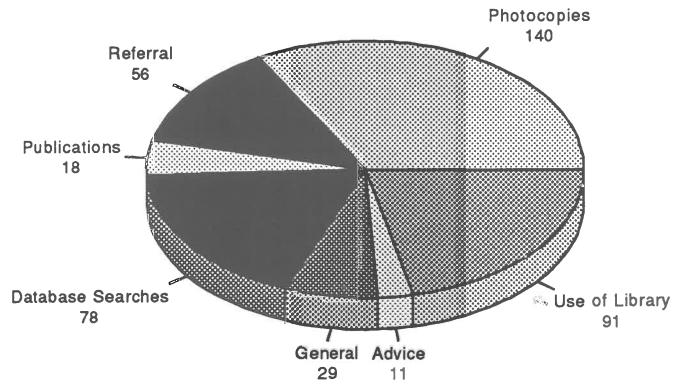
Topics in IRCDOC Database



Total records: 8131

Few in the sector have ready access to the vast quantities of water, sanitation and environment-related information spread over a myriad of journals and periodicals. For those that do not, *Highlights*, the current awareness bulletin that has been published by IRC since 1990, offers an affordable solution. *Highlights* is published bi-monthly and contains a selection of news items and contents pages from over 250 journals, newsletters and other sources related to the water, sanitation and environment sector, and a listing of forthcoming events, training courses and new publications. The number of *Highlights* subscribers increased by over 20% in 1992.

Type of Services Provided



4. Training and Briefing Programmes

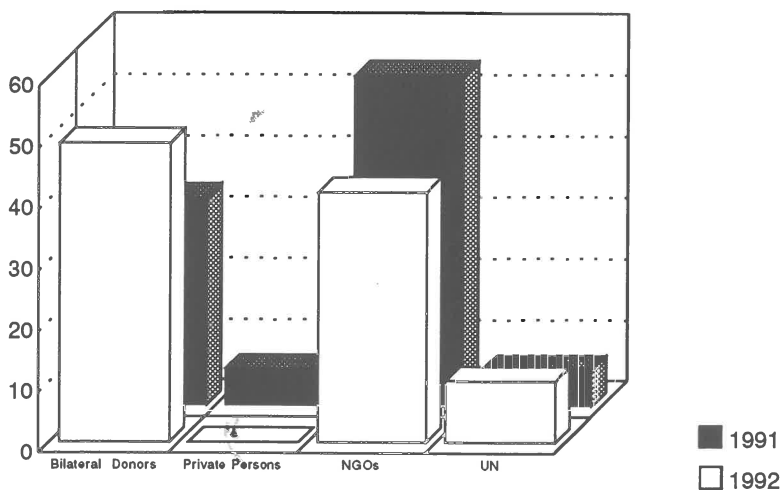
Background

The dynamic nature of development cooperation requires those involved to constantly update and supplement their knowledge. Being at the forefront of new developments in the water supply and sanitation sector places IRC in a unique position to share its professional expertise and vast resources with both national and expatriate staff working in water supply, sanitation and environment in developing countries. IRC does this through offering briefing programmes in the Netherlands and short training courses both at home and abroad in cooperation with developing countries.

BRIEFING PROGRAMMES

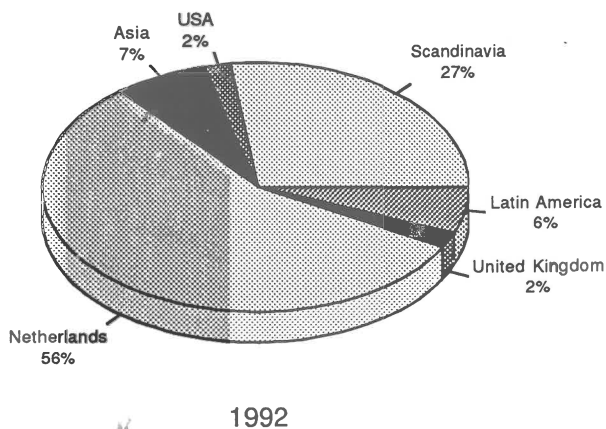
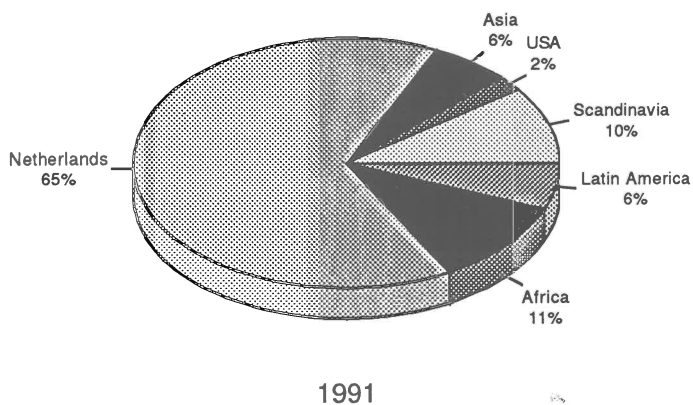
Five-day *standard briefing programmes* are job oriented, preparing participants for a new assignment. Five to fifteen-day subject-oriented *tailor-made briefing programmes* are intended for national level and senior staff involved in planning, management, evaluation and strategy development. Three-day *intensive briefing programmes* are organized to provide specific up-to-date information that may be job-, subject- or policy-oriented.

Sponsoring Agency 1991 vs 1992
Briefing Programmes



Gender issues and gender perspectives are included in all programmes, but often an extra focus on gender is needed. In 1992 a briefing programme was offered in collaboration with the Dutch VENA Centre for Women and Autonomy. The programme is similar to the standard briefing programme but includes three extra days for personal reflection on the future assignment from a gender perspective, and on key aspects of gender planning in water supply and sanitation programmes. The IRC/VENA course was offered in June and September.

Country of Origin
Participants in IRC Briefing Programmes



A total of 41 participants attended briefing programmes at IRC this year, of which nearly half came from outside the Netherlands. Participants came from, among others, Honduras, Pakistan, Philippines and India, and from the agencies SIDA, NORAD, and FINNIDA. Among the sponsoring agencies were UNICEF, ODA, UNDP and DGIS.

SHORT TRAINING COURSES

For more specific, in-depth training courses on key issues confronting the water and sanitation sector, IRC collaborates with specialized training institutes both in the Netherlands, and since 1991, in Africa.

Netherlands

The *Management for Sustainability in Water Supply and Sanitation Programmes* course, organized together with the Management for Development Foundation (MDF) continued to be successful in the Netherlands.

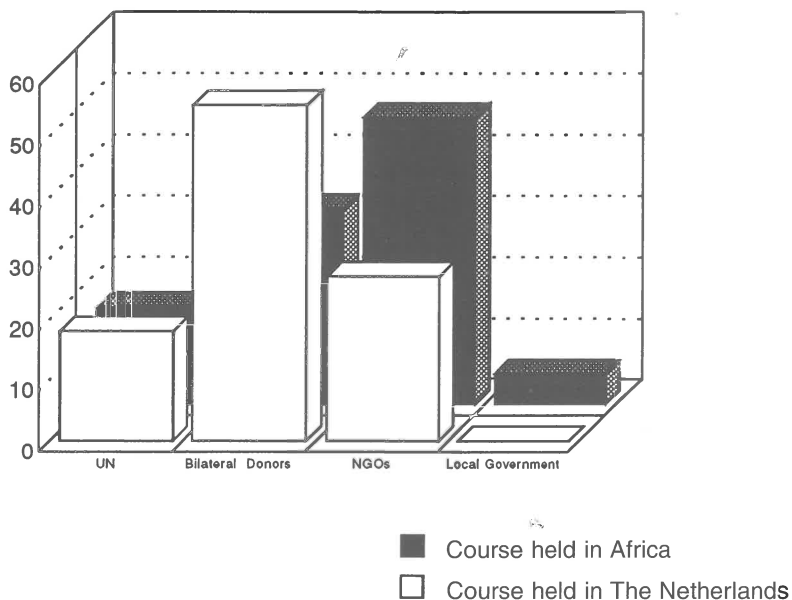
Developing Countries

After successfully having conducted the *Management for Sustainability in Water Supply and Sanitation Programmes* course in the French language in Burkina Faso in 1991 with the Pan-African Institute for Development (IPD/AOS), collaboration continued, and the course was conducted in the English language with the West Africa regional office of the same institute (PAID/WA) in Buea, Cameroon in October. Participants came from Botswana, Kenya, Ethiopia, Cameroon, Lesotho, Uganda and Ghana. January 1993 will see another French-language *Management for Sustainability* course, again in Burkina Faso, and one in the English language in Cameroon in July/August.

Twenty-three individuals participated in the short training courses in the Netherlands this year, and 16 abroad. Many of the participants were sponsored by multilateral and bilateral organizations including UNICEF, SIDA, FINNIDA, GTZ and DGIS.

Partners from local training institutes participate in the course to prepare for the course to take place in their own institutes, and to see where adaptation is needed. Ultimately the goal is to hand the courses over to these training institutes, so that they can be used as a catalyst to fulfill local training needs and to strengthen local capacity.

Sponsoring Agencies in 1992
Management for Sustainability Course



Training Development

New courses must continuously be developed to respond to changing demands. Given signals from the field which pointing at a need for training in the area hygiene education, steps have been taken to develop such a course. Information gathered and knowledge gained through IRC's hygiene-related projects will form the basis for this course, which is planned for October 1993.

5. Advice and Evaluation Services

Background

IRC is frequently sought to carry out evaluation and advisory missions, largely because of its access to extensive information sources, its wide network of contacts and its experienced staff. Furthermore, the evaluation approach promoted by IRC is one in which a very active role is played by the staff of the project being evaluated, which greatly enhances the probability that recommendations will in fact be implemented. IRC offers these services selectively, in areas 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. These missions are an excellent source of new information, which IRC makes available to a wider audience.

EVALUATION AND ADVISORY MISSIONS

Tanzania

On request of SIDA IRC, together with AMREF, carried out an extensive evaluation of the Health through Sanitation and Water (HESAWA) programme which began in 1985. The programme concerns cooperation between Tanzania and Sweden on improving rural water supply, environmental sanitation and health education in the Lake Zone, which includes Kagera, Mara and Mwanza regions. HESAWA activities are based on affordability, sustainability, replicability, credibility and cost efficiency. Community participation in decision-making, planning and implementation, and human resources development are essential to all of the activities.

The evaluation, which spanned nearly six months, was carried out using a participatory approach involving community members and programme staff. The five focal points were the relevance of the HESAWA project in meeting SIDA programme goals, the degree to which the goals had been attained at the time of the evaluation, the efficiency and effectiveness of the investments made to date, the long-term sustainability of programme impacts and approach, and the lessons learned from programme evaluation.



Installation of a hand-dug well in Cambodia.
Photo: M. Wegelin, IRC

Short Missions

Other evaluation and advisory services of short duration were provided for several organizations and in several countries.

- Burkina Faso*** an evaluation of the Boucle du Mouhoun Water Supply Project together with IPD/AOS, for DGIS;
- Cambodia*** a joint evaluation of the UNICEF and OXFAM Rural Water Supply project;
- China*** a review of the community participation component of a project supported by the UNDP/World Bank Regional Water and Sanitation Group for East Asia and the Pacific;
- Guinea Bissau*** support in policy development for the water supply in rural centres for SNV;
- Honduras*** a participatory evaluation of the Tegucigalpa water project for UEBM/UNICEF;

<i>Indonesia</i>	assistance to the Government of Indonesia, project staff and local consultants for development of a work plan for the preparation of the health education component for the Water Supply and Sanitation Project for Low-Income Communities, for the UNDP/World Bank Regional Water and Sanitation Group for East Asia and the Pacific;
<i>Kenya</i>	an appraisal of Phase IV of the Kenya-Finland eastern Water Supply Programme for FINNIDA with inputs from AMREF/NETWAS; an assessment of possibilities of water supply provision in a rural area with support from AMREF/NETWAS, on request of Red Cross Netherlands;
<i>Malawi</i>	a mission to assist in field studies and to review appraisal for low-income urban piped water supplies in 14 towns for ODA;
<i>Surinam</i>	advice on a project proposed for urban water supply and sanitation in Paramaribo for DGIS;
<i>Tanzania</i>	inputs in pre-formulation studies and formulation of the DGIS-supported Water Supply Project in Morogoro and Shinyanga regions; support to the Second Annual Joint Tanzanian-Danish Review Mission for the MAJI/DANIDA Rural Water Project for DANIDA; an evaluation of the urban water supply programme in Zanzibar for FINNIDA; a mid-term review of the rural water supply projects in Mtwara and Lindi regions in for FINNIDA.

ONGOING ADVISORY SERVICES

India

IRC's involvement in the joint Indo/Dutch water and sanitation programmes since 1986 continued in an advisory capacity. Two IRC staff members, a sociologist and an engineer, act as policy advisors for this DGIS-supported programme in five Indian states. Over the years the focus of the projects has shifted from initial implementation of rural water supplies, to integrated projects with sanitation, participation and hygiene education components, and now to maintenance and institutional strengthening. A discussion paper was prepared on sanitation and a first draft on operation and

maintenance, including financing conditions and strategies. This paper will be completed in 1993, and a paper will also be prepared on hygiene education.

Each year the project holds one joint meeting in India and two in the Netherlands to exchange information on the state of affairs, review progress, and discuss common issues such as maintenance, cost sharing, and water resources management. Discussions were held this year to initiate short training courses for higher level staff in Indian training institutes, and to cooperate with other donors on training and water resources management. There are plans to conduct the IRC/MDF course *Management for Sustainability in Water Supply and Sanitation Programmes* in India in 1994.

Pakistan

IRC continues to offer its services to DGIS for the rural water supply and sanitation sector Baluchistan and North West Frontier Province in Pakistan. DGIS is supporting policy implementation for the Provincial Strategic Investment Plans for Rural Drinking Water Supply and Sanitation coordinated by the World Bank. IRC advises both DGIS and the Dutch Embassy in Pakistan, and monitors the projects. The Baluchistan Rural Water Supply and Sanitation Project was implemented this year and aims to develop a replicable approach towards the planning and implementation of sustainable, community-based improvements in WSS in small rural communities. It further aims to create the capacity within the lead agency, the Department of Local Government and Rural Development, to plan and support community-managed WSS development. This year IRC missions concerned ensuring smooth introduction of the water supply and sanitation project in Baluchistan and reviewing the directions proposed for the first two-and-a-half-year implementation phase, advice to the Embassy regarding the options for financing a rural water supply and sanitation project for the Northern Areas, and assessment of the potential for future support to the sector in the North West Frontier Province. An agreement was reached with DGIS in which IRC agreed to provide advisory services for another three years.

Yemen

Through the 'Advisory Group Land and Water' IRC has been providing advisory services to the Netherlands Government for its projects in the Yemen Arab Republic since 1984. These projects include water resources studies and sanitation projects.

6. Partners*

Background

The partnership approach between agency and community that has proven to be so essential for the success of water supply and sanitation projects is also crucial at the agency level. Whether it be a partnership between a donor and a national agency in a developing country, or national agency and a local one, these partnerships are necessary for efficient and effective action in bringing about sustainable water and sanitation coverage. It is through partnerships that the lessons learned as a result of the International Drinking Water Supply and Sanitation Decade can be successfully applied to provide water and sanitation to people in developing countries without wasting precious financial resources.

Over the years partnerships have greatly influenced IRC's current approach to its mandate: the generation and communication of information leading to enhanced knowledge among partners in the sector through information exchange, research, training and advisory work. This approach has in turn led to a growing network of partners working on issues related to those IRC works on.

The members of IRC's Governing Board are its oldest and most trusted partners. These include the Netherlands Government, UNICEF, UNDP, the World Bank and WHO. Since IRC's establishment by WHO and the Netherlands Government, the latter has been providing IRC with a basic subsidy to enable it to develop its programmes and to generate funds for specific country-oriented activities. The UN agencies provide backing, advice and general support to IRC's activities.

IRC's work is focused at the country level, and here it works intensively with selected partners such as ministries, NGOs, UN departments, professional organizations and universities, in an advisory role towards local project staff.

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

At the global and regional levels IRC works closely with UN organizations and international donor organizations, and close relationships with international NGOs continue to grow.

IRC regularly participates in forums held by the Water Supply and Sanitation Collaborative Council and six of its working groups, and the UN Interagency Steering Committee for Water Supply and Sanitation. It also takes part in technical meetings with UN agencies, and a variety of other meetings at country level.

Collaborative Council

Since the birth of the Water Supply and Sanitation Collaborative Council in The Hague in 1988 IRC has remained involved with its activities. IRC chairs the Council's Working Groups on Information Management and IEC - Information, Education, Communication. The Collaborative Council Secretariat has submitted a proposal to DGIS to request funding for the Council secretariat and for IEC and Information Management activities. Besides its chairmanships, IRC is a member of the Working Groups on Operation and Maintenance, Applied Research, Country-Level Collaboration and Gender Issues.

In September the leaders of all of the Council's working groups met at IRC to discuss their progress and to plan activities, in preparation of the Council's next meeting in Morocco in late 1993.

The Working Group on IEC met in Dublin alongside the International Conference on Water and the Environment, and since then has lobbied extensively to get recognition for the importance of the issue in the sector. The proposal on IEC submitted to DGIS was subsequently supplemented with a detailed work plan for a pilot project on improved communication in the water supply and sanitation sector, focusing on Guinea Bissau and Nigeria.

The Working Group on Information Management had its first meeting in Bangkok early in the year and made plans for activities for the coming year. A progress report including recommendations for further actions by Council members was prepared and submitted to the Council (see Chapter 1).

UN Organizations

IRC has been a *WHO* Collaborating Centre for Community-Water Supply and Sanitation since its establishment as an independent foundation in 1968. This year *WHO* extended IRC's status as collaborating centre for another four-year period. Current activities with *WHO* include the preparation of a manual on operation and maintenance and a school sanitary facilities guide. IRC assists *WHO* in strengthening sector monitoring through its association with the WASAMS monitoring system. Other areas of collaboration include hygiene education and community finance.

Close ties with *UNICEF* continue as evidenced by its support to various IRC activities. Financial contributions were made towards initial activities of the Collaborative Council's Working Group on IEC, and towards the international workshop on community management held in November. *UNICEF*-Mali, together with SDC, funded the translation of the Technical Paper *Just Stir Gently: the way to mix hygiene education with water supply and sanitation* into French. As in 1991, *UNICEF* continued to make use of IRC's training and briefing programmes for their staff from developing countries.

Also a close partner since IRC's establishment, *UNDP* collaborates with IRC on various projects. Continued funding from *UNDP*/PROWESS and NORAD made the second of three issues of the abstract journal *Woman, Water, Sanitation* possible. Updating of a list of basic publications for water supply and sanitation remains an ongoing activity.

Contributions to the *UNDP/World Bank Water and Sanitation Program* are made in various ways. Information support is routinely provided to the Regional Water Supply Groups as well as to individual World Bank projects. Advisory support was given to the Regional Water and Sanitation Group for East Asia and the Pacific for projects in Indonesia and China. The Program made a financial contribution towards the workshop on community management and provided a background paper. It also supports the work of the Collaborative Council's Working Group on IEC - Information, Education, Communication.

Bilateral Donor Organizations

IRC's relationship with **DGIS** (Directorate-General for International Cooperation of the Netherlands Ministry of Foreign Affairs) continues to extend far beyond the annual subsidy it receives and DGIS' membership in IRC's Governing Board. DGIS makes regular use of IRC expertise in policy formulation for the joint Indo/Dutch Water and Sanitation Programme in five regions in India, and uses IRC's evaluation and advisory services in Baluchistan and North West Frontier Province in Pakistan and for the Advisory Group Land and Water for Yemen.

DGIS has funded IRC's pre-treatment project since 1987 and the now completed PSSC project in Malawi and Zambia since 1988. Funding for the pretreatment project in Colombia has been extended until 1993.

In November Minister Pronk, the Dutch Minister for Development Cooperation, visited IRC to get acquainted with IRC's work and to meet the staff. In view of the increased importance water has on the international agenda, and particularly the recognition of water as an economic good, the Minister expressed his intention to make more use of IRC's potential.

Aside from its relationship with **VROM** (Netherlands Ministry of Housing, Physical Planning and Environment) through its membership in IRC's Governing Board and the subsidy it provides every year, the ministry has recently requested IRC to conduct an investigation of information needs on water supply and sanitation in CIS countries. This work will take place in 1993 in collaboration with UNICEF.

Cooperation with **KfW** in Central America forms a growing part of IRC's activities in Latin America. In Guatemala, where KfW and the local rural water administration UNEPAR aim at providing appropriate quantities of water, IRC's role is one of community management strategy development, including the design of a pilot programme, its implementation and evaluation, and dissemination of the information acquired.

In Honduras the national water and sanitation agency SANAA is implementing the KfW-financed Choluteca-Valle Regional Rural Water Supply and Sanitation Programme. IRC is providing consultancy services to the Government of Honduras in support of the community management and hygiene education components of the programme.

For *SIDA* IRC carried out an extensive participatory evaluation of their Health through Sanitation and Water (HESAWA) programme in Tanzania. *SIDA* made use of IRC's training capacities by sending a team to The Hague for tailor-made briefing programmes.

The Scandinavian agencies *DANIDA*, *FINNIDA* and *NORAD* also worked closely with IRC both through extensive use of IRC's advisory services for their programmes in Africa, and through their use of IRC's training and briefing programmes.

Support was provided to *DANIDA* for the Second Annual Joint Tanzanian-Danish Review Mission for the MAJI/DANIDA Rural Water Project; for *FINNIDA* evaluations were conducted of the urban water supply programmes in Zanzibar and Mtwara-Lindi, Tanzania, as well as an appraisal of Phase IV of the Kenya-Finland Western Water Supply Programme. *NORAD* provided funding for the abstract journal *Woman, Water Sanitation*.

SDC provided funding for IRC's work on school sanitation in Latin America, and with UNICEF, for the translation of the Technical Paper *Just Stir Gently: the way to mix hygiene education with water supply and sanitation* into French.

For *ODA* IRC reviewed an appraisal report for a water and sanitation improvement project for 14 towns in Malawi.

Other Sector Support Institutions

In addition to the agencies already mentioned, IRC works with a wide variety of other partners on a broad range of topics in support of the water and sanitation sector in developing countries. These include the Water Resources Institute in Tanzania on community self-improvements and information management, the London School of Hygiene and Tropical Medicine (LSHTM) and the

Imperial College of London on hygiene issues, and membership of the General Council of the International Water Tribunal based in the Netherlands. Regional centres include, among others, ENSIC/AIT in Bangkok on the ENSICNET information network, CEHA in Jordan on information network development, CEPIS in Peru on information issues, PAID in Cameroon and Burkina Faso on training and community management, CREPA in Burkina Faso on French-language water and sanitation publications, and AMREF/NETWAS on information, training, evaluation and advisory missions and workshops. IRC also cooperates closely with national centres, such as CINARA in Colombia, where IRC supports the integration of pre-treatment technology. At the local level IRC cooperates with NGOs such as Agua del Pueblo in Guatemala and Agua para el Pueblo in Honduras, with whom current activities concern community management and hygiene education.

7. General Management

Governing Board

The international character of IRC is reflected in its Governing Board. 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 centre, and to discuss IRC's involvement in water supply and sanitation issues. The representatives of the Netherlands ministries also meet separately twice a year to discuss matters of finance and organization. Further issues occupying the Board this year included decisions regarding financial and manpower investments in new areas of work; preparations for IRC's 25th anniversary in 1994, and the future format of the IRC Newsletter.

Management Team

The Management Team consists of the Director, Administrator and the two Senior Programme Officers. Meeting twice monthly, the Management Team arranges for the preparation of the Indicative Medium Term Plan for the coming three-year period and in that context, compiles the Annual Plan and Annual Budget. In 1992 key decisions were made regarding recruitment, IRC's upcoming 25th anniversary, the organizational structure, investment in new areas of work, and issues around the Water Supply and Sanitation Collaborative Council's working groups.

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; an economist; a geologist; a journalist and an information specialist. In addition to the permanent staff consultants are hired to carry out a multitude of assignments related to various current issues. In 1992 consultants assisted IRC with information management, environmental profiles, hygiene education, school sanitation, participatory methodologies, action-learning tools, information-education-communication, illustration and preparation of technical papers, and literature reviews on various subjects.

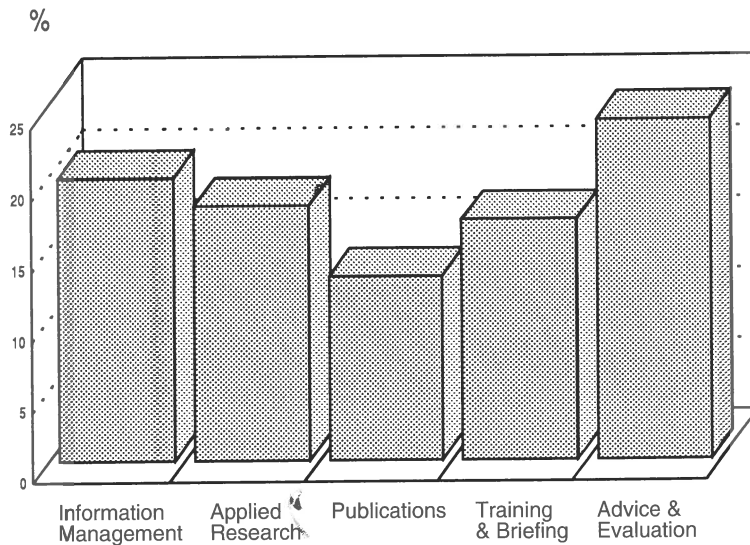
With staff, several days were spent during the course of the year on in-depth discussions regarding IRC's image, mandate and organization. These discussions will be the basis for organizational changes to be implemented in 1993 and a clearer focus on medium- and long-term planning.

Budget

IRC operates with a core subsidy provided by the Netherlands Government. This subsidy, amounting to dfl 2,050,000, (US\$ 1,165,000 (US\$ 1.00 in 1992 = approx dfl 1.76)) was supplemented by extra-budgetary resources of about dfl 2,750,000, mainly as a result of advisory and research work done for bilateral donors in the Netherlands, Denmark, Sweden and Finland, and international organizations in the western world. Other income earned included approximately dfl 310,000 from training and briefing programmes, publication sales totalling dfl 140,000 and miscellaneous income of approximately dfl 150,000. The total income in 1992 was dfl 5.4 million, while the total expenditures were dfl 5.3 million, leaving a small surplus to be added to IRC's limited reserves.

Of IRC's total expenditures dfl 1,980,000 went to direct project expenditures, dfl 2,450,000 to salaries and other personnel costs, and dfl 870,000 to general costs such as housing, travel, publications, postage and other operating costs.

IRC Programmes 1992



8. Looking Ahead

At the end of 1993 IRC will celebrate its 25th year as an independent foundation. Preparations are under way for a celebration in 1994, which will be in the form of a contribution towards one of the pressing problems in the water supply and sanitation sector. On the occasion of the anniversary a forward-looking assessment about IRC's work is planned, which would be instrumental in furthering the match between IRC's collaborative potential and needs in the field.

Currently several new trends in and beyond the sector are emerging which will need attention and emphasis in the years to come. To enable IRC to better respond to such trends an analysis of its approach in 1992 led to the decision to strengthen the longer-term orientation of its planning, particularly in terms of manpower and capacity. Capacities will also be strengthened so as to enhance product orientation, at the same time ensuring response to needs in the field. These concern all of IRC's outputs including information, research and training, as well as advisory services and publications. The analysis of IRC's approach will continue in 1993. Special attention will be given to ensuring financing of demand-driven requests from the field and globally.

Prompted by the outcomes of last year's conferences in Dublin and Rio increased emphasis will be placed on the integration of water supply and sanitation with water resources management. Two water resources management specialists will be recruited to make this possible. Applied/desk research will include WSS in urban settings, environmental aspects of WSS, and issues around community management. KfW-assisted field research on community management in Honduras and Guatemala will be continued. The international workshop on community management held in 1992 will be followed up by further in-country research, and will culminate in a publication. Other publications will include a school sanitation guide in cooperation with WHO, guidelines on participatory process approaches in the water sector and the NORAD-funded annual abstract journal *Woman, Water, Sanitation*.

Training activities will be stepped up as feasible, particularly those in cooperation with PAID and other institutions in developing countries. In addition to IRC's work in English and Spanish, Francophone courses will be emphasized. On advisory services the relationship with DGIS will be set forth for work in India, Pakistan, and Yemen Arab Republic. Evaluation missions and advisory services will be provided selectively to organizations whose work matches IRC's areas of concentration.

With the WSS Collaborative Council, inputs will increase in view of its meeting in Morocco. Activities with the two working groups chaired by IRC will be stepped up, including the meeting of the Working Group on Information Management in Amman and follow-up to the proposal prepared for pilot activities on IEC - Information, Education, Communication in West Africa. Other wide-scale efforts include the Newsletter services to more than 100 countries and documentation services to a wide variety of partners; these will continue to support the role of IRC as a clearing house, and will be further expanded as feasible.

All of the mentioned activities form components of IRC's three main contributions: exchange and communication of information throughout the sector, innovative work on new priority issues encountered in developing countries, and its contribution to capacity development for information, research, training and communication in developing countries.

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
Mr. K. Kuiper	Chief, Sector Programmes Coordination and Technical Advice Department Directorate-General for International Cooperation Netherlands Ministry of Foreign Affairs
Mr. F. Hartvelt	Deputy Director Division for Global and Interregional Programmes United Nations Development Programme
Dr. J. Christmas	Chief Water and Environmental Sanitation Section United Nations Children's Fund
Mr. D. Howarth (until November)	Program Manager UNDP/World Bank Water and Sanitation Program The World Bank
Mr. J. Blaxall (from November)	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. List of IRC Staff Members

Director

Hans M.G. van Damme*

Programme Activities

Jan Teun Visscher*	Senior Programme Officer Dept. Head, Programme Activities
Teun Bastemeijer (until July)	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. Mary Boesveld (from February)	Research Officer Community Participation and Participatory Methodologies
Ms. Eveline Bolt	Research Officer Training Development
François Brikké (from February)	Research Officer Economic Issues in Water Supply and Sanitation
Ms. Lizette Burgers	Research Officer Hygiene Education
Ms. Norah Espejo	Research Officer Community Management
Ms. Madeleen Wegelin-Schuringa	Research Officer Social Sciences
J. Michael O'Brien (until July)	Consultant Environmental Issues

* *Members of Management Team*

Peter Heeres (until February)	Consultant Sanitation
Ms. Evelien Kamminga (until August)	Consultant Economic Issues
Ms. Monique Kromhout (until April)	Consultant Training and Briefing Programmes
Ms. Loekie Broersma	Programme Assistant **
Ms. Anneke Groenendal	Programme Assistant
Ms. Pocha Horton	Programme Assistant

Research Fellows

Leo Ancher (until September)	Community Self-Improvements/ Environmental Issues
Willem Ankersmit (from June)	Community Involvement in Piped Schemes
Ms. Wilma van Driel (until July)	Hygiene Education/Hygiene Behaviour
Ms. Maria Sörensson (from September)	School Sanitation/Participatory Processes

Consultants based in Developing Countries

Stephen Parker Sri Lanka	Technical Information Exchange
-----------------------------	--------------------------------

Information Management

Han Heijnen*	Senior Programme Officer Dept. Head Information Management
Ms. Bettie E. Westerhof	Senior Documentalist
Nigel Browne	Documentalist
Cor H. Dietvorst	Documentalist
Ms. Annick Coulon	Programme Assistant
Ms. Maria Lucia Borba	Consultant, Information Management
Ms. Carmen Slood	Administrative Assistant
Rob Soekhlal (from April)	Assistant Documentalist (through work experience project)

* *Members of Management Team*

Public Information

Dick de Jong Information Officer

Administration and Finance

Paul d'Haens* Administrator
(until September)

Rob Jansen* Administrator
(from October)

Ms. Hilda 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. Lia Wahab Receptionist

Ms. Izabel Wimmers Staff Assistant

Ms. Lauren Wolvers Image Processor

Mr. Michael Seager, Programme Officer, on leave from IRC, joined UNDP as Investment Planning Advisor to Tanzania's Ministry of Energy, Minerals and Water from 1 October 1990.

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

Water Harvesting: a guide for planners and project managers.
Prepared by Michael T. Lee and Jan Teun Visscher, TP 30, 116 pp.

Describes key issues to take into consideration when planning water harvesting systems and shows the main features of the Arid and Semi-Arid Lands environment including landscape profiles. Provides description of the main water harvesting systems. The document emphasizes the aspects related to community involvement, which is shown to be crucial to the development of sustainable systems. It also summarizes financial and economic issues related to rainwater harvesting and potential financing arrangements.

From Sanitation to Development: the case of the Baldia soakpit pilot project.
Prepared by Quratul Ain Bakhteari and Madeleen Wegelin-Schuringa, TP 31, 112 pp.

Describes a community-based sanitation project carried out in a low-income urban area in Karachi, Pakistan between 1979 and 1986. Emphasis is on the process through which local communities, particularly women, became involved and motivated for sanitation and how this led to the initiation of wider development efforts supported by the project. Detailed analysis is given of on-site sanitation, home schools and primary health care. Social organization and management, technical designs, physical output, costs, training, and sustainability of the activities also receive attention. An overview of the impact of the project, as well as key issues and lessons to be learned are also included.

OCCASIONAL PAPER SERIES

Paying the Piper: an overview of community financing of water and sanitation. Prepared by Phil Evans, OP 18, 70pp.

An overview of key issues and implications of moving towards greater financing by communities. The arguments for greater cost recovery from users are outlined, and put in the context of a number of practical and strategic problems in achieving this goal. The need to maximize the use of available financial resources is placed in the context of resources coverage needs in general, with sound financing being seen as a necessary but not sufficient condition for sustainable development. The document assesses the current state of knowledge and points to directions for further development in the 1990s.

TRAINING SERIES

A Manual on Community Participation. Prepared by Agness Simasiku, TS9, 33 pp.

This manual produced in the Piped Supplies for Small Communities Project in Zambia is a practical guide for extension workers and members of water tap committees. Organized on the basis of a normal water supply project cycle, the manual explains how extension workers can support people in activities to improve living conditions in their community. Needs assessment, community organization, and working with the community in a partnership approach in design, construction and management are treated in simple texts and illustrations. The last section deals with monitoring an evaluation with the community.

PERIODICALS

Woman, Water, Sanitation

Compiled by Christine van Wijk-Sijbesma and Eveline Bolt
Joint publication IRC/PROWWESS/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 several 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 new items and contents pages from 250 journals, newsletters and other sources related to the water supply and environment sector.

IRC Newsletter

English: 10 times annually, French: 6 times annually

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

TRANSLATIONS

Slow Sand Filtration for Community Water Supply, TP24, into French (*La Filtration Lente sur Sable pour l'Approvisionnement et Eau Collective: planification, conception, construction et entretien*) by IRC.

Making the Links: Guidelines for hygiene education in community water supply and sanitation, OP5, into Chichewa (*Kuyambitsa M'Gwirizano: Zoyenera kutsata pa maphunziro a zaikhondo m'madela momwe muli madzi a m'mipope*) by PSSC project, Malawi.

IV. Meetings, Workshops, Seminars and Symposia

Meeting on Health of School Age Children: an Integrated System for the Control of Major Helminth Parasites. UNDP/Rockefeller Foundation, New York, U.S.A., 7-8 January

International Conference on Water and the Environment: Development Issues for the 21st Century. Organized by UN Administrative Committee on Coordination and Inter-Secretariat Group for Water Resources, Dublin, Ireland, 26-31 January

Meeting of the Collaborative Council Working Group on IEC - Information, Education and Communication. Dublin, Ireland, 26 January

Second International Water Tribunal. Amsterdam, The Netherlands, 17-21 February

State of the Art Seminar on Water Management in the Next Century. Klvl, Zeist, The Netherlands, 21 February

Planning for Health and Socio-Economic Benefits in the Water Supply and Sanitation Sector. UNICEF, New York, U.S.A., 25-26 February

National Workshop on Piped Supplies for Small Communities. Water Department of Malawi, Blantyre, Malawi, 9-13 March

National Seminar on Piped Supplies for Small Communities, Water Department of Malawi, Lilongwe, Malawi, 16 March

Working Group North-South, Association for Information and International Development. Utrecht, The Netherlands, 10 April

National Level Workshop on Operation and Maintenance of Sanitation Systems in Low-Income Shelter Areas: aiming for sustainability. HSMI, HUDCO, New Delhi, India, 10-11 April.

Inter-Country Seminar on the Research of Operation and Maintenance Aspects of Sanitation Systems in Low-Income Shelter Areas. HUDCO, New Delhi, India, 16 April

Meeting of the Water Supply and Sanitation Collaborative Council's Working Group on Information Management. Bangkok, Thailand 6-8 April

Regional Meeting of Water, Sanitation and Environment Networks. ENSIC, Bangkok, Thailand 8-10 April

RAISON/GEMS Expert Meeting. UNEP-GEMS, Burlington, Ontario, Canada, 14 May

Advisory Meeting on Operation and Maintenance. WHO Headquarters, Geneva, Switzerland, 1-5 June

Meeting of the Collaborative Council Working Group on Applied Research in Water Supply and Sanitation. IRC/WD, Dübendorf, Switzerland, 15-16 June

Seminar on Globalization from a Cultural Perspective. Royal Tropical Institute, Amsterdam, The Netherlands, 26 June

Aguasán Workshop on Knowledge Systems for Community Water Supply and Sanitation, Rotschuo, Switzerland, 29 June-3 July

Future Meeting Our Blue Planet. The Globetree Foundation, Stockholm, Sweden, 9-16 August.

WEDC-Conference on Water, Environment and Management. WEDC, Kathmandu, Nepal, 30 August-3 September

First International Conference on the Safety of Water Disinfection: Balancing Chemical and Microbial Risks. Health and Environmental Sciences Institute, Washington D.C., U.S.A., 31 August-3 September

First Meeting of the Coordinators of the Water Supply and Sanitation Collaborative Council Working Groups. Held at IRC, The Hague, The Netherlands, 6-7 September

WHO/UNICEF Regional Workshop on the Joint Monitoring Programme (WASAMS). Cotonou, Benin, 8-12 September.

NETWAS Advisory Board Meeting. Naro Moru, Kenya, 11 September

3rd WHO/FAO Consultation on Legal Issues in Water Resource Allocation, Wastewater Use and Water Supply Management. Held at FAO Headquarters, Rome, Italy, 14-15 September.

Second Meeting of the Interagency Steering Committee for Water Supply and Sanitation. UN, New York, U.S.A., 5-6 October

Workshop on Capacity Building for Sustainability in the Zanzibar Urban Water Supply Development Project. Zanzibar Town, Zanzibar, 15 October

IWSA Asian-Pacific Regional Conference "Water Malaysia '92". IWSA, Kuala Lumpur, Malaysia, 26-30 October.

Workshop on Library Use from the Work Station, Netwerkdag 1992. PUDOC/DLO/Library Agricultural University, Wageningen, The Netherlands, 29 October

CEHANET 3rd Consultative Meeting. Amman, Jordan, 27-29 October

Meeting of the Collaborative Council Working Group on Applied Research in Water Supply and Sanitation. IRC/WD. Dübendorf, Switzerland, 29-30 October

Meeting of the IWSA Netherlands Comité. Rijswijk, The Netherlands, 3 November

International Workshop on Community Management. IRC, The Hague, The Netherlands, 4-10 November

13th International Minis User's Group Meeting,*SNDT Women's University (Library), Bombay, India, 9-13 November

OECD/DAC Meeting on Aid for Urban Development. OECD, Paris, France, 16-17 November

Fourth African Regional ITN Meeting. Kumasi, Ghana, 1-4 December

International Conference on Development-Related Research: a Second Look at the Role of The Netherlands. Groningen, The Netherlands, 9-10 December.

Slow Sand Filtration Developments in the Netherlands. KIWA, Nieuwegein, The Netherlands, 10 December

Inaugural Meeting and Seminar on Information in Development Perspective: Dutch Activities in the Field of North-South Information Exchange. Association for Information and International Development. The Hague, The Netherlands, 16 December

V. Papers, Lectures and Articles

PAPERS AND LECTURES

"Role of Anthropologists in Community Water Supply and Sanitation Projects", Phil Evans, Lecture for the Cambridge University Department of Social Anthropology, Anthropology and Development Seminar Series, January

"Towards Effective Communication - An Outline for Strategies", prepared by Samphe Lhalungpa, Consultant, on behalf of the Core Group on IEC - Information, Education, Communication. January

"Communication Case Studies for the Water Supply and Sanitation Sector", written and designed by Peter Mc Intyre, Consultant, on behalf of the Core Group on IEC - Information, Education, Communication. January

"Resources Booklet for Communication in Water Supply and Sanitation", prepared by Eirah Gorre-Dale and Jack Ling (consultants), and Dick de Jong, on behalf of the Core Group on IEC - Information, Education, Communication. Reprint January

"The Missing Link", prepared for the Water Supply and Sanitation Collaborative Council, on behalf of the Core Group on IEC. Reprint January

"Communication through Blockages", prepared by David Kinnersley, Consultant, on behalf of the Core Group on IEC. January

"Environmental Health In and Around the Hospital", Han Heijnen, Lecture at the Royal Tropical Institute, Amsterdam, The Netherlands, February

"Drinking Water Supply in Rural Households", Christine van Wijk, Lecture at the Department of Home Economics, Agricultural University Wageningen, The Netherlands, February

"Introduction on Epidemiology as Related to Community Water Supply and Sanitation", Han Heijnen, Lecture at the Royal Tropical Institute, Amsterdam, The Netherlands, February

"Water and Sanitation: Introduction of Community Self-Improvement", Lizette Burgers, Lecture for Hospital Attendants and Paramedics at the Royal Tropical Institute, Amsterdam, The Netherlands, February, June and October

"Gender Issues in Water Supply", Christine van Wijk, Lecture at the Department of Irrigation and Land and Water Use, Agricultural University, Wageningen, The Netherlands, March

"Water Supply, Sanitation and Hygiene Education", Lizette Burgers, Lecture at the Department of Health Sciences, University of Limburg, The Netherlands, March.

"Drinkwater in India: Voldoende, Schoon en voor iedereen?", Christine van Wijk, presented at Landelijke Studiedag: Milieubeleid en India, Utrecht, The Netherlands, May

"Slow Sand Filtration, Pretreatment, Defluoridation, Desalination", Jo Smet, Lectures at IHE, Delft, The Netherlands, July/August

"School Sanitation and Hygiene Education", Lizette Burgers, presented at the Future Meeting Our Blue Planet. The Globetree Foundation, Stockholm, Sweden, August.

"Looking at Learning", Eveline Bolt, Norah Espejo, discussion paper presented at the WEDC-Conference on Water, Environment and Management. Kathmandu, Nepal, August/September.

"Appropriate Technology - Myth or Reality: Lessons from Successes and Failures", Jan Teun Visscher, presented at the First International Conference on the Safety of Water Disinfection, Washington D.C., U.S.A., August/September.

"Community Management of Improved Water Supply Systems - A Preliminary Review", Phil Evans, background paper for the Community Management Workshop, held at IRC, November

"Rural Disinfection to Prevent Outbreak of Disease", T.K. Tjlook, presented at the IWSA Asian-Pacific Regional Conference "Water Malaysia '92", Kuala Lumpur, Malaysia, October

"Building Capacity for Technology Development and Transfer in the Water and Sanitation Sector", Hans van Damme, presented at the 3rd Consultative Meeting of CEHANET, Amman, Jordan, October

"Participatory Approaches to Urban Water Supply and Sanitation", Madeleen Wegelin-Schuringa, presented at OECD/DAC Meeting on Aid for Urban Development, OECD, Paris, France, November

"Information Management: Visible costs, invisible effects", Keynote address by Han Heijnen, at the Seminar of the Association on Information and the Third World, held at the Institute for Social Studies, The Hague, The Netherlands, December

ARTICLES

"Kennissysteem met Minisis" (Knowledge System with Minisis), Cor Dietvorst, in MUN Nieuws, vol. 1, no 2.

"IRCDOC op CDROM", ("IRCDOC on CDROM"), Cor Dietvorst, in MUN Nieuws, vol. 1, no 4.

"Innovation in Water Supply and Environmental Sanitation: The potential role of non-governmental organizations". Han Heijnen, in WATSAN Newsletter 1992 Special Issue.

VI. Country/Project Matrix

This matrix contains a list of countries in which or with whom specific activities were undertaken in 1992, (see also map on page vi and vii) 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/Policy Development 2)</i>	<i>Training and Briefing</i>	<i>Community Management 2)</i>
Africa												
Angola	*											
Burkina Faso	*			*						*	*	
Cameroon	*						*			*		
Ghana	*				*							*
Guinea Bissau	*				*				*			*
Kenya	*			*								
Malawi		*		*								*
Mali					*							
Tanzania				*								
Uganda	*											
Zambia	*	*										*
Zimbabwe		*										
Asia												
Cambodia				*					*			
India				*	*	*			*	*	*	*
Indonesia				*	*							
Pakistan				*	*		*		*			*
Philippines	*											
Thailand	*											
Eastern Mediterranean												
Jordan	*											
Yemen Arab Republic				*								
Latin America												
Colombia	*	*			*				*		*	*
Guatemala				*	*				*		*	*
Honduras				*	*				*		*	*
Nicaragua					*							
Peru	*				*							*
Surinam							*					

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 (Thailand)
AMREF	African Medical Research Fund (Kenya)
CD-ROM	Compact Disc - Read-Only Memory
CEHA	Centre for Environmental Health Activities (Jordan)
CEPIS	Pan-American Centre for Sanitary Engineering and Environmental Sciences (Peru)
CINARA	Centro Inter-regional de Abastecimiento y Remoción de Agua (Colombia)
CIS	Commonwealth of Independent States
CMU	Chiang Mai University (Thailand)
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 Cooperation (The Netherlands)
ENSIC	Environmental Sanitation Information Centre (Thailand)
ESA	External Support Agency
ESA-IRS	European Space Agency Information Retrieval Service
FAO	Food and Agriculture Organization of the United Nations (Italy)
FINNIDA	Finnish International Development Agency
GEMS	Global Environmental Monitoring System
GIS	Geographical Information System
GTZ	German Agency for Technical Cooperation
HESAWA	Health through Sanitation and Water project (Tanzania)
HSMI	Human Settlement Management Institute (India)

HUDCO	Housing and Urban Development Corporation (India)
IDWSSD	International Drinking Water Supply and Sanitation Decade
IEC	Information, Education, Communication
IHS	Institute for Housing Studies (The Netherlands)
IHE	International Institute for Infrastructural, Hydraulic and Environmental Engineering (The Netherlands)
IPD-AOS	Institut Panafricain pour le Developpement, Afrique et l'Ouest et du Sahel (see also PAID)
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)
KIVI	Koninklijk Instituut voor Ingenieurs (The Netherlands)
KIWA	Keurings Instituut voor Waterleidingartikelen
KODIS	Koordinations-, Dokumentations- und Informationsstelle für Berufsbildung in Entwicklungsländern
LSHTM	London School of Hygiene and Tropical Medicine
MAJI	Ministry of Water, Energy and Minerals (Tanzania)
MDF	Management for Development Foundation (The Netherlands)
MUG	Minisis User's Group
NETWAS	Network for Water and Sanitation (Kenya)
NHA	National Housing Authority (Thailand)
NGO	Non-Governmental Organization
NORAD	Norwegian Agency for International Development
O&M	Operation and Maintenance
ODA	Overseas Development Administration (United Kingdom)
OECD/DAC	Organization for Economic Cooperation and Development/ Development Assistance Committee

PAHO	Pan-American Health Organization (Peru)
PAID	Pan African Institute for Development (Cameroon)
PAID/WA	Pan African Institute for Development/West Africa (Cameroon)
PROWESS	Promotion of the Role of Women in Water and Environmental Sanitation Services
PRET	Pretreatment
PSSC	Piped Supplies for Small Communities
SANAA	Servicio Autonomo Nacional de Acredoctos Acantarillados (Honduras)
SDC	Swiss Development Corporation
SDI	Selective Dissemination of Information
SIDA	Swedish International Development Authority
SKAT	Swiss Centre for Appropriate Technology
SNV	Netherlands Development Organization
TRANSCOL	Transfer of Slow Sand Filtration in Colombia
UEBM	Unidad Ejecutora de Barrios Urbanas Marginales (Honduras)
UNDP	United Nations Development Programme
UNEPAR	Unidad Ejecutora del Programe de Acueductos Rurales (Guatemala)
UNICEF	United Nations Children's Fund
VENA	Women and Autonomy Centre (The Netherlands)
VROM	Ministry of Housing, Physical Planning and Environment (The Netherlands)
WASAMS	Water and Sanitation Monitoring System
WEDC	Water and Waste Engineering for Developing Countries (United Kingdom)
WHO	World Health Organization
WSS	Water Supply and Sanitation

