IRC
International Reference Centre
for Community Water Supply
and Sanitation

WHO Collaborating Centre

The Hague, The Netherlands

ANNUAL REPORT 1985

Prinses Margrietplantsoen 20
The Hague

Postal Address:
P.O. box 93190
2509 AD The Hague
The Netherlands

INTERNATIONAL REFERENCE CENTRE FOR COMMUNITY WATER SUPPLY AND SANITATION

IRC is an internationally operating independent, non profit organization dealing with information and technology support for water and sanitation improvement. With its partners in developing countries and with United Nations agencies, donor organizations, and Non-Governmental Organizations, IRC assists in the generation, transfer and application of relevant knowledge. The focus of this co-operation is on the rural and urban fringe areas where the need for technical assistance is greatest.

Support is provided by means of publications and training material, seminars and courses, research and demonstration projects, as well as by advisory support to the development of national facilities. IRC's information-oriented programmes include: community participation, roles of women and hygiene education; human resources development; appropriate technology including operation and maintenance; programme evaluation and community-based financial management.

Requests for information on IRC should be addressed to IRC, P.O. Box 93190, 2509 AD The Hague, The Netherlands.

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CONTENTS

A handpump in Sri Lanka, with a platform and a fence, erected by the villagers to keep the animals away.

1. IRC IN 1985

There are many basic problems faced by people and governments in developing countries. The lack of water supply and sanitation is one problem which is particularly demoralizing and dehumanizing yet throughout the developing world 30 000 people die every day because of inadequate water supply and sanitation. Most are infants and children under the age of five. Apart from this tragic death toll, disease and disability, there are the endless hours spent by women in fetching water from distant sources. This is time which could have been spent in contributing to the community and in educating their children.

Recognition of these problems of water supply and sanitation was reinforced by the United Nations when it declared 1981-1990 the International Drinking Water Supply and Sanitation Decade. From a technical point of view, it is possible to provide adequate water and sanitation facilities for everyone. This would require more than considerable acceleration of investment, construction and installation of facilities, and strengthening of institutional structure and managerial capacity. To achieve such an objective, water and sanitation programmes need to be integrated into development programmes; they should involve the development of human resources at all levels of society and promote community participation and self-help; and be integrated into the socio-economic and cultural contexts of the communities to be served. Finally it is important that these programmes draw on the experience of one another.

IRC is committed to the millions of people who do not have water and sanitation facilities, and to the thousands who dedicate their lives to establishing such facilities. It is IRC's conviction that the more knowledge and experience available to the latter group, the more efficiently and effectively they can work, and the sooner those in the first group can be served. IRC's contributions to this complex area is through information support to its target group of managers, professionals and sub-professionals in government organizations concerned with planning and execution of programmes for the installation, management, and use of water supply and sanitation facilities in rural and urban fringe areas in developing countries.
Over the years, IRC has become a practice-oriented organization which endeavours to bridge the gap between new developments and available knowledge and experience, and the practical needs at the national level. In its work IRC emphasizes the integration of social aspects (community participation, health education, role of women) and technical aspects (selection of technology, research and development).

This was the emphasis of IRC activities in 1985. Development and demonstration projects on public standpost water supplies and slow sand filtration, both supported by the Netherlands Government, Directorate-General for Development Co-operation (DGIS), not only emphasized the integration of social and technical components, but also formed the basis for new activities in hygiene education and community based financial management.

Evaluation activities played an increasing role in IRC's programmes. An innovative approach was used in the evaluation of the public standpost water supplies project. During the year DGIS invited IRC to participate in evaluation missions to Yemen Arabic Republic and Burkina Faso, and UNICEF commissioned IRC to develop a training course on evaluation of water supply and sanitation projects. The series of district workshops on human resources development in the DGIS-supported National Training Delivery Systems Project in Sri Lanka were concluded in December. Training activities included a training programme on community participation in Tanzania, the development of a manual "Training Skills for Supervisors in Rural Water Supply Programmes" and inputs in various courses. The World Health Organization (WHO)commissioned IRC to prepare a report on research needs in community participation. At the request of the Netherlands Government, IRC delivered a paper on this topic to the meeting of the Development Assistance Committee of the Organization of Economic Co-operation and Development OECD. Regional follow-up meetings in Manila and Abidjan were attended subsequently. IRC's leading publication in 1985, "Participation of Women in Water Supply and Sanitation: Roles and Realities"was published in collaboration with the United Nations Development Programme (UNDP). Four other publications were made ready for printing in 1986.

Information exchange continued to be one of IRC's main areas of work. Specific collaboration was set up with centres in Sri Lanka, Thailand and Malaysia. As a "tool" to information exchange, an International Research Development Centre (IDRC) supported multi-lingual Inter Water Thesaurus was developed. IRC also collaborated in a feasibility study for a European Water Network Programme, initiated by the European Economic Community (EEC), and also carried out a similar study in the Netherlands. The Newsletter, current awareness bulletins and request handling services contributed to IRC's information extension.

IRC moved into new offices in the centre of The Hague early in 1985. The improved facilities and other measures contributed to better co-ordination of IRC's activities and operational procedures during the year. These have enabled IRC to pursue its activities more effectively in 1985.

2. DEVELOPMENT AND DEMONSTRATION

Public standpost water supplies project

This multi-country project, which is funded by the Netherlands Government, aims to provide a framework for the participating countries to develop improved approaches to public standpost water supplies. Approaches are promoted which involve the community at every stage and which take account of the social, financial, operational and training issues as well as technology. For example, the project encourages the formation of neighbourhood groups around the standposts to promote hygiene education, monitor tap use, and undertake basic maintenance and the collection of revenue.

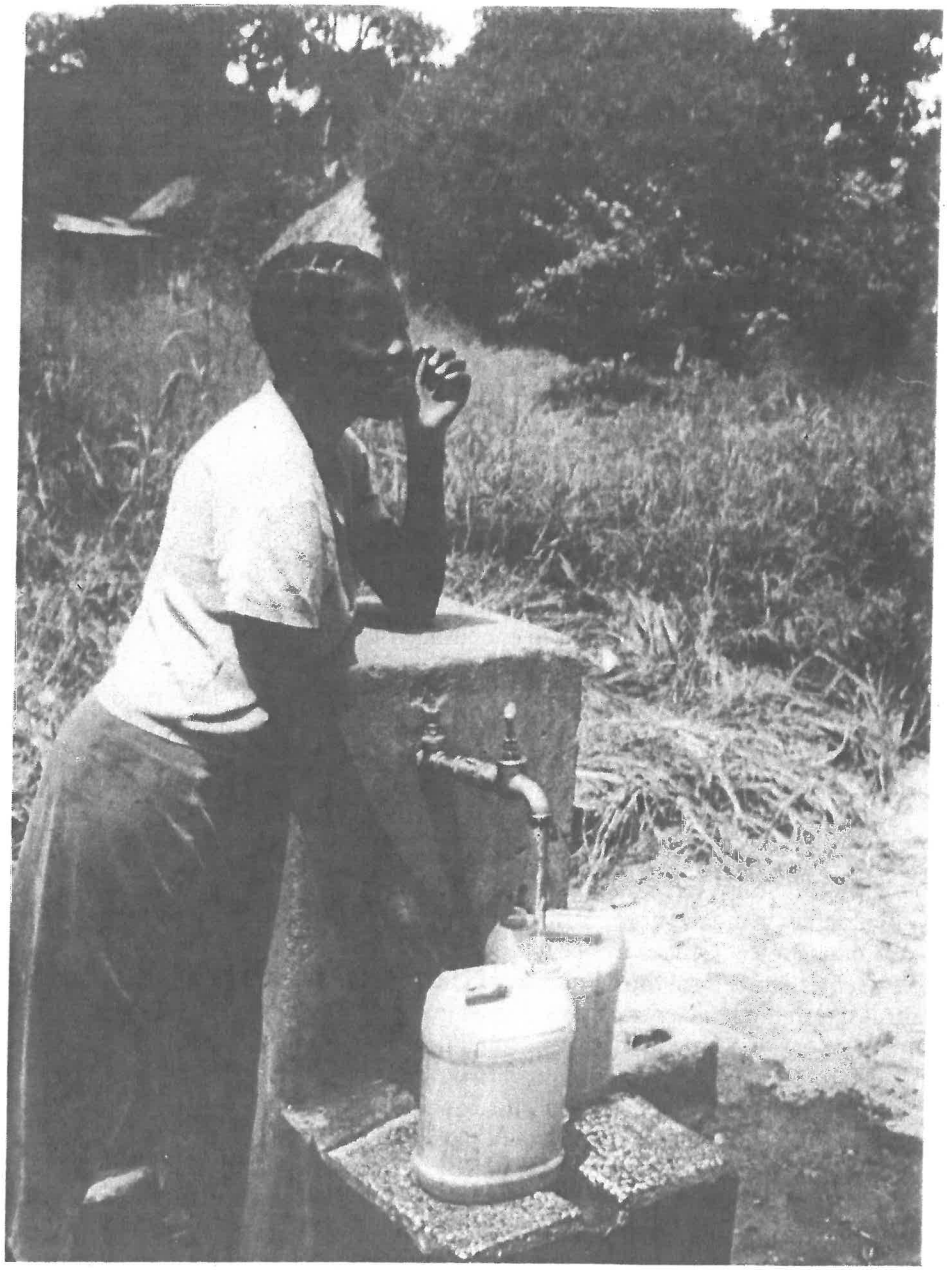
The project was evaluated in 1985. An innovative approach was used in which the project in each country was evaluated by staff from the other participating countries and resource persons nominated by the Dutch Government, under the guidance of a team leader from an independent developing country. In general the team considered that the project has succeeded in achieving its goals, although progress has been slower than planned. In particular, the use of community-based approaches, integration of non-technical aspects and project implementation by national staff had been successful and should be used more widely in future. Further consolidation of the demonstration schemes and action to encourage the use of project findings in larger scale programmes and policy is needed. Such activities are planned for 1986.

In Indonesia, national staff have continued their work in support of the demonstration schemes at Gumulung Tonggoh, Jagasiri, Playangan and Kesenden. Gumulung Tonggoh, which has now been completed, has been monitored and community inputs to the management of the schemes supported. A number of reports and a brochure on the project in Bahasa Indonesia have been produced by national participants. Training courses and briefing meetings continued at several levels as part of the information-transfer process.

After delays in the recruitment of project staff, the project in Malawi got underway. A full-time Project Officer has been appointed to the Water Department and staff have been assigned from the Ministries of Health and Community Services. Because of time limitations, activities have concentrated on study and improvement of a number of existing piped schemes in small district centres.

The project in Zambia has continued to develop steadily, with local demonstration schemes operational at Chibombo and Mwachisompola. The piped water supply schemes are being accompanied by sanitation and hygiene education programmes and a number of latrines have been constructed by participating communities. A Zambian project water engineer from the Department of Water Affairs has joined the Ministry of Health-based Project Manager.

In Sri Lanka the demonstration schemes at Haldumullah and Seelatena became operational in 1985. At Seelatena an older scheme has been rehabilitated with community participation. Community participation work and hygiene education



A. public standpost in Chibombo, Zambia, which the Public Standpost Water Supplies Project is to further improve.

continued in the third scheme, Wijebahukanda, construction of which is planned for early 1986. The parallel sanitation programme is an important development in the Sri Lanka project. Latrine components are manufactured locally and have been widely accepted by the communities. Several papers have been produced by national staff including a sanitation manual and guidelines for community participation. These guidelines were reviewed at a national workshop at which the views of a number of Sri Lankan and international agencies agencies were sought on the approach and findings of the project. The workshop was also attended by project participants from Indonesia, Malawi and Zambia.

IRC's support to the project during 1985 has included consolidation and support visits to the participating countries by the IRC Project Manager, organization and support to the interim evaluation and information exchange. The development of guidelines for community-based financial management for piped supplies has progressed well during 1985 and publication as an IRC Occasional Paper is planned for 1986.

During the year proposals for follow-up to the project have been discussed and developed with a number of potential participating countries. All four countries which participated in the PSWS project are keen to build on the project further and there is strong interest from Zimbabwe. Early in 1986 the proposal for a follow-up programme, "Piped Supplies for Small Communities" will be finalized and funding sought. The new programme will widen the community-based approaches to cover various types of piped water supply (group, yard and house connections and also public taps), encourage a flexible approach to service levels, and give new emphasis to local organization and financing for sustained operation of completed schemes.

Slow sand filtration

The Netherlands Directorate General for Development Co-operation funded a further two-year extension of the on-going project on slow sand filtration in Colombia and India. As a result of information transfer during earlier stages of the project, interest in this technique is increasing particularly in Colombia. Numerous new plants are being constructed and in some places are being built to replace rapid filters. In both Colombia and India, IRC guidelines for operation and maintenance are being translated in local languages so that they can be used in training programmes.

The project focus is on the training of caretakers, on developing ways to simplify filtration rate control, and on investigation of pre-treatment of water before it is put through the slow sand filter. A simple flow indicator device is being tested at the National Environmental Engineering Research Institute (NEERI) in Nagpur, India.

IRC has prepared a manual for caretakers. This manual includes operation and maintenance procedures, preparation of new filters, and cleaning and re-sanding operations. Emphasis is placed on the need for the caretaker to work in close co-operation with the community and to solve jointly problems which may arise.

Based on the experience and results of the project as a whole, the IRC technical paper on slow sand filtration has been completely revised and updated. In the revised manual which will be published in 1986 the advantage of community involvement in their water supply is also emphasized and ways to encourage this in the various stages of a project are considered.

Jointly with the UK Water Research Centre, a first draft of a brochure was produced to promote slow sand filtration in developing countries. With the International Reference Centre for Waste Disposal in Dübendorf, Switzerland ways were explored to continue research on pre-treatment.

A local caretaker checks the inlet control of a slow sand filter in Cachipay, Colombia.

3. EVALUATION AND ADVICE

During the year, IRC was invited to participate in evaluation missions to Yemen Arabic Republic and Burkina Faso. Basic support to these missions was provided from the knowledge base on evaluation (see Chapter 6).

In 1985 as in 1984, IRC provided advisory services to several projects supported by the Netherlands Government Directorate-General for Development Co-operation (DGIS) in the Yemen Arabic Republic. IRC has been concerned not only with water supply and sanitation but also with the active involvement of women in project development and implementation.

Evaluation in Burkina Faso

In October 1985, IRC participated in the joint team of external specialists and national staff of the Ministry of Water to evaluate the second phase of the Volta Noire Rural Water Supply Project in Burkina Faso. The second phase of this project which is supported by DGIS aims to increase the number of water points in the provinces of Kossi, Mou-houn, and Sourou. The evaluation mission paid particular attention to the quality of facilities, adequacy of performance during the dry season and the provisions made for maintenance. Co-ordination of activities with other water projects and development of regional maintenance systems were recommended by the mission. In view of the suggested extension of the project, the team stressed the need to monitor and control both maintenance and construction.

Training course materials

IRC has been commissioned by the United Nations Children's Fund (UNICEF) to develop a training course on evaluation of water supply and sanitation projects. The course materials include basic information on steps in evaluation, procedures and methods, and examples to illustrate the information given. In May 1985 WHO published a promotional brochure, introducing Minimum Evaluation Procedure (MEP) for water supply and sanitation projects. This brochure incorporated material contributed by IRC to the three-week summer course on Evaluation of Drinking Water and Sanitation Projects in 1983, which was organized jointly by IRC, Royal Tropical Institute, WHO, UNICEF and the Ross Institute of Tropical Hygiene.

Inputs on OECD meeting

Various IRC inputs were requested by the Netherlands Government in connection with the meeting of the Development Assistance Committee of the Organization for Economic Co-operation and Development (OECD) in May in Paris. IRC supported

preparation of the paper presented by the Dutch Government on institutional aspects in the water supply and sanitation sector. At the Development Assistance Committee meeting of the OECD an IRC consultant presented a paper on the role of women as one of the factors in the success of projects. The meeting requested the Dutch government to prepare a compendium paper based on case studies on ways to achieve effective community participation, including the involvement of women. IRC has been asked to produce a first draft of this paper.

Sri Lanka

In spite of many problems, seven of the nine intended district workshops in the National Training Delivery System Project, were held in Sri Lanka. At the Human Resources Planning workshop in October 1985 it was acknowledged that insufficient data were available for effective planning of human resources development in the water supply sector. The project document "Towards Human Resources Development Planning for Rural Water Supply and Sanitation" was presented at the final workshop in December. This document contains an analysis of the tasks involved in the preparation, planning, construction, and operation and maintenance of various types of water supply facilites. Outline job descriptions and a provisional assessment of the human resources needs are given for more than 30 categories of staff for each district for the period 1986 to 1990. Finally it was agreed that before human resources planning can be carried out data should be collected on the time required to carry out the individual tasks involved in the various phases of water supply and sanitation programmes.

Under a Technical Services Agreement with WHO, IRC prepared a paper on research needs for community participation in rural water supply for the WHO conference held in Aman in October 1985. IRC also presented a paper on community participation "Water Supply and Sanitation in Tanzania".
(See Chapter 4).

4. TRAINING AND EDUCATION

IRC activities in training and education were concentrated in three areas: community participation in Tanzania; development of training materials; and support to training courses. Every effort is made to co-ordinate these activities with those of WHO and other agencies to prevent unnecessary overlap and duplication. Within IRC training and education are linked to other areas of work particularly training of caretakers and the preparation of a manual for caretakers in the Slow Sand Filtration Project and activities in the National Training Delivery System Project in Sri Lanka.

Tanzania

In Tanzania, recommendations of the national workshop held in December 1984 have been followed up with a training programme on community participation. IRC has assisted with this programme as a member of the advisory team which is responsible for preparation of the training programme for fieldworkers of the Departments of Water Supply, Health, and Community Development. IRC will also participate in the implementation and evaluation of the programme which is scheduled to begin in 1986.

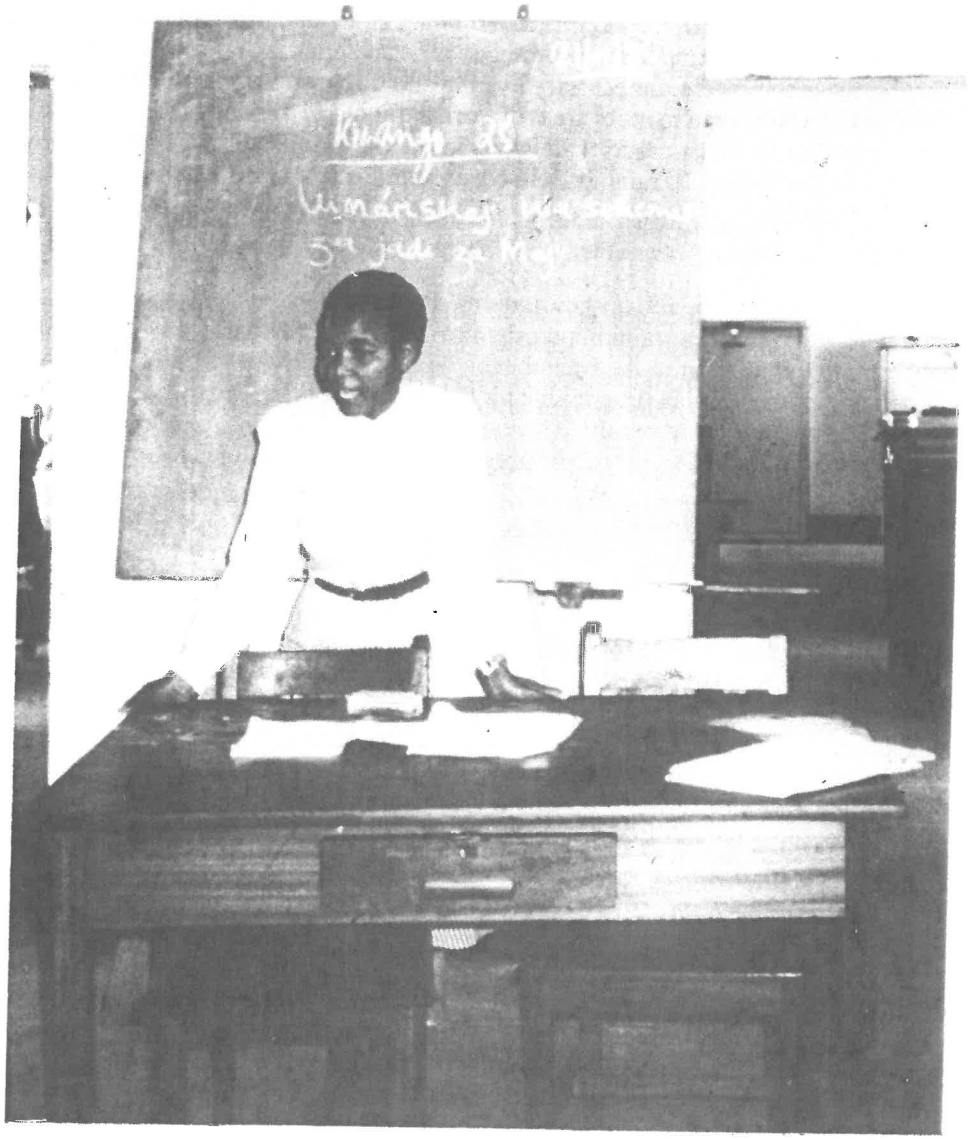
Training skills for superviors

In 1985, the training manual "Training Skills for Supervisors in Rural Water Supply Programmes" was revised and sent to various agencies for field testing. Fondation de l'Eau has expressed interest in translating the manual into French, but as yet funding has not been obtained. The German development co-operation agency, German Agency for Technical Co-operation GTZ, is considering translating and testing the manual in its project in Ethiopia. Promotion of the manual by sanitary engineers in South-East Asia has resulted in requests for IRC assistance in training programmes in Bangladesh and Indonesia.

Inputs in training courses

Two community participation specialists from IRC gave lectures on the assessment of the social impact to the International Course of the International Institute for Hydraulic and Environmental Engineering (IHE) in Delft. Follow-up discussion with IHE for future co-operation of IRC staff in their courses were continuing at the end of the year. Guest lectures were also given at the Delft University of Technology on rural water supply and sanitation particularly on slow sand filtration.

Also, the findings of the study project on renewable energy sources were presented in the training course on rural energy planning at the Twente University of Technology, the Netherlands.



A trainer at work in the training programme for fieldworkers of the Departments of Water Supply, Health, and Community Development in Tanzania.

5. PUBLICATIONS

In 1985 IRC added a major publication to the Technical Paper Series, Participation of Women in Water Supply and Sanitation: Roles and Realities. The Pan-American Centre for Sanitary Egineering and Environmental Science (CEPIS) translated into Spanish and published two titles on public standpost water supplies (TP 13 and 14). During the year drafts of four major publications were completed and sent for external review:

- *hand pumps for use in rural water supply programmes*
- *renewable sources of energy for rural water supply systems*
- *case studies on human resources development in the water supply and sanitation sector*
- *manual for users of the Volanta hand pump (in French).*

Participation of women

In 1985 IRC published a comprehensive literature review of the participation of women in community water supply and sanitation. This book, which is published in the IRC technical papers series, was a joint venture of IRC and UNDP within the context of the inter-regional project Promotion and Support for Women's Participation in the International Drinking Water Supply and Sanitation Decade (UNDP project INT/83/003).

Many aspects of the traditional involvement of women in water supply and sanitation have been revealed which have implications for projects and programmes designed to improve these provisions. Their traditional involvement demonstrates that the women have a potential role in such projects which will benefit the project and the women themselves, and which will also contribute to wider development. Comparison of their actual participation with these potential roles shows the contributions made by women to planning and design, construction, maintenance and management of improved water supply and sanitation and to health education, and identifies areas for greater development and research.

Reactions to the book have been very positive, and also considerable interest has been stimulated in development and demonstration projects on the involvement of women in water supply and sanitation.

Hand pumps

In co-operation with the International Development Research Centre (IDRC), Canada, IRC has completely revised and updated its technical paper on hand pumps (TP 10). The revised manual incorporates information from numerous documents generated by a variety of hand pump programmes and projects throughout the

developing world, and also the results of field trials and monitoring studies carried out in the UNDP/World Bank project for Laboratory and Field Testing and Technological Development of Rural Water Supply Hand Pumps.

This IRC/IDRC handpump manual, which deals with both technical and non-technical aspects, is designed for planning officers, engineers and field staff. Emphasis is given to the importance of planning procedures, institutional development, operation and maintenance requirements and local manufacture of hand pumps for rural water supply programmes. At the end of 1985, the manual was sent for external review, and it is to be published in 1986, as a joint publication of IRC and IDRC.

Users manual for the Volanta hand pump

Contracted by the Netherlands Directorate-General for Development Co-operation and in support of the Netherlands assisted Volta Noire Rural Water Supply Project in Burkina Faso, IRC produced a users's manual for the Volanta hand pump. This manual is based on the experience gained in the project and also incorporates the findings and expertise of IRC staff and consultants. It is a step-by-step guide for installation and maintenance of the Volanta pump and is illustrated in black and white photographs. At the end of 1985, it was ready for publication and copies will be available by May 1986.

Case studies human resources development

Five case studies to illustrate a number of key factors in human resources development for the water and sanitation sector have been prepared. These include case studies in the Philippines, Sri Lanka, Thailand, Togo and Zaire. Funds for this document were obtained from the Development Directorate of the Commission for European Communities. The case studies were reviewed externally in 1985 and will be published by IRC in 1986.

Renewable energy sources for rural water supply

Renewable energy sources (wind, solar energy, hydro-power, and biogas) have considerable potential for powering pumps in rural water supply systems. However, lack of practical and authoritative information makes it difficult for planning officers and engineering staff to assess the actual potential for field application. Therefore, IRC has developed a comprehensive state-of-the-art handbook on this subject. In this manual the various sources of renewable energy are discussed and the environmental, technical and economic considerations reviewed in sufficient detail to determine the most appropriate energy source for application at the national level or for specific locations.

This project is being sponsored by the Netherlands Ministry of Housing, Physical Planning, and Environment with additional financial assistance from DGIS. Several rounds of expert inputs and substantial editing in 1985 improved the content and presentation of the previous draft. At the end of the year the document was sent for external review and is due to be published in 1986.

Household options

During 1985 a draft on the manual of household options for water supply and sanitation was prepared. The main objective of this manual is to provide village health workers and other extension workers with simple technical solutions for common problems in water and sanitation at community level. This manual deals with burdens as felt by the community, health risks and options for improvement.

A Volanta pump at work in Burkina Faso, for which IRC was requested to produce a users manual.

6. KNOWLEDGE BASE DEVELOPMENT

The preparatory work for the various documents in development, and exploratory work on other subject areas has extended IRC's knowledge base considerably in 1985. Information has been obtained from a wide variety of sources including project documents and other "grey" literature of limited accessibility. New subjects on which extensive work was done include drinking water quality, community-based financial management, sanitation, hygiene education, and artificial recharge. In addition, throughout the year, IRC received a large number of requests from donor agencies as well as national organizations and field staff working in the developing countries for information on a wide variety of topics.

Drinking water quality

The IRC knowledge base on drinking water quality was used to prepare a number of study papers including a WHO background paper on Water Treatment Chemicals and Construction Materials for a joint meeting with the Food and Agriculture Organization (FAO) on food additives held in The Hague; a study on fluoride uptake through food in Senegal for the Agricultural University, Wageningen; and an extensive literature review carried out for DGIS on the effects of nitrate pollution on children in Africa. IRC's promotion work on local manufacture of disinfectants included information support to the University of Technology Bandung in Indonesia, the National School of Public Health Engineering in Bogota in Colombia, and the University of Dar es Salaam in Tanzania, to assist various development projects being carried out. At Bandung University this resulted in construction of a generation unit for local hypochlorite production.

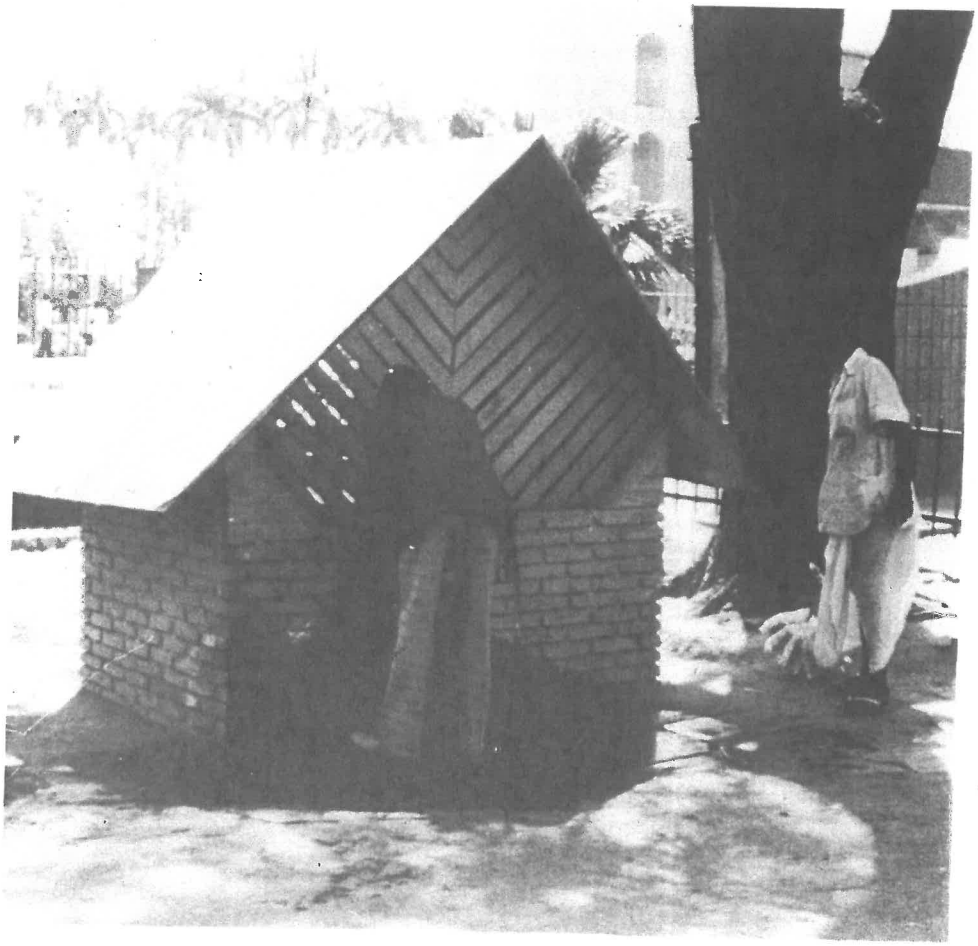
In October 1985, the IRC specialist in this area participated in the Working Meeting on Rural Water Supplies Disinfection, held in Stevenage, UK, and organized by the Water Research Centre. This meeting advised on content and structure of a disinfection manual, which is to be prepared and published.

IRC provided background information on the potential use of standard treatment plants to a joint project of the Egypt Ministry of Housing and the Netherlands Ministry of Housing, Physical Planning and Environment. This support was based on IRC's earlier experience with package water purification plants in Indonesia.

With the increasing use of polluted water as a source for drinking water supply, more developing countries have had to resort to the use of chemical and physical treatment processes. In 1985, IRC began a review of feasible methods for the local manufacture of coagulants.

Community-based financial management

Community-based financial management, cost recovery and generation of revenue for sustainable water supply and sanitation programmes in developing countries have become increasingly important. With local funds being scarce and the limited ability of users to pay for services, the demand for better and more extensive information on financial management has been growing. During 1985 IRC has therefore been developing practical guidelines on community-based revenue generation for water supply systems for publication in 1985. A literature review on revenue generation for piped supplies was also nearing completion. These activities emerged from earlier IRC work on financial management and have been taken up in the Public Standpost Water Supplies demonstration project.



Drinking water is sold per glass at this water kiosk in New Delhi, India.

Hygiene education

As a follow-up to research and study on hygiene education in the Public Standpost Water Supplies Project, two documents are being prepared with support of the Netherlands' Directorate-General for Development Co-operation (DGIS). The first aims to provide project managers and planners with an overview of key issues in the preparation and implementation of a hygiene education component in water supply and sanitation projects. The second will give a systematic analysis of available literature on health education. The aim of this is to allow hygiene educators and extension workers to learn from the project experience of others, and to stimulate the development of new approaches.

Artificial recharge of groundwater

Artificial recharge of water-bearing formations may be a suitable technique for water treatment and storage. IRC has been commissioned to carry out a literature review on this topic. Special emphasis will be given to the potential application for medium-sized communities in developing countries. As the review showed that very little information is readily available, a mail survey of projects in developing countries was carried out.

Sanitation

During the year, documentation from various projects and other sources has been reviewed. On the basis of this information, a first draft for a comprehensive handbook of sanitation programme design and technology was prepared, including case studies of a number of projects. The emphasis in this publication will be on upgrading existing facilities rather than on introducing new and often costly facilities. IRC advised the Netherlands' Directorate General for Development Co-operation on further development of a project to test upflow anaerobic sludge blanket filtration for waste water treatment in Colombia.

Evaluation

IRC's contribution to various evaluation missions (see Chapter 3) and work on the evaluation training modules (see Chapter 4) expanded the knowledge base on this subject considerably. The self-evaluation exercise in the Public Standpost Water Supply Project in 1985 provide first-hand experience of improved evaluation techniques.

Maintenance systems development

IRC studies on hand pump maintenance have indicated that a systematic analysis of maintenance systems had not been undertaken so far. Further, they showed that key factors and conditions in developing or selecting a maintenance system need to be identified. With support of DGIS and in consultation with the Leiden Institute for Development Studies and Consultancy Services (LIDESCO), IRC carried out a study of these key factors and conditions. The extent to which these factors and conditions are actually being considered in rural water supply projects was also investigated. Information on current experiences was collected through a series of interviews with staff from projects, on the basis of a checklist on maintenance developed by IRC. Maintenance practices and attempts to develop maintenance systems in these projects were compared with available literature on maintenance of rural water supplies, and evaluation reports.

In recent years and particularly within the framework of the International Drinking Water Supply and Sanitation Decade (IDWWSSD), both donor agencies and national governments have tended to concentrate on providing facilities for as many people as possible and as a result maintenance has been neglected. Nevertheless, there is recognition of the need for maintenance and from the literature review, a systems approach is beginning to emerge. The findings of this study will be presented in a paper on the state-of-the-art to be published in the IRC Occasional Paper Series.

Community participation at work in a Tanzanian village.

7. INFORMATION NETWORKS

During 1985, core funding for the Programme on Exchange and Transfer of Information was phased out. IRC continued to act as a clearinghouse by actively disseminating information within the network established. Work began on the multi-lingual (English, French, Spanish) thesaurus on community water supply and sanitation and on up-dating the Directory of Sources. Opportunities for IRC to contribute to the International Training Network for Water and Waste Management of the World Bank were explored.

Programme on exchange and transfer of information

With funds from the Canadian International Development Research Centre, a consultant assessed the information needs in the water supply and sanitation sector in Indonesia. By the end of the year, the Indonesian authorities were preparing a detailed proposal for follow-up for which funding will be sought. In Sri Lanka, a local task force on information exchange was set up comprising representatives of all agencies active in the water supply and sanitation sector. The group has prepared a proposal for national information exchange activities and this has been submitted for funding to IDRC.

In Thailand most agencies interested in water supply and sanitation have agreed to establish a national information focal point at the Provincial Waterworks Authority.

An agreement was signed with the Agricultural University of Malaysia in Kuala Lumpur to act in collaboration with the Western Pacific Regional Centre for the Promotion of Environmental Planning and Applied Science (PEPAS) as a regional information centre for a pilot project in the WHO Western Pacific Region. Working relations were maintained with the Pan-American Network for Information and Documentation in Sanitary Engineering and Environmental Sciences (REPIDISCA) through the Pan-American Centre for Sanitary Engineering and Environmental Science (CEPIS), Lima for Latin America, and Comité Interafricain d'Etudes Hydraulique (CIEH) in Burkina Faso for West and Central Africa.

During 1985, IRC started production of microfiches with copies of articles, publications and the standard basic library for distribution to collaborating documentation units in the information exchange network.

Interwater Thesaurus

Work began on preparing the multi-lingual thesaurus. A consultant was assigned the task of assessing the needs and requirements of various agencies.These agencies include CEPIS, CIEH, Environmental Sanitation Information Centre (ENSIC), Association Francaise pour l'Etude des Eaux (AFEE) and Water Research Centre (WRC). Representatives of these agencies also participated in the first working group

held in November to discuss the structure, development and maintenance of the thesaurus. The Directory of Sources has been updated and will be distributed early in 1986.

International training network for water and waste management

A proposal has been submitted for IRC partcipation in the International Training Network for Water and Waste Management of the UNDP/World Bank. IRC will concentrate on the preparation and organization of regional workshops, the introduction of training modules developed in the network to national users, design and production of a module on the use of information in rural water supply and sanitation, and support to centres participating in the network through information exchange.

The micro computer facilitates in-house documentation work as well as networking.

European water network programme

In June 1984, the Council of Ministers of Environment of the European Communities passed a resolution that local initiatives in water supply and sanitation should be encouraged. Against this background the Netherlands Ministry for Housing, Physical Planning, and Environment (VROM) requested IRC to carry out a feasibility study for the establishment of a national information network for small-scale water projects. Such a network would provide municipalities, water enterprises and local groups with information on projects to be carried out in developing countries.

The feasibility study of the Netherlands "Water network", included a series of meetings and talks with all relevant partners, including organizations of municipalities and regions, water authorities, and NGOs. To ensure the quality of the projects to be financed through the network the need to rely on experience stressed. The report included detailed recommendations for the implementation of the "Water network" through a pilot phase of three years. This study was linked to the European Water Network Programme being developed on the basis of national initiative of Member States of the European Economic Communities. For the Commission of the European Communities IRC carried out a feasibility study on the organizational aspects of the implementation of a European programme or exchange of information on small-scale water projects in developing countries. The study was carried out in close collaboration with a working group which was co-ordinated by the Commission. The study included discussions with representatives of several Member States, including United Kingdom, France, Federal German Republic, and Belgium. It was recommended that action not be taken at the European EconomicCommunities level until initiatives had been taken at the national level, preferably in at least six Member States. However, in the meantime, the EC will decide what steps should be taken to support Member State initiatives, and will study the technical aspects of information exchange on small-scale water projects, and how to co-ordinate the various activities to be undertaken at both national and community level.

8. INFORMATION AND DOCUMENTATION

In 1985 the number of visitors to IRC and requests for IRC publications and information for the documentation unit increased. Also, IRC staff presented papers at several meetings throughout the year on a variety of aspects of water supply and sanitation.

Information services

During the year IRC received in total more than 300 requests for information. These requests were mainly from UN agencies, government and non-government agencies in developing countries, and consultancy firms, and also from private individuals, including a large number of university students. The main topics of interest were hand pumps, water treatment, health education and community participation, and training in the water supply sector.

Newsletter

In 1985 four issues of the newsletter were prepared and distributed in both English and French. The number of issues was fewer than in previous years mainly because it has not been possible to recruit a full-time editor. However, avenues are being explored to produce the newsletter more frequently and on regular basis in 1986.

The list of mailing addresses for the newsletter was completely updated and revised when it was computerized. As a result more than 1000 addresses were added to the list, bringing the total to 5100. Mailing of the newletter has been contracted to an agency specializing in this type of work. This has reduced substantially the work load of staff and also reduced the cost of mailing considerably.

Documentation unit

In 1985, about 700 new documents, including a considerable amount of grey literature, were added to the documentation holding. As a result of staff changes progress was slower than expected in developing the computer data base of the unit. During the year approximately 1000 were added to the data base, thus bringing the total number of entries to 1400.

During the year, the unit produced ten current awareness bulletins for internal use. These were also distributed to approximately 40 contacts in the IRC information exchange network.

For internal use, seven accession lists were prepared and also computer print-outs of titles from the data base were distributed to members of staff. Several on-line searches in external data bases were undertaken, mainly in the Aqualine data base.

The unit was without a senior documentalist for four months, between June and November when the position was filled. Nevertheless an increased number of requests for information were handled. During 1985, 106 visitors made use of the IRC documentation unit.

Some 700 new documents were added to IRC's dicumentation unit, which now contains nearly 8,000 holdings.

Publication management

In addition to publication of titles mentioned elsewhere in this report, two popular books in the Technical Paper series were reprinted : Public Standpost Water Suplies (TP 13); and Evaluation for village water supply planning (TP 15).

Under an agreement with the Pan-American Centre for Sanitary Engineering and Environmental Science (CEPIS), Lima, Peru, two Technical Papers on Public Standpost Water Supplies (TP 13 and 14) were translated into Spanish, and translations of three other papers were nearing completion.

For the first time a promotional brochure was prepared for the marketing of an IRC publication. In the second half of the year, 4000 brochures to promote "The Participation of Women in Water Supply and Sanitation" were mailed to IRC contacts throughout the world. Indications are that the brochure has reached many organizations previously unaware of the work of IRC.

In 1985, more than 3400 orders were received for IRC publications, 1600 were paid and 1800 distributed free of charge. As a result of the marketing study of IRC publications carried out at the end of 1984, a new marketing strategy has been developed. Ways are being examined for a pilot scheme to increase the market for IRC publications in selected regions.

External representation

Various conferences and international meetings were attended and papers were presented:

- Meeting of the Committee on Co-operation in Development of the International Water Supply Association in Berlin, Federal Republic of Germany, on 23-25 April;
- Development Assistance Committee of the Organization for Economic Co-operation and Development in Paris, France, in May;
- International Water Resources Association Congress in Brussels on 9-12 June;
- Water and Sanitation for Health Congress in Washington DC on 19-21 June; (WASH)
- International Water Supply Association, regional conference in Africa in Libreville in June;
- Meeting on women of the Committee on Co-operation in Development of the International Water Supply Association in Bonn, Federal Republic of Germany on 5 July;
- Meeting of the WHO Regional Committee for Europe in Amsterdam, the Netherlands, on 17-21 September;
- WRC/WHO meeting on Rural water supply disinfection meeting, Stevenage, UK, 16-18 October;

- IDWSSD Asian Regional External Support Consultation, in Manila, the Philippines, on 21-25 October;
- Asian Water Technology (Exhibition and) Conference in Kuala Lumpur on 5-7 November.
- A senior manager from the co-ordinating agency for the Public Standpost Water Supplies Demonstration Project in Indonesia also presented a paper to the Asian Water Technology Exhibition and Conference in Kuala Lumpur;
- External Support Meeting African Region, in Abidjan, Ivory Coast on 25-29 November 1985;
- WHO technical meeting on community participation in Amman in 30 November 4 December;

The Chairman of the Governing Board visited UNDP (New York) and WHO (Geneva) to meet with the Heads of these Agencies.

During the year IRC staff prepared articles for several journals including:

- Human resources development for the rural water supply and sanitation sector in Training for Agriculture and Rural Development (FAO).
- Filtración lenta en arena consideraciónes sobre el uso en tratamiento de aguas superficiales in Revista de Acodal.
- IRC's Slow sand filtration project in Waterlines, Vol.4, No.3.

In the May issue of the Food Laboratory Newsletter, a write-up about IRC and its activities was included. Tools for Agriculture which is published by Intermediate Technology Publications contained a chapter of water pumping which was prepared by IRC.

9. ORGANIZATION

Status and institutional arrangements

In 1981, at the beginning of the Decade, IRC was given the status of an independent, non-profit organization. This allows for impartial and effective expenditure of project funds, and flexibility in execution ofprojects. The international character of IRC is reflected in its Governing Board which comprises members from international organizations (UNDP, UNICEF, and the World Bank, with an observer status of the WHO representative), and of representatives of the sponsoring Netherlands Ministries of Housing, Physical Planning and Environment and of Foreign Affairs, Directorate-General for Development Co-operation. The members of the Governing Board are listed in Appendix I.

Governing Board

The Governing Board met twice in 1985, in May and October. At the May meeting the annual programme was reviewed and consideration given to the options for continuation of the Programme on Exchange and Transfer of Information (POETRI), and IRC participation in the UNDP/WB International Training Network for Water and Waste Management. At the meeting in October, the Indicative Medium-Term Plan 1986-1988 was considered and the annual plan and budget for 1986 were approved. Furthermore, the analysis of past and present activities was received and adopted. Both meetings were instrumental in focussing IRC's actions on actual demands; developing a sounder financial basis; and defining more clearly the role of IRC.

Management team

Following an earlier analysis of the organization, in 1985 the management team became fully operational. Its main functions include the further development of a project oriented approach; the establishment of annual and indicative medium-term plans, including financial and staffing provisions; the development of a staffing plan and job descriptions and co-ordination of programme execution. The management team comprises the Director, Mr. J.M.G. van Damme; a programme officer responsible for programme co-ordination and content, Mr. J.T. Visscher; a programme officer reponsible for information and programme organization, Mr. A. van Dam; and the Administrator, Mr. M.K. Peterse.

Planning

In 1985 the procedures for arranging staff time and financial support of the annual plans, which were prepared in previous years, were implemented. The plan appeared to be a useful instrument for monitoring quality control and co-ordination of the various activities of IRC.

It also contributed to clarifying the strategy and to guiding and executing activities according to the Indicative Medium Term Plan for 1985-1987. This Annual Plan 1985 was based on experience acquired during previous years. It was further supported by an adapted set of internal procedures which were started to provide the management with the necessary tools for monitoring and executing IRC operations.

Budget

IRC operates with a core budget from the Netherlands Government. This is intended to be a generating budget, which, through consultations with the development and submission of project proposals to multilateral and bilateral donors, should lead to extra-budgetary resources for specific projects.

In 1985, the core budget was Dfl 1.7 million. The additional project budget amounted to Dfl 2 million. In spite of the continuing unfavourable economic situation worldwide, the number of externally funded projects increased in 1985, but there was a tendency for more short-term projects than for longer term projects. Nevertheless in 1985 the financial turnover was approximately the same as in 1984. The number of financing institutions supporting IRC's projects in 1985 increased to eight. The envisaged increase in funding from international sources, reflecting IRC's international scope and identity, continued in 1985; the percentage of the total budget rose from 4% to 6%. In total 12 new project proposals were submitted and approved, of which three received funding from international sources and nine from the Netherlands Government bilateral funds.

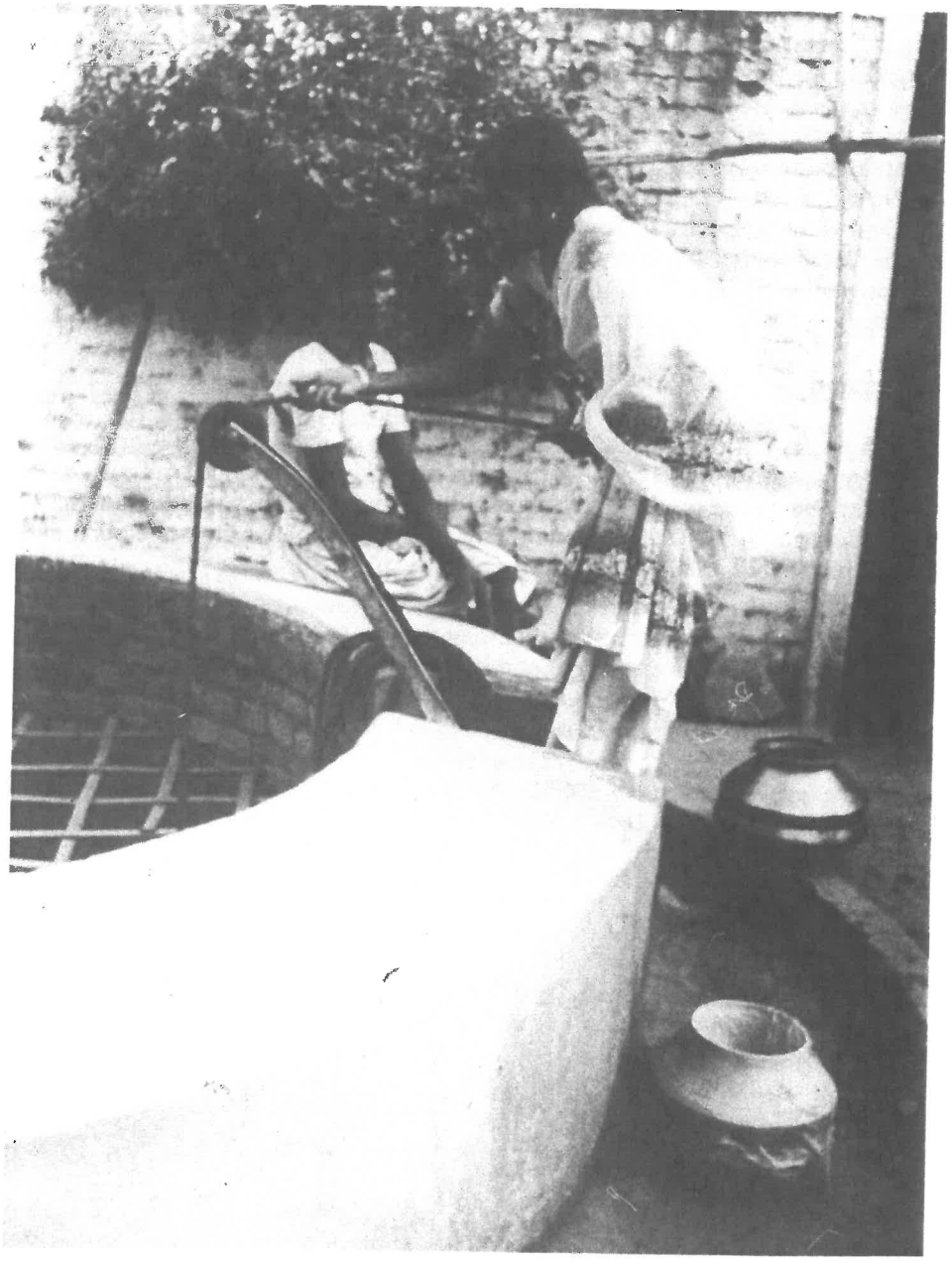
Staff

In 1985, the number of staff was 32, including 12 professional staff in sanitary engineering, social sciences and human resources development; 6 information and documentation system specialists and 14 support staff (see Appendix). External specialists were employed cn short-term contracts for specific assignments, as required.

To strengthen collaboration with selected agencies a number of orientation and exploratory visits were undertaken. They include bilateral development aid agencies in the Federal Republic of Germany, France, Australia, New Zealand, USA and Canada.

With UN agencies and government organizations in Vietnam potential areas of collaboration have been identified for follow-up work in 1986. They concern the

UNICEF assisted Integrated Sanitation Programme and information exchange and transfer within the country.



Indian woman drawing water from the well of a rich farmer. The vollagers have to pay for the water they use.

External relations

In order to propagate IRC's potential vis-a-vis persons and organizations working in related fields, participation in international meetings and exploratory visits were stepped up. In May 1985, the OECD/DAC meeting held in Paris was attended and a paper was presented. On invitation through the secretariat of the Regional External Support Consultations, the regional meetings in Manila in October and Abidjan in November were attended. An exploratory visit was paid to organizations in Australia and New Zealand. Various consultations were held with UN agencies in New York and Geneva. In June consultations were held in Washington D.C. with the World Bank and the WASH project. A further exploratory visit was paid to Vietnam in November at the invitation of UNICEF. Attendance of conferences and international meetings, reported in Chapter 8 was also used for this purpose.

Automation

In 1985 a start was made with the computerization of the documentation holdings. The computerization of the address system and the financial administration continued. New word processors were purchased. In order to increase the benefit from automation, consultant has been contracted to prepare a blue print on requirements, to be implemented in 1986.

10. PROGRAMME 1986

In 1986 the emphasis in IRC projects on "software" components (community participation, hygiene education, the role of women in water supply and sanitation) and integration with the "hardware" components (technology) will be maintained. As outlined in the Indicative Medium-Term Plan 1986-1988, additional projects are planned in development and demonstration, evaluation and advice and training and education. These include for 1986:

- a demonstration project on piped supplies for small communities;
- advice on development of a information service in Vietnam for UNICEF;
- organization of a consultative meeting on technology for water supply and sanitation in preparation for a planning study group meeting in Geneva in April;
- evaluation of school health education programmes;
- preparation of guidelines for staff training in community education and participation, and health education.

Towards the end of 1985 several documents prepared during the year were being reviewed externally. These documents which will be published in the Technical Paper Series in 1986 include: Renewable Energy Sources for Rural Water Supply, Hand pumps, Human Resources Development Case Histories. It is hoped to recruit an editor for the Newsletter so that the number of issues can be increased.

Knowledge base development will concentrate primarily on maintenance systems development, evaluation, sanitation, community-based financial management, and artificial recharge of groundwater; other technology issues will be kept up to date.

Information exchange network will emphasize support to the UNDP/World Bank International Training Network for Water and Waste Management and also support to the European Water Network. The multi-lingual thesaurus will be completed in 1986. In the area of documented information efforts are being made to develop a modified strategy as a follow-up to the POETRI.

APPENDICES

APPENDIX I GOVERNING BOARD

Mr. H. Scheltema (Chairman)	Former Ambassador.
Mr. P.J. Verkerk (Secretary) (until 1 March 1985)	Director, Drinking and Industrial Water Supply, Directorate-General for Environmental Protection, Netherlands Ministry of Housing, Physical Planning and Environment.
Mr. J. Haijkens (Secretary) (from 1 March 1985)	Head, Water Supply Planning Department Directorate General for Environmental Protection Netherlands Ministry of Housing, Physical Planning and Environment.
Mr. W.J. Kakebeeke (Treasurer)	Head, International Environmental Affairs Department, Directorate General for Environmental Protection, Netherlands Ministry of Housing, Physical Planning and Environment.
Mr. H. Wagenmakers (Member)	Deputy-Director, Directorate International Organizations, Directorate-General for Development Co-operation, Netherlands Ministry of Foreign Affairs.
Mr. L.P.J. Mazairac (Member)	Director, Development Co-operation Africa, Directorate-General for Development Co-operation Netherlands Ministry of Foreign Affairs
Dr. P.D. Lowes (Member)	UNDP/WHO Co-ordinator for the Water and Sanitation Decade, United Nations Development Programme/World Health Organization.
Dr. M.G. Beyer (Member)	Senior Policy Specialist Water and Environmental Sanitation Team United Nations Childrens' Fund.
Ms. L. Obeng	Water Supply and Urban Development Department, The World Bank.
Mr. S. Unakul (Observer) (until 1 July 1985)	Manager, Environmental Health Technology and Support, Division of Environmental Health, World Health Organization.
Mr. O.A. Sperandio (Observer) (from 1 July 1985)	Manager, Community Water Supply and Sanitation Division of Environmental Health World Health Organization

APPENDIX II IRC STAFF IN 1985

Director

Hans M.G. van Damme

Professional Staff

Teun F. Bastemeyer	Planning and organization (from July)
Ms. Marieke T. Boot	Hygiene education
Robert E.A.L.E. Brasseur	Human resources development
A. Toon van Dam	Programme on Exchange and Transfer of Information (POETRI)
Enric L.P. Hessing	Programme evaluation (until March)
Ebbo H. Hofkes	Water supply technology
Michael Seager	Public standpost water supplies
T. Kien Tjiook	Water quality and treatment
Siemen Veenstra	Project support
Jan Teun Visscher	Community education and participation; slow sand filtration
Ms. Christine A. van Wijk-Sijbesma	Community education and participation; role of women

Information Section

Dick de Jong	Information Officer, Head of the Section
Ms. Lia C. van der Kruit	Senior Documentalist (until June)
Ms. Betty E. Westerhof	Senior Documentalist (from October)
Cor H. Dietvorst	Documentalist
Ms. Shobha Kannan	Assistant Documentalist
Henk Tjen-A-Kwoei	General Documentation Suppport
Ms. Antoinette A.M. Oosterveer	Information Assistant
Ms. Lia A. Wahab	Publication Assistant

Administration and Finance

M. Krijn Peterse	Administration, Head of the Section
Ms. Cecilia M. Heil	Management Assistant (until November)
Ms. Nicolette Wildeboer	Management Assistant (from December)
Ms. Hülda W. de Vries	Staff Assistant
Ms. Anneke Groenendal	Programme Assistant
Ms. Moniek Zijdemans	Programme Assistant (from June)
Ms. J. Hanny van Eerden	Project Assistant (until March)
Ms. Yvonne Kerrebijn	Project Assistant (from March)
Ms. Jeanette F.E. Klop	Project Assistant (until June)
Ms. Ela I. Sogno	Project Assistant
Ms. Chantal W.M. Stenfert-Ploum	Project Assistant (until June)
Ms. Sheila Nicholls	Word processing (from May)
Ms. Lauren Wolvers	Word processing (from April)
Hein Bodrij	Bookkeeper
Edwin W. de Ruiter	Assistant Bookkeeper (from July)
Ms. Lucie te Riele	Receptionist
René Lommert	Office Assistant (until March)
Michel van der Leest	Office Assistant (from March)

APPENDIX III IRC'S STRATEGY

IRC's overall strategy to achieve its objective is the generation and transfer of information. In this context, information is defined as knowledge and experience; technology and methodology; intelligence and public information. The generation of information is the collection, screening and integration of information base, and the transfer of information is making information readily available and accessible.

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

- publication and dissemination of information
- training and education
- evaluation and advice
- development and demonstration.

These strategies are implemented through support projects which in principle require external funding. Projects are developed in response to requests from "clients" or their support agencies, sometimes as part of larger projects of these agencies to use IRC's support role, including its knowledge base. An overriding consideration in the support projects is the integration of various technical and non-technical aspects through one or more subject areas which constitute entry points. In most cases, projects include a strong component of generation of information. As much as possible activities are carried out and supported by staff in the countries concerned. In the spirit of Technical Co-operation among Developing Countries (TCDC), IRC aims to establish links between the countries with which it works. It is a collaborating centre with WHO and has close links with UNDP, UNICEF, and the World Bank. It also co-operates with other UN agencies, financial donors and non-governmental organizations, which work with the various agencies which comprise IRC's primary target group and which use IRC's output in their programmes.

APPENDIX IV LIST OF AVAILABLE PUBLICATIONS

Technical Papers

- Hand pumps for use in drinking water supplies in developing countries. (TP 10*,**) 1978.
- Slow sand filtration for community water supply in developing countries: a design and construction manual. (TP 11*,**) 1978.
- Participation and education in community water supply and sanitation programmes: a literature review. (TP 12**) 2nd revised edition, 1981
- Public standpost water supplies. (TP 13**) 1979.
- Public standpost water supplies: a design and manual. (TP 14**) 1979.
- Evaluation for village water supply planning. (TP 15) 1980.
- POETRI, Programme on Exchange and Transfer of Information: reference manual, Volume I. (TP 16*) 1981.
- Community participation in water supply and sanitation: concepts, strategies and methods. (TP 17) 1981.
- Small community water supplies in developing countries: technology of small water supply systems in developing countries. (TP 18*) 1981.
- Guidelines on health aspects of plumbing. (TP 19) 1982.
- Practical solutions in drinking water supply and wastes disposal for developing countries. (TP 20) 1982.
- A groundwater primer. (TP 21) 1983.
- Participation of Women in Water Supply and Sanitation, roles and realities. (TP 22) 1985.

Occasional Paper Series

- The Colombian field manuals and training guides for the promotion of community participation in water and sanitation schemes. 1983.
- Guidelines for operation and maintenance of slow sand filtration plants in rural areas of developing countries. 1983.
- Planning and evaluation for community water supply and sanitation: a literature review and a selected and annotated bibliography. 1982.
- Making the links: guidelines for hygiene education in community water supply and sanitation with particular emphasis on public standpost water supplies. 1984.
- The environment of simple water supplies: a selected and annotated bibliography in support of public standpost water supplies. 1984.

Other Publications

- The Buba-Tombali water project, Guinea-Bissau, 1978-1981. 1983.
- Directory of organizations involved in community education and participation water supply and sanitation. 1983.

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

Bulletins

- Global workshop on appropriate water and waste water technology for developing countries. Report of proceedings. (B7) 1973.
- Slow sand filtration for community water supply in developing countries: a selected and annotated bibliography. (B9) 1977.
- Public standposts for developing countries. proceedings of an International Expert Meeting, Achimota, Accra, Ghana. (B11) 1978.
- Participation and education in community water supply and sanitation programmes: a selected and annotated bibliography. (B13) 1979.
- Community education and participation in the IRC slow sand filtration project. Report of proceedings. (B14) 1979.
- Slow sand filtration for community water supply in developing countries, report of an International Appraisal Meeting, Nagpur, India, (B16) 1981.
- Report of a global seminar on a modular approach in small water supply systems design. Jakarta, Indonesia. (B17) 1981.
- Informe del Seminario international sobre filtracion lenta de arena para abastecimiento pblico de agua en países en desarrollo. (B18) 1983.

APPENDIX V SUPPORT ROLE OF IRC