IRC
International Water and Sanitation Centre

DRAFT

Putting Community Management in Place

Four years of experience with improving water management in rural communities

Marc P. Lammerink
Eveline Bolt
Peter Bury

November 1998

Community Managers for Tomorrow

Document no. **1**

IRC International Water and Sanitation Centre
P.O. Box 93190
2509 AD The Hague
The Netherlands
phone: +31.70.3068930
fax: +31.70.3589964
e-mail: general@irc.nl
Web site: http://www.irc.nl/

In March 1999 IRC will move to Delft.
Our e-mail and web site addresses will remain unchanged.

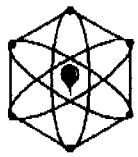
PAN AFRICAN INSTITUTE FOR
DEVELOPMENT
General Secretariat
(PAID-GS)

Putting Community Management in Place

Four years of experience with improving water management in rural communities

SER
SERVICIOS PARA EL DESARROLLO

WASEP



NETWAS

Table of Contents

Preface

This series of five documents, together entitled *Community Water Managers for Tomorrow: Partnerships for water management in rural communities*, has been developed by IRC in collaboration with teams from partner organizations in six countries. At the heart of these documents are the experiences of the local research teams at the community level, who have made enormous contributions to the adoption of this approach to community water supply.

Each of the five documents in this series has a different focus, but are all based on the same experience – a four-year participatory action research project to improve the management performance of rural communities of water supply systems in developing countries, called the PAR-Manage project.

The first two documents explain what happened during this four-year research project. Document 1, *Putting Community Management in Place: Four years of experience in improving water management,* describes the research process and presents the results and conclusions of the PAR-Manage project from the perspective of the support agencies and IRC. It explains how the participatory research was done, the tools that were used, what happened in the process, and what it demanded from the agencies and communities involved. More importantly, it documents the experiences of researchers in the communities themselves – their progress and setbacks, negotiations and discussions in community meetings, exchange visits and experiments.

Document 2, *Learning in the Field: How 22 communities improved their water management,* presents case studies of each of the 22 communities that have been involved in the project. These case studies permit a better understanding of the project from the perspective and focus of the men, women and children in these 22 communities. The case studies illustrate the main problems faced by rural communities, their efforts to improve the situation, and their achievements in terms of their improved ability to manage their water.

The next three documents contain what project team now call the Participatory Action Development approach to community water management – in short, the **PAD approach**. Document 3, *The Participatory Action Development Approach: Supporting Community Water Management,* is based on the process of action research that was developed and tested throughout the project, to arrive at an approach for supporting communities in managing their water supply systems. Around this approach, the teams developed methods and tools that are now available for wider use. Most of the material in this document is intended to help readers understand community management and the ideas behind the approach. Practitioners can adapt the approach to suit local circumstances, developing a critical awareness when putting the approach into practice.

Document 4, *Facilitating community discovery: Getting to know about water management,* gives a brief introduction to the PAD methodology, which consists of three phases – Diagnosing, Experimenting and Sustaining. The manual explores the Diagnosing phase of the PAD process in detail and describes the methods and tools that can be used during implementation. The document explores what factors need to be taken into account, the pitfalls to avoid, and the tools or set of tools that can be used in each step in the process.

Finally, document 5, *Experimenting with the Community: Identifying sustainable solutions,* again gives a brief introduction to the methodology, and then explores the Experimenting and Sustaining phases of the PAD process, together with the methods and tools that can be used.

These last three documents have been produced separately because they will be easier to use in the field than one large bulky volume. However, each part belongs together with the other parts. Documents 4 and 5 have been written mainly for practitioners, explaining how to put theory into practice. The main aim is to provide a set of tools that can be used by support workers to help communities to shape their own lives. These two documents therefore try to combine both reflection and action.

All of the methods and tools described here have been used effectively in the communities in Africa, Asia and Latin America over the past four years. However, they should not be seen as a blueprint for community management. The project team concluded halfway through the research project: 'Each situation, each culture, each place, each experience, and each community requires its own approach, although general principles can be applied'. Sensitivity to the needs of communities, and quick judgements on what would be most helpful at a particular time or during a particular process can only be developed through constant practice, complete openness to feedback from the villagers, critical reflective analysis, and years of experience.

In the near future these documents will be complemented with: (i) videos (one general video and six country-specific videos) on the experiences with the community management support approach; (ii) a manual, *Training for Trainers,* for the staff of support organizations who wish to use the approach in their field of action; and (iii) an Internet website to support all the initiatives to bring to life the PAD approach. In the project countries themselves, 'Information Focal Points' will also be established to provide background material to enhance the activities, and to enable exchanges of information at the national and regional levels.

Acknowledgements

These guides, manuals and videos have all grown out of the project. At this point, we would like to acknowledge our great gratitude to all those who have been involved in the experience. First and foremost, we have to thank the members of the communities that were so kind to let us work with them, make mistakes, have fun, learn together and sometimes support them in their tasks to improve their water management skills.

Next, we wish to thank the teams from the partner institutes that have worked for four years in this research. Not all of them were able to fulfil the four-year period – some members joined late; others to leave early; and one became seriously ill during the research and sadly passed away. We would specifically like to acknowledge the late Mr Anthony Nchari for his dedication, and to everyone else for their active, committed and productive work: Mr Amouye Nguettakan, Ms Pauline Poubom and Mr Andrew Tayong (Cameroon); Ms Cecilia Gómez, Mr Alfonso Rojas, Ms Ana Ariztizabál, Mr Mario Pérez and Mr Jairo Benavides (Colombia); Mr Fabián Gonón Ortiz and Mr Carlos Simón Perén, Mr Oscar Nimatuj, Ms Milagro Escobar and Mr Jaime Pacajoj Cifuentes (Guatemala); Mr Isaack Oenga, Ms Pauline Ikumi, Mr Stephen Ngingi (Kenya); Ms Hari Subba, Mr Rajan Thappa, Ms Renuka Rai, Ms Laxmi Paudyal, and Mr Raju Khadka (Nepal); and Ms Dilferoz, Mr Altaf Hussain, Mr Muhammad Saleem; Ms Nahida Aziz and Ms Sarah Halvorson (Pakistan).

We would also like to acknowledge with thanks the directors of the institutes in the six countries who allowed us to develop this all-encompassing approach together with their research teams. The directors are: Mr Gerardo Galvis (director, CINARA, Colombia); Mr Anthony Hagan (deputy secretary general until 1995); the late Mr Boadi and Mr Gbedo (former and current directors, PAID-WA, Cameroon); Hector Coyoy (director, ADP, Guatemala); Mr Fabian Gonon (director, SER, Guatemala); Mr Matthew Kariuki (director, NETWAS); Mr John Collett (project director, WSHHS) and Mr Karim Alibhoy (current director, WASEP, Pakistan); Mr Umesh Pandey (director, NEWAH, Nepal) and Mr Hans van Damme and Mr Jan Teun Visscher (former and current directors, IRC).

On earlier versions of these documents, we received valuable comments from the members of the International Advisory Group (IAG), which was established at the start of the research project. Before drafting the final document we expect to receive still more valuable, critical and supportive comments. The members of this IAG have shared with all of us their great experience on various occasions during the implementation of the research project. We are very grateful to their members: Mr Bunker Roy (Director of the Social Work and Research Centre, India); Mrs. Grazia Borrini Feyerabend (coordinator, Social Policy Service of the World Conservation Union, IUCN); Mr Orlando Fals Borda from Colombia; Mrs Teresa Kavita (women's programme coordinator, Catholic Diocese of Machakos, Kenya); and Mr John Thompson (Sustainable Agriculture Programme, International Institute for Environment and Development, IIED). The critical support by means of the mid-term evaluation conducted by Mr Bertus Haverkort of ETC Foundation should also be mentioned here.

The authors are also grateful to Sascha de Graaf for her sustained efforts to chase some of the contributors, to Lauren Houttuin for the design and layout, to Michel van der Leest for printing the documents, to Valerie Jones for the sustained editing activities, and to Esther de Lange, Dick de Jong and Ton Schouten for their help in preparing the manuscripts.

The staff of the International Water and Sanitation Centre are very grateful to the Netherlands Development Assistance (Neda; formerly DGIS) for their continued financial and critical support for the development of the Participatory Action Development Approach for Community Water Management. Within Neda, two individuals have been particularly supportive: Piet de Lange, senior expert research and development (DCO/OZ), and Willem Ankersmit, senior programme officer (SB).

These documents have also built on the experiences of a large number of researchers and trainers working in the water and rural development sector. Although they are not mentioned here by name, all of them have enabled us to develop this material.

This series of documents aims to help others to develop strategies to assist communities to improve the management of their own water supply systems. It is not intended to be used as a blueprint, but as an approach that will allow organizations and fieldworkers to make the necessary adjustments to provide effective support for community management. The contents of these documents can only be validated by practitioners creatively implementing the principles behind this approach at various levels, and by the policy makers involved in community management of rural water supplies.

Marc P. Lammerink
Eveline Bolt
Peter Bury

Executive summary

Facilitating processes in rural communities to strengthen the capacities of community people to manage their water supply systems is fascinating. It can only be done in close contact with the community, with patience, wisdom and a good sense for community life. Such processes are not predictable because of the specific characteristics of each community, and one has to deal with setbacks and conflicts. However, the community members give a lot in return – their creativity, trust, humour and often real commitment. The relationships that develop between facilitators and community members are often intense, satisfying and challenging for all.

This document is entitled 'Putting Community Management in Place' because community management is now a much talked about concept, but it is defined in many different ways and there are few actual experiences with community management in the water sector. This document describes four years of experience in strengthening community management in 22 communities in six countries, and attempts to answer questions such as how is it done, what are the tools, who is involved, what can happen in the process, what does it demand from support agencies and the communities? The report presents results and conclusions and, most importantly, documents the experiences of the people, the progress they made and the setbacks they overcame, the negotiations and discussions in community meetings and assemblies, exchange visits, and their experiments.

We hope that experts in the water sector will identify with many of these experiences, causing them to reflect on their own working practices and to discuss the opportunities and limitations of community management among themselves.

Community management is not a miracle tool for solving problems in the water sector, nor for governments who are keen to decentralize or privatize water provision. It is not a recipe that can be replicated in a linear fashion. Rather, it is different form of cooperation between support agencies in the water sector and communities, involving a common search to identify problems with the local water supply system, and the possibilities for and constraints on management by communities, as well as possible solutions that may be tested. The support agency is no longer the provider of technical goods or solutions, but the facilitator of processes to enhance the capacity of the community to manage its own water system. Communities are no longer the passive receivers of the technical goods, but are active participants, knowledgeable and accountable for their actions. At the basis of this cooperation are partnership, and ownership based in the community.

If one defines community management in this way, one can talk of a shift in the relationship between communities and support agencies. Some have called it a paradigm shift because the traditional relationships between state and people, between experts and communities, are at stake. This may sound dramatic, but such dramatic phrases are often used when new concepts in development cooperation are introduced. However, as we have said, this is not a miracle tool. Community management may involve radically different theories and approaches, but it is not a prescription or a blueprint. Community management stimulates thinking and debate about relationships between support agencies and communities, about the capacities of communities to manage their own systems, about the attitudes of field staff working with communities, and about sustainable water management.

The objective is to get the process of strengthening management capacity moving, creating opportunities for communities to debate and reflect on their abilities to manage their own systems.

Where this will end is often unknown and difficult to engineer, because these processes are the responsibility of the community. They will have to walk away with it, some time, one way or another. The facilitation task is to initiate the process, using a variety of tools and information. Both are presented in this report.

This report represents the efforts of many people: the project teams in six countries, the numerous communities, IRC staff, national and international advisers. Although the approach and theory is the same for all project participants, the stories of how the process evolved in practice are diverse. In every community the process has been very different, in terms of both the pace and the content. Although in each case the communities are now better able to manage their water supply systems, the institutions, rules and structures that have underpinned this enhanced capacity are also diverse. This diversity again demonstrates that the communities have designed their own management systems, rather than follow a blueprint provided by support agencies. Community management celebrates heterogeneity, and that is what this report documents.

There have been great differences in project performance among the participating countries, as well as among the communities in any one country. Some communities have developed extensive and comprehensive management institutions and regulations for their water supply systems, while others are still struggling with the concept of management. These differences are due to many different factors, many of them rooted in the socio-economic structures of a community, such as leadership. If the leadership of a community is committed and receptive to change, the process is likely to proceed smoothly, but if the local leaders are too dominant and want to pull all the strings of community life, they can also be counterproductive. Sometimes a community has various interest groups struggling over resources, so that a lot of work has to be devoted to resolving conflicts and starting negotiations. Culture, religion, gender or economic interests can divide communities, hampering efforts to encourage them to manage their water supply systems.

National water policies can also hinder community development. Sometimes a supply system has been so poorly designed that it has caused inequalities in water distribution. In such cases community management may not be feasible because the different groups can not find a common denominator upon which to base solutions. All members of the community must then be involved in redesigning the water supply system, and begin community management at the earliest phase in the project.

In short, communities are complex social realities, within which it is impossible to separate out the management of water supply from other concerns. Management capacities have to be integrated in a concerted but flexible examination of the social, economic and cultural characteristics of the community that may either hamper or stimulate management structures and procedures.

For the facilitators of community management processes, it is therefore not enough just to open a box of participatory tools. They first need to understand the community's social and economic relations, leadership, cultural or religious aspects, and the different interests, and to use methods and tools in flexible ways. They are also likely to need mediation and negotiation skills in order to create opportunities for community management. The sustainability of water supply systems also depends *a priori* on the sustainability of community management systems or institutions. These complex social realities may sound insurmountable, but many local agency staff are aware of them and will be able to deal with them. Until now these capacities have not been recognized by technically focused agencies and policies.

Community management sells badly, as the project teams in all six countries will readily acknowledge. If they do not deliver the goods, they will find it hard to be effective. This is the result of decades of paternalistic relations between the state and the community: the state delivers the goods, for whatever reason, and the community receives and carries out the tasks the state prescribes. To advocate increased community accountability may now be seen as a way to save on state budgets, but as long as communities are not supported in becoming accountable and for what reason, it will remain a beautiful concept in the reports of governments and donors.

In short, communities can not be expected to accept the idea of community management with open arms if for decades they have been used to state agencies playing the role of providers. To overcome the fact that management concepts sell badly, project teams needed a lot of creativity and understanding, both at the start, and throughout the process.

It is understandable that communities often focus on technical improvements. Water systems have been designed and constructed according to strictly technical parameters. Water is a technical matter. Both agencies and communities usually do not even consider the management aspects of water systems at the community level. It is still believed that if technical problems are solved, the system will work. It may indeed work, but not if sustainable procedures and institutions to manage the (improved) systems in the communities are not strengthened or created at the same time.

Experiences in many projects have shown, however, that when the time comes to look into solutions, technical issues can not be ignored on the basis of the argument that they have nothing to do with managerial aspects. Sometimes, systems have been so badly designed and constructed that at least small improvements have to be made before management aspects can even begin to be addressed. However, technical options should be seen as part of a management solution, not as goals in themselves. Technical improvements can of course also support management solutions. Water meters and regulators, for example, are important monitoring instruments that can provide information that can used to support the management of the system. The IRC programme has shown how effective such instruments can be.

Exchange visits have proved to be a strong ingredient in the learning process. Exchange visits between communities or between water committees can push the process of enhancing management capacities one step further. When visiting other communities, people often make wise and valid comments and observations because they are involved in the same process. It is often surprising to see how communities are willing to welcome neighbours to assemblies and meetings to discuss their water systems. Exchange visits have sometimes radically changed the course of development processes.

Exchanges between facilitators and project teams are also important, cognitively and emotionally, to learn from each other's approaches, to learn of the sometimes surprising tools the teams have used, and to share their successes and the failures. Room for exchange and learning should therefore be created both within and between the support agencies involved in water at the community level.

It is important to remember that efforts to enhance community management will not be starting from scratch. Many communities have for a long time managed their own water supplies – however badly – so that traditional knowledge of water management and water quality exists. They often already have water committees or caretakers, and have helped with the construction of their system. On the management front, communities are not inexperienced: they manage their own households,

agricultural systems, religious or cultural events, as well as their relations with the state. Institutions often exist for deliberation and negotiation, and leadership structures. These various processes of management are already ongoing when a project team arrives, and should be fully utilized in any effort to promote the local management of water supply systems. To fail to do so would be tantamount to showing complete disrespect for the community.

To facilitate processes what will enhance the management capacity of a community takes time and care, both during and beyond the lifetime of a project. This has been true for this programme, so arrangements have been made with the partner organizations to monitor what happens in the communities after the projects end. To take such time and care involves investments whose cost-effectiveness is difficult to measure, but which should be addressed in depth. However, money will be saved because the water supply systems will become more sustainable and communities will become self-sufficient in operating and maintaining them. For the agencies involved, focusing on management rather than technical aspects requires another way of accounting.

Community management can not be addressed in isolation from the institutional context. Other agencies in other sectors are working in communities, and they also may be seeking to improve participation and local management. Such initiatives should be integrated. Within this programme, attention has been paid to these institutional aspects. Exchanging experiences with other agencies is important, as well as discussing community management, in order to stimulate debate on the capacities of communities to manage their systems, and to energize institutions and their staff.

Community management is not merely a concept to increase the effectiveness of water supply systems; it is also firmly based on the belief in participation and democracy. A support agency will find it problematic to promote or facilitate community management if its own internal procedures are undemocratic, in that they do not allow staff participation or do not provide opportunities to learn. In a democratic society, community management will probably have a better chance of succeeding because it will be embedded in the styles and rules of democratic governance. Knowing how institutional or political contexts can hinder or stimulate community management is important, as well as involving institutions, politicians and policy makers in the debate on community management. By disseminating the experiences of this participatory action research programme, IRC aims to strengthen or create new platforms for debate on community management by providing practical inputs on the operationalization of community management.

Introduction

There is a growing trend in most countries in the South to encourage rural communities to manage their own water supply systems. Many external support agencies are now actively promoting decentralization and greater community involvement in decision making and management. As a result, many governments are attempting to change their role from 'provider' to 'facilitator', and are emphasizing the need for responsibility for managing water resources to be devolved to the lowest appropriate level. This, however, highlights the need for empowerment of the users, and for more effective interactions between the users, agencies, NGOs, the private sector and local government.

Effective decentralization and stronger user involvement face many problems, however. The agencies involved have a strong tradition of focusing on the construction of water supply systems, and little attention is given to establishing management capacity at the local level. The communities involved often lack both experience in managing water supply systems, and the tools to operate them. Supporting a more prominent role for communities as managers of water supply systems has a number of advantages. It can lead to greater efficiency in system performance, improving the cost-effectiveness for both communities and agencies, and offers the prospect that the system will be sustainable in the long term.

Community management systems are not always well established, however. There are many weaknesses and gaps, preventing communities from benefiting from their water supply systems, such as the lack of management capacity, the partial coverage of user populations, the lack of effective and equitable financing systems, the absence of suitable management tools, the environmental degradation of many watersheds, and the absence of a proper gender balance in planning for, contributions to and control of the established water service.

Much can be achieved by building on traditional management practices relating to water supplies. Water collection and use are often regulated by explicit or implicit agreements made by women, who have long played a crucial role in the traditional management of water sources. Women are well able to take responsibility for complex technologies, and for maintaining water points, and can therefore play decisive and indispensable roles in ensuring the success of water improvement projects, as long as both men and women are not overburdened or excluded, and as long as the work, functions, authority and training are divided in a well-balanced way.

Community management does not imply that communities must take care of everything or pay the full costs. The idea of partnership allows scope for shared responsibilities between the support agencies and the community. The functions to be performed by local management organizations can thus vary considerably, depending upon the agreed division of responsibility between them and the support agency.

Community management has become a popular concept, but the best way to put it into practice is a matter of debate. There are no straightforward answers. Different institutional and legal settings, different social patterns and cultural traditions will shape a wide variety of community management practices, and different partnerships between communities and agencies. Learning from different experiences, documenting and exchanging practices, creating platforms for debate, will strengthen the community management concept and make it a feasible strategy for communities and agencies.

This document describes the way community management has been tried out and shaped by community people and researchers in 22 communities in six countries, within the framework of the project Participatory Action Research on Community Management of Improved Water Supply Systems. It describes a collection of experiences of community members and researchers in strengthening management capacities. It is hoped that these experiences will contribute to the learning process and debate on what community management of water supply systems should be, and how to accomplish it.

The Participatory Action Research on Community Management of Improved Rural Water supply was funded by the Netherlands Development Assistance (Neda; formerly known as DGIS), and was coordinated by IRC in collaboration with local organizations in six countries in Africa, Asia and Latin America. The programme, which ran from 1994 to 1998, aimed to develop approaches, methods and tools to enhance the capacity of rural communities to manage their own water supply systems, with appropriate support and guidance (the overall research project is entitled 'The role of communities in the management of water supply systems: Participatory field research and the development of strategies, methods and tools'). At the same time, the partner organizations in the six countries focused on developing the human resources necessary to implement a participatory methodology to improve water supply system management.

In close collaboration with IRC, the International Water and Sanitation Centre in the Netherlands, the projects were implemented by the following partner organizations: the Pan African Institute for Development (PAID) in Cameroon, the Centro Inter-Regional de Abastecimiento y Remocion de Agua (CINARA) in Colombia, the Servicio para el Desarrollo (SER) in Guatemala, the Network Centre for Water and Sanitation (NETWAS) in Kenya, Nepal Water for Health (NEWAH) in Nepal, and the Water and Sanitation Programme (WASEP) for the Aga Khan Housing Board in Pakistan. The project was carried out within existing rural water supply programmes implemented or supported by government agencies or non-governmental organizations (NGOs) in the respective countries.

Over these four years, the projects gained considerable insight into the key bottlenecks in community-managed rural water supplies, and developed a set of problem-solving methodologies and tools. The projects were based on participatory action research (PAR) to assess water supply management problems together with local men and women in selected communities, as well as with agency staff, and to identify and test solutions. In the process, various participatory strategies and management tools were developed to enhance the capacity of rural communities to manage their own water supply systems.

The methodology that was developed within the framework of the project, is now being called Participatory Action Development (PAD) for community management of water supplies and sanitation. It is a logical follow-up to PAR, the name used for the research project. This document describes the PAD methodology for strengthening the management capacity of communities; further details can be found in the third document in this series, 'The Participatory Action Development Approach: Supporting Community Water Management'.

This document is divided into two main blocks. Chapter 1 describes the process of putting community management in place, from the preliminary studies of the state of the art of the water supply systems in the country concerned, to the monitoring and evaluation of project performance. Chapter 2 then describes the conditions that were created to enable monitoring, learning,

institutionalization and dissemination of the project experiences. The main stages of the process were as follows:

Preparations (1994), in which the partner organizations formed project teams, gathered information on existing community-managed rural water supply systems in their countries and visited selected communities for an orientation on key issues. The results are presented in Sections 1.1 and 1.2.

Selection of four communities in each of the six countries on the basis of their interest in taking part in the project, how representative they were in terms of their water management, the geo-hydrology of the area, and the mix of water supply technologies and socio-economic conditions. The selected communities represented a broad range of environmental, socio-economic and cultural conditions, as well as managerial capacity. The selection process and the main features of these communities are explained in Section 1.3.

Participatory field investigations to identify problems and diagnosis (1995–96). This stage consisted of in-depth examination of local conditions and the actual demand for managerial improvement through participatory research. The latter included assessments of water-related environmental aspects and general sanitary conditions in the communities, as well as gender aspects of the establishment and management of water services, and appraisals of possible solutions. During this stage, the diversity of the approaches needed in the different countries became apparent, and the teams discovered that action research is not a linear process – that situation analysis continues, even when the 'next step' of the research has already begun. These and other issues are addressed in Section 1.4.

During this stage the so-called **community research teams (CRTs)** were formed in some of the communities, and they continued to play a crucial role in subsequent stages, building on the lessons learned during the diagnoses, and participating in the research process. The experiences of the CRTs are documented in Section 1.5, together with illustrations of the capacity-building process at the community and national levels. The lessons learned during the diagnosis process are described in Section 1.6, concluding the field investigations and diagnoses by the communities and PAR teams.

Joint development and field testing of problem-solving strategies, methods and tools (1996–97). On the basis of the outcomes of the community diagnoses to identify problems, potential solutions and the available resources, the PAR research teams, in close collaboration with community members, developed strategies, methods and tools to address managerial problems and to monitor their effects on service performance. Each community then drew up an agenda for experimentation, implementation plans and chose monitoring indicators to assess progress. Many of these experiments have led to improvements in the performance of the water supply schemes. Sections 1.7-1.9 describe the experiments carried out by and with the communities, and the efforts to enhance their ability to solve problems.

The results of the experiments and the use of **monitoring instruments** were analyzed in collaboration with the respective communities. The PAR research teams documented the outcomes of the analysis, which were reviewed by the respective national reference groups (NRGs). Section 1.10 discusses aspects of monitoring and evaluation at the community level, and documents the research findings.

Evaluation, follow-up and sustaining the process (1998) comprised the ongoing final phase, in which reporting and dissemination of findings through international and national groups will take place. The PAR teams did not wait until the end of the experiments before evaluating them. In group meetings community members discussed various aspects of the experiments and began to draw conclusions about the usefulness (or not) of the various problem-solving strategies. However, all the observations still needed to be brought together and the results systematically analyzed. Such analyses included identifying any unintended consequences and assessing the sustainability of the innovations and solutions. The results (as of October 1998) are presented in Section 1.11.

Chapter 2 describes the conditions that were created to ensure the maximum effectiveness of the project results. This involved institutional embedding, identifying means of exchanging experiences in order to learn from experiences, training for capacity building, and appropriate methods of evaluation and reporting.

Selecting partners to execute the projects took place at different levels. These partners included organizations, project teams, community research teams (CRTs) and national reference groups (NRGs) in the six countries, as well as an international advisory group (IAG). The various aspects of the selection of these partners are described in Section 2.1.

Capacity building, training and field preparations, involving workshops for the PAR research teams, elaborating the research, and exchanging project and research experiences, began with a joint workshop in October–November 1994 in the Netherlands, in which the project teams reviewed the preliminary findings, planned the research and prepared participatory assessment proposals, workplans and budgets. This was followed by two series of three regional workshops (the first in February–May 1995, and the second in February–May 1996) at which the project teams prepared detailed plans for the research phase.

A major event was also a workshop held in September 1996 in the Netherlands for representatives of the CRTs and members of the IAG. The World Congress on Participatory Action Research in Cartagena, Colombia, in June 1997 brought together the coordinators from the six project teams and IRC. The gathering also allowed for an interchange in Cali with colleagues from CINARA.

For the six project teams, the acceptance of the PAR process represented a shift in professional attitudes towards mutual learning, sharing of experiences and a structured but flexible way of working with the communities involved in the research. The process has been of great importance for the six partner organizations (all NGOs) because of its focus on methods of working with communities to foster the sustainable development of their community-managed water and sanitation systems. In all six countries a considerable resource base has been created. The process was supported by the IRC coordinating team through workshops, discussions, field visits and written comments. Section 2.2 describes the activities for capacity building that were undertaken as part of the process of preparing the PAR teams.

At the start of the projects in all six countries **national reference groups (NRGs)** were established to create a platform for recognition and discussion, and to ensure that the problems of national organizations in the water and sanitation sector were also addressed within the framework of the research project. The selection, formation, consolidation and functioning of the NRGs are described in Section 2.3.

During the process of the research in the six countries the participatory approach was gradually adopted within the partner organizations. There are some differences between the partner organizations because some teams were affected by institutional turmoil, as often is the case in long-term projects. Efforts have been made to stabilize these situations. In Guatemala, for example, the IRC coordinator had to seek more radical solutions by ending the agreement with Aqua del Pueblo and signing another one with SER, because the whole PAR team had moved to this organization. Section 2.4 provides details of the above and highlights the lessons that were learned.

Part of the research project involved a **mid-term evaluation,** conducted by ETC Foundation of the Netherlands, which was a stimulating event for PAR research teams and IRC staff. The evaluation gave rise to reflection that was much appreciated and was useful for the continuation of the project. Some of the findings and the changes in direction that resulted from the evaluation are discussed in Section 2.5.

Reporting the processes in the communities and of the project results is important to enable effective learning. Aspects of reporting are described in Section 2.6.

Dissemination activities in the course of the project are described in Section 2.7. In the coming years the experiences and results will be compiled and published, with the purpose of helping to shape the trend towards decentralized management and implementation of rural water supply systems. Training water sector staff and sharing findings and experiences with organizations in the countries concerned and with a wider international audience will contribute to the general development of effective community water management. These efforts will foster the design and implementation of more sustainable projects, help to mobilize people for communal action, and promote inter-agency collaboration and coordination. An organized information base on community management at the national level will be made available to help people to improve their strategies and to facilitate information sharing between rural communities, technicians and planners.

Disseminating the results of the research project will require work on several fronts. From the project experiences, many lessons have been learned about effective strategies, innovative methods and tools for building management capacity in communities, which can be easily adjusted to local circumstances. These experiences need to be shared, and agencies need to be assisted and staff trained to help them to make the necessary adjustments to provide effective support to communities. Particularly effective will be the development of the capacity of the partner organizations to provide training for staff in the water sector at the national and possibly regional levels. IRC will also provide support for training courses, and will hold a 'training for trainers' course for capacity building at the international level.

1. *Putting community management in place: the process*

This chapter describes the stages in identifying and establishing improved management capacities and institutions in water supply management undertaken by the PAR teams and the communities. The process started with gaining an overview of the current state of affairs with respect to community management of water supplies in the six countries involved in the programme.

1.1 Community management of rural water supply systems: the state of the art

Each PAR team prepared a country report describing the status of rural water supply systems and the role of community management in keeping these systems functioning and covering their running costs. Each team investigated the extent to which the local water agency was promoting community management of rural water supply systems. By means of staff interviews and document reviews, the teams assessed whether and how these agencies involve communities and work with them as the future managers of local water supplies. They also carried out in-depth case studies of six communities to obtain information on their performance in managing their water supplies in recent years.

Each team planned, implemented and reported on the work in their own way, using a general checklist prepared at an international workshop on community management of rural water supplies held in The Hague in November 1994. The checklist included elements such as the overall situation of the rural water supply sector, the government agencies and NGOs involved, the administrative and legal frameworks for community water management, the type of systems introduced by the various agencies, whether participatory procedures were used to establish the systems, the attention paid to ensuring a gender balance in work and decision making, the preparations for future management tasks, and the performance of community-managed systems.

The six reports show that in each country community management of rural water supplies is accepted national policy, but implementation is not universal and each agency has developed its own procedures. None of these agencies so far treats communities as future managers who are able to make their own choices from a range of options, each with its own pros and cons, and none provides training for communities in all aspects of management. The implementing agencies also have no structured means of exchanging of experiences in working with rural communities and organizations as the future managers of their own water supplies, and no lead agency ensures that the lessons learned are translated into more general operational policies. Some of the reports express the hope and intention that the national reference groups will come to play this leadership role. Some of the highlights of these reports are given in the following.

In **Pakistan**, five programmes for community-managed rural water supply systems are in progress in Baluchistan, Punjab, Azad Jammu and Kashmir and the Northern Frontier areas, with support from UNICEF, DGIS, the World Bank and IDA. Each programme has set up a different form of community management. Existing community-managed water systems do not function well, partly for technical and environmental reasons (landslides), partly because of poor administration, but particularly because of the lack of management training. The first four schemes built with community involvement in Jammu and Kashmir have just become operational. The present project is expected to give much practical knowledge on where and how to strengthen community management and how to best support it.

In **Nepal**, the government and UNICEF are carrying out the largest number of rural water supply projects, and external support agencies are also supporting participatory projects on a smaller scale. Community participation is part of the projects, but community management is still in its initial stages. Most of the projects have focused on technical capacity building. Payment systems have not been universally introduced, and where they do exist they are often limited to operational costs only. Training to improve managerial capacity is beginning to be provided in some cases.

In **Kenya**, a large number of participatory water supply programmes are in operation, executed through the district water engineers and donor- and NGO-supported programmes (DGIS, FINNIDA, SIDA, CARE, SIMAVI, CRS, KWAHO, CPK/Catholic dioceses and WaterAid). All of these programmes focus on community-managed systems, but there has been little collaboration and harmonization of approaches, and the local management capacity is underdeveloped. The performance of community-managed schemes is not systematically monitored. Within these agencies, there is great interest in exchanging experiences and in participatory action research.

In **Cameroon**, two national and four external agencies are, or have been involved in installing rural water supply systems. Since independence they have constructed 4709 out of approximately 7000 rural water supplies (point sources and piped schemes), and another 45 are under construction. Of the 4754 schemes, 438 (9%) have been implemented to be community managed. The reported breakdown rate of these community managed systems is 39 (9%). Most of the systems that were built without community involvement are no longer operational, and in a significant number of cases even their location is no longer known. The performance records of systems built for community management are much better, but nevertheless there are maintenance and management problems. Interest in participatory action research is therefore high.

In **Colombia**, a new national law lays the responsibility for construction and management of rural water systems with the municipalities. Elected water committees are now compulsory and have legal status. This has created a new situation in which communities are free to seek assistance from either specialized sectoral agencies, some of whom have experience with establishing community-managed water supplies and some do not, or from the private sector, which has no experience with community-managed systems. The country report for Colombia gives an overview of what sectoral agencies do, the type of community management they promote and the results in qualitative terms. A survey of six sectoral agencies, which assist a total of 1128 communities with self-managed water supplies, showed major problems in monitoring and support (very limited), environmental aspects (not addressed, except for one agency), continuity, access and quality of service and cost coverage. On the gender side, women are especially involved in financial management.

In **Guatemala**, the Ministry of Health and Social Assistance is legally responsible for the construction and control of water supply systems. The government runs five programmes, three of which fund projects. An Institute for Water Resources was created in 1992. More than 200 NGOs also construct water systems. Every institute has its own norms, including whether or not water and/or maintenance is paid for. However, the National Plan stresses participation in construction, charges communities for operation and maintenance work, and entitles them to set their own tariffs. Although all the agencies stress the importance of participation, few give the communities a say in decision making. Training for management focuses on operation and book-keeping, and is given to men, whereas women receive hygiene education. The systems are managed by committees, which are elected by men. After construction, the systems are monitored and maintained by the agencies.

There are water shortages, due to environmental, technical and managerial problems and the inefficient use of water. Committees and operators are not trained to deal with these issues. Water quality is affected by inadequate source protection and the lack of sanitary systems. Capacities must be developed for managing water resources and supplies.

1.2 Assessments of community-managed water supply systems: case studies

Each CRT also carried out a gender-specific assessment of a community-managed rural water supply system. These case studies give insights into how the various agencies analyze community management, and the sources of some of the problems. Small community-managed rural water supply systems, while they do not yet operate as well as was hoped, nevertheless seem to be a workable solution, since many of them do at least provide water to a substantial part of the rural population. The case studies show, however, that the supply does not always serve all sectors of the villages, and that the administrative and managerial aspects of the operation often raise more problems than the management of technical repairs.

Very few agencies promote a balanced division of physical work, decisions, functions and training between men and women, although all agree that women should be involved, since water is generally thought to be a women's issue. The protection of catchment areas and the preservation of water quantity and quality are increasing problems. The findings are summarized in the following.

Technology

Five of the six case studies involve villages with piped water supplies, either with pumps (in Cameroon) or by gravity. In one case (in Nepal) the village has both handpumps and a piped system. One village (in Colombia) also has a treatment plant (slow sand filtration). The villagers have been managing the systems for up to eight years. All villages also have traditional water sources, although these are not included in the management system.

Management

All systems are operational and in principle have enough water, but they suffer from various operating and maintenance problems, such as leaking pipes and taps, and inadequate storage tanks. In two cases large parts of the population are not served. All are managed by elected committees, which meet regularly. In two cases (both in Latin America), the water committees have grown into basic service organizations: a community enterprise for water supply, sewerage, solid waste collection and a postal service in Colombia, and a grassroots organization for education, water, women's development and health in Guatemala.

Human capacities

Management committee members are not always clear about their roles. Accountability to the users for the performance of the system and for financial management, if present at all, is limited. In case of problems, the usual steps taken are to abolish the existing committee and elect a new one (in three cases). The managerial system itself is not strengthened. Training, if it is given, is limited to technical training for the operator, and book-keeping. Other managerial aspects are not addressed, with the exception of water quality management (in Colombia).

Gender

Mixed committees were present in Colombia, Kenya and Cameroon. Elsewhere, women do not take part in decision making. In Kenya and Colombia the paid jobs were held by men, while women's work (maintenance, collecting fees and standing in for the operator) was voluntary. In Colombia, the male committee members received trained, while the women did not.

Financing

In five of the six cases water tariffs have been set and people pay for water, and payments are recorded in a simple book-keeping system. A wide range of tariff systems exists.

In Nepal a *group of households* pays a fixed fee per water point, the exact amount per household depending on the size of the household. In Cameroon, each *adult* in a user family pays a fixed amount, and women pay three-fifths of what men pay. Households with a laundry or dry-season vegetable gardens or cattle at home pay extra.

In Guatemala, each *household* pays a flat amount per month or per year for daily operation and maintenance costs, while fund-raising events are organized for large expenditures. In Kenya, households pay a fixed tariff for a domestic connection, which is four times that for the use of a standpost. In Colombian, each household pays *according to consumption* through metered house connections.

In all cases the collected money is used to pay for day-to-day operations and maintenance costs; in general there is no long-term planning. Action against defaults is not always taken, and in some cases people who have not paid still receive a regular service.

The environment

Some work is being done to protect the environment, such as fencing off the source and tree planting. Water quality preservation, sewage and wastewater disposal and drainage are not systematically addressed. Communities are not yet prepared for managing their environment.

1.3 Selecting communities for participatory action research

In each country, the fieldwork was carried out in four communities, except for Guatemala and Colombia, where three communities were chosen. The selected communities have different types of water supply systems and service levels, and represent a wide range of environmental, socio-economic and cultural conditions, as well as managerial abilities.

After consultation with the national reference groups, a range of communities were shortlisted based on criteria established during the planning and training workshop in the Netherlands (October–November 1994). All shortlisted communities were visited. The selection was made in early 1995 in most of the countries, based on the types of water systems and how typical the communities were. During the regional workshops (February–May 1995) the teams described the selection process and the final outcome. The proposed communities were critically assessed, and in some cases this resulted in a change in the selection.

In **Nepal**, eight shortlisted communities were subjected to a priority ranking exercise, three of which were selected, and a fourth was added after another visit. The Nepal team considered the type of technology, performance and the implementing agency as important selection criteria. In the selected communities, mass meetings were conducted to explain the objectives of the PAR approach. The team used a poster depicting a chicken hatching from an egg, which raised many questions. All recognized the image and understood that the communities themselves had to manage their system and make it sustainable. Of course the hen (in this case NEWAH) would provide the warmth and protection for the egg to hatch. The members of the operation and maintenance or user committees were informed, and were asked to make a resource map of their water supply system and to describe their inputs and expectations.

In **Pakistan**, a long list of potential organizations/projects and communities was drawn up, and some were contacted informally. Organizations were consulted to come to a shortlist of eight communities, which were visited to gather socio-economic data. Through a ranking exercise, four communities were then selected. In (all-male) village meetings, the communities offered to cooperate with the PAR until the end of 1997, and committed themselves to undertake the research with support of the team as facilitators; to organize village meetings and provide members for different activities; to allow their women to attend meetings with other women; and to contribute to the implementation of solutions.

In western **Kenya**, two communities were selected in collaboration with the Rural Domestic Water Supply and Sanitation Programme under the auspices of the Lake Basin Development Authority (LBDA). One community had a gravity-fed water system and the other shallow wells. In both cases the projects were handed over to the communities. The team selected two other communities in Machakos District in eastern Kenya: the Kiveetyo/ Kathyoli gravity water project, and the Yanthooko shallow well project run by the St Martha women's group. In Yanthooko, the community harvests water using techniques such as roof catchment, rock catchment, pans and shallow wells.

After careful consideration at a first meeting in October 1995, the national reference group decided to include cultural diversity as an extra criterion for selection, because this is an important factor in water management in Kenya. Three projects were selected out of seven presented, one of which was the Nyakerato Gravity Water Project in the Kisii highlands, supported by the Rural Domestic Water Supply and Sanitation Project II, funded by the Netherlands government via the LBDA. The other two projects were those in Machakos that already had been selected. These three communities were visited to reach a common understanding between the parties in the research, and to seek their commitment to the process. During those visits the PAR team and community members went on a village walk, drew village maps and held group discussions. All the communities expressed interest in the research, which they hoped would help them to document their activities and share their experiences and views with other communities.

For the selection of a fourth community, the PAR team visited several communities recommended by CARE-Kenya and the Kenya–Finland Western Water Supply Programme (KFWWSP). These agencies also provided reports on projects and communities, and arranged for the PAR team to visit them. These were the Navakholo Water Supply (KFWWSP), the Mumias Central Brick-making Group (KFWWSP), the Sigomere Water Supply Project (KFWWSP) and the Rabour Water Project, Ndiwa (CARE-Kenya). At the second NRG meeting, Sigomere was selected as the fourth community. Sigomere, located in Siaya, had a borehole with a motorized electric pump, and had

received assistance from the KFWWSP and FINNIDA. The community had already shown the ability to solve some problems on their own. The team visited Sigomere several times in order to establish rapport.

In **Cameroon**, at a preliminary NRG workshop, it was decided that the communities would be selected from two zones – the North-West Province (English-speaking) and Western Province (French-speaking) – reflecting the bicultural nature of Cameroon. The provincial chiefs of water services were then requested to propose four communities in each zone. After visits to these eight communities and detailed studies by the PAR team, five communities were selected: two in Fombot area, one in Mwengwi Central subdivision and two in the North-West Province. The five communities were presented in the second NRG meeting. Based on the comments made at this meeting and the outcomes of the ranking exercise at a regional workshop, it was decided to select two gravitational community water schemes at Nyen and Nkouondja. The search for two other systems with wells and/or handpumps finally resulted in the selection of Baneghang and Batcham, with a well and handpump system, respectively, both French-speaking. There is some bias in the final selection, in that Bangehang and Batcham have the same cultural context, and three out of the four communities are in the Western Province.

In **Guatemala**, the team analyzed the selection criteria defined in the workshop in the Netherlands and adapted them to the Guatemalan context. The communities had to be rural, and to represent a variety of water supply systems. The water committees should include men and women, the community needed to express a clear desire to correct problems in the system, the communities had to be accessible over land and should be within reach of the Agua del Pueblo headquarters in Quetzaltenango. The criteria were submitted to UNEAR, Agua del Pueblo and the Health Department, and they proposed four communities. The team then interviewed the water committees and village leaders, and then made an evaluation using the selection criteria. The communities chosen were Belen (proposed by UNEPAR), Barrel Chiquito (proposed by Agua del Pueblo) and Galvez (proposed by the Health Department). The process of 'selling' the project to the three communities started in two small workshops for the committees, and one or two meetings with the whole community. Two PAR team members facilitated the meetings, using a variety of participatory techniques, like 'la placita', mural newspapers, and mapping exercises, and then began the phase of problem identification.

In **Colombia**, the selection criteria were extended to include the level of poverty. Together with the participating institutions, 11 communities were shortlisted, and a report was prepared describing their main characteristics. Based on a matrix, a ranking exercise was undertaken together with the NRG. For reasons of access, it was decided to work in one province only, the Valle of Cauca, and three communities were selected: La Sirena, Regional Corozal-Vallejuelo and Ceylan, two of which use a gravity system, and the other has a well.

After the selection, a 'sensitizing' phase was begun in which the communities and local authorities were invited to a presentation workshop to gain their commitment. At first, the community of Corozal-Vallejuelo appeared to be interested, but this was not apparent during subsequent visits, and so was excluded. The PAR team also decided to involve three rather than four communities, because of the large size of one of them. In January 1996 the PAR team selected another community, Campoalegre, which does not have a potable water system. In Campoalegre the project was presented to the community in a workshop attended by 35 villagers, during which the people identified their needs and the research was designed. A contract was signed by 15 participants

(seven men, two children, and six women), who were interested in becoming members of EIL (the community research team).

During the evaluation people commented: 'It's interesting, because it allows us to sit with people we live with, but do not know'. 'We recovered the spirit of children during the paintings, something we needed so badly'. Looking back at the selection process, the PAR team noted that some institutions had tried to influence the selection process. In Ceylan, an attempt was made to involve the coffee growers' association in the selection process, but without success. However, the selection procedure was seen as a very useful and participatory process for all involved.

1.4 Beginning problem identification and appraisal

Problem identification began after the first regional workshops, and continued throughout 1995 and the first few months of 1996. The methodology emphasized participatory and gender-sensitive appraisal, and needs assessment approaches using both qualitative and quantitative data collection.

Beginning joint problem identification: village walks in Cameroon

The village walks in Nyen and Mbemi, in which the water committee members and officials from these and two neigbouring villages took part, was an excellent way to become acquainted with the community members, the different areas, and the problems and potentials in the villages. In Nyen the group walked through all quarters of the village to note important features. The members of the group talked among themselves and occasionally stopped at a house to talk to the people of the compound. The villagers gave an overview of the water situation, and also the uses of the palm and raffia trees, the main sources of income. The processing of the palm and raffia demands a sizeable proportion of the community's water. The three-hour walk aroused much interest among the population and the officials, and it facilitated a good understanding of the villagers.

The walk was a good starting point for the planned village mapping. While making the maps, the group of participants grew considerably, and this continued the next day. Some 30 community members participated in drawing a Venn diagram showing the key institutions and individuals, their relationships and importance in decision-making. A Venn diagram involves first identifying key institutions in a community and representing them by circles of different sizes. In discussions with the participants, the sizes of the circles and their arrangement, whether or not they overlap other circles, are amended until the representation is accurate.

At the end of the two-day visit, a meal was provided for the PAR team, and it was clear that the exercise had aroused much enthusiasm among both the villagers and the project team. The villages were now ready to begin identifying their problems.

Information on system performance and services included distribution problems, breakdown rates, costs, demographics, local organization, socio-economic characteristics, and the number of served and unserved households. Various other issues were also addressed, such as the roles of men and women in local management, the effects of gender factors on the efficiency and use of the water supply, environmental concerns such as water source protection and watershed management, and cost recovery and community-based financial management.

Many conventional methods of data collection, such as questionnaires, are inappropriate in the context of participatory research if the aim is to maximize community participation in problem diagnosis and to increase awareness and self-confidence. The methods chosen were therefore relatively simple, using visual aids that could be checked by insiders and thus encourage participation (Lammerink and Wolffers, 1994: 29). PRA methods are appealingly simple and useful to many people, from villagers to field practitioners to academics. However, even the most experienced practitioners know that the successful use of PRA methods requires many skills, especially in communication, facilitating and sometimes conflict negotiation. It often involves a critical self-awareness of the attitudes and behaviour of the facilitator. The PAR teams tried to avoid some of the biases of other approaches, such as spatial (near the road), personal (talking only to leaders, professionals, English-speakers, men), dry-season (only when roads allow access), and being too polite or timid (not asking leading questions, not being taken to the worst conditions). An open dialogue, a good rapport and mutual sharing will increase the effectiveness of the methods, and will help to sustain and strengthen the participatory development process.

The PAR teams used a variety of methods and tools to prepare for and process the field visits :

- Agreement among the team members on how to conduct the field visits;
- Interview guidelines and checklists
- Energizers
- Role-plays to practise making the presentations
- Team reviews and discussions
- Keeping process notes and personal diaries
- Report writing

The methods and tools frequently used by all the PAR teams during the field visits were:

- Village walks
- Semi-structured interviews
- Direct observations
- Focus group discussions
- Key informant interviews
- Oral histories
- Local stories and case studies
- Mapping and modelling
- Transects
- Social maps and wealth rankings
- Seasonal calendars
- Daily routines and activity profiles
- Historical profiles
- Trend analyses and time lines
- Matrix scoring
- Preference or pairwise ranking
- Venn diagrams
- Flow diagrams

Many of these tools involve diagrams and visual aids. By creating and discussing a map, model or diagram, for example, all those present – both insiders and outsiders, literate or illiterate – can see, point to, discuss, modify and refine conceptual diagrams or representations, participating in their creation and analysis.

In **Guatemala**, after 'selling' the research project to the communities, the teams defined and discussed with the village committee the selection of local research teams in each community. In two communities (Barrelito and Belen) the local research teams consisted of seven men and seven women, who received training in separate workshops. In each community the PAR team, together with the local research team, began the diagnosing phase. After obtaining the bulk of the information from large community meetings, the teams completed the data by holding meetings on specific themes with water committees and key informants.

In January 1996 the Guatemalan PAR team held a three-day workshop to elaborate the diagnosis reports with the two local research teams, and to allow the team members to get acquainted and to learn to work together. Once all the information had been gathered, the local teams began to organize it and to shape out the diagnosis document. Women were able to bring their children along, since child care facilities were provided. The outputs of the workshop were the draft documents, which were later typed up and drawings were included. The final documents were presented to communities and the authorities, who supported the work and confirmed the information. This presentation added to the credibility of the water committees and contributed to the commitment of the local research teams to continue with the work.

In Galvez, training in community diagnosis was provided for a local research team of four women and six men, all literate, focusing on sanitation. For this they received funds to implement work identified during the diagnosis. The document then was submitted to the municipal authorities.

In **Kenya,** problem identification and priority setting started in late 1995. The PAR team visited the various communities to obtain their commitment. Once the management committees in each community agreed, a meeting (*baraza*) was called to gain the consensus of the entire community. The meetings were attended by the assistant chiefs of the local administration.

The Kenyan PAR team has been keen not to raise expectations within the communities, who usually attach great importance to physical improvements/interventions and little or none to managerial improvements. The team therefore had to make several return visits to the communities to talk to various interest groups. Village walks were made and community members were visited in their normal chores in order to establish rapport, highlighting the purpose of the PAR activities and how improved management would eventually affect the physical facilities. After obtaining the community's commitment, problem identification could start. In almost all communities physical problems such as water shortages, the uneven distribution and frequent breakdowns dominate the list of physical problems, and management problems include poor communication, poor record keeping, and poor accountability.

In one community, a group of women had identified a number of problems beyond sectoral issues, and had adopted an integrated approach to development. In this case, the women group saw the purchase of a plot of land in a nearby market as their first priority, to generate an income that could be used to improve the running of their shallow well.

In all four communities, the list of key problems was prioritized by pairwise ranking, and the stage was set for experimenting with various solutions and interventions. The PAR team noted the lack of continuous support from the agencies that had made physical improvements, and this was explored further. The communities were willing to undergo training to prepare them to test various solutions.

In **Colombia,** a workshop was held for the team to get an idea of the local perceptions of the problems related to water in two communities, La Sirena and Ceylan. Working in small groups on problems and solutions, using cards, paintings and dialogue, a common understanding was reached on how the project should proceed. A community research team was established and trained in a two-day workshop. The selection criteria for the team involved included whether they were literate, had time, lived in the community, men and women, interested in learning about community work techniques, and had leadership qualities.

In October 1995 the process of data collection began in La Sirena and Ceylan. After preparing guidelines and checklists, the teams collected information on the history of the communities, and together with the PAR team looked at technical aspects of water supply system and its management and administration. The analysis of the history of the community and its organizations was felt to be a particularly powerful exercise. In La Sirena, the historical maps, paintings and oral histories that came out of the analysis have been now published for the benefit of the community. In Ceylan a beautiful coloured painting was made to represent the history of important events in the past.

In **Pakistan** the problem identification was carried out from June to September 1995. Village profiles were completed, information on the history of village settlements and of the water supply scheme was documented. The current use of drinking water, management procedures, problems in operation and maintenance and past solutions were thoroughly investigated. The communities were then involved with ranking the identified problems. Throughout the process, various tools were used to encourage the participation of people at all levels – men and women, rich and poor, users and non-users, people belonging to different sects, *mohallah* (little community in the community) and ethnic groups.

The problem analysis and the establishment of research committees in four communities were completed in October 1995. In November and December community workshops were held to develop problem-solving strategies, and to prepare for the second Asian regional workshop in Islamabad in early 1996.

The Pakistan team commented that the researchers visited the communities too often, sometimes making them feel uncomfortable, so that the number of visits was reduced. All the materials developed by the community, such as village maps, census data, etc., were kept by the community to avoid duplicating work in future research activities. The PAR team also emphasized the importance of identifying key individuals, activists and disadvantaged groups at the start, so that different points of view could be heard during problem identification. Because of the wide range of problems in water supply in all communities, they appeared to be difficult to prioritize. It was therefore decided first to analyze the problems by looking into cause–effect relationships. The groups of problems thus identified were then prioritized by pairwise ranking.

In **Nepal**, the process of problem identification started with a two-day training workshop in Birendranagar (Chitwan district), to familiarize the participants with the use of PRA tools, to train them as co-facilitators for their community, and to clarify and reach agreement on their roles and responsibilities in the study. The informal workshop was attended by nine participants, all male. The Nepalese team then visited the communities for problem identification, assisted by the trained PAR participants and using PRA tools such as focus group discussions (with both men and women), resource mapping, transects and observations. They walked through the village with local people and observed the conditions of water supply systems.

Four community workshops were then held for the members of the local maintenance or user committees, village maintenance workers and representatives of village women. The root causes and potential solutions of problems were identified, as well as the groups that would be responsible for taking action. In some cases the PAR team modified the tools for problem identification. In one village, for example, the illiterate participants were encouraged to draw problem pictures. In another, the villagers discussed opportunities for taking action before potential solutions had been identified. Not all PRA tools were equally effective in all communities, so the team had to adapt them to suit local circumstances. The work of the team was also affected by the long monsoon, which damaged bridges and delayed field activities. Following a regional workshop in February 1996 it was decided that the problems needed to be further analyzed by looking at cause–effect relationships; only then could they be prioritized and an appropriate strategy be developed.

Communities in Nepal: learning and sharing

Soon after the villagers of Rangapur arrived for a two-day visit to Gajedi, they were given a general introduction to the water supply and sanitation system, and set off on an evening walk. The next morning, together with three members of the water committee and a member of the PAR team from NEWAH, they visited all the village standposts and talked with users. They also visited families and discussed their responsibilities in the drinking water system. The visitors from Rangapur were interested not only in the water system, but in all facets of the host community. They noticed a plough that was different from the one they used in their own village, and this prompted all sorts of questions about how it was made, how it worked, how much it cost and its durability. The Gajedi people took time to show the visitors how the plough worked, and agreed to send a sample plough to Rangapur.

The villagers of Gajedi had done their best to spruce up the village's appearance – the road had been repaired, and the tap stands and drainage areas had all been cleaned. Nevertheless, the guest team found several things that could benefit from improvement. That evening the team made presented their observations to the host team and other villagers. These included maintenance problems (including the workload of the caretaker), water quality problems, hygiene problems related to roaming cattle, and the lack of awareness in one tribal community. The visitors applauded their hosts' enthusiasm for communal activities. The host team then responded to their guests, and the chairman assured the visitors that the community would do their best to solve the problems they had observed.

Soon afterwards, the Gajedi group of five men and three women, made an exchange visit to Rangapur. The visit began with an introduction to the local drinking water situation, followed by an observation walk around the project area and inspection of each handpump. Despite the language barrier, there were lively discussions among the women from the two villages, and a woman health volunteer from Rangapur shared her experiences with a community health volunteer/project committee member from Gajedi. That afternoon and evening were spent walking through the village and making observations. The Gajedi women felt uncomfortable spending two nights in Rangapur, since there was not a single toilet and they had to use the open fields or the riverside.

Two observations from the Nepal team can be highlighted. In one case, a Venn diagram was drawn to map out institutions in and around the village. After the exercise, one community member remarked: 'We never realized that we have so many institutions around our village'. The team also

discovered that communities have their own strategies for managing community affairs, such as forestry, fund-raising and labour exchange, and could encourage them to use the same strategies to improve their water management.

In **Cameroon,** the heavy rain from May to October 1995 caused very bad road conditions. Combined with the sudden severe illness of the team leader, the team decided to postpone their field activities. They were obliged to revise their workplan twice, but in November a lot of work was done to catch up, and the newly appointed team leader was able to finish problem identification and to select two more communities before the next African regional workshop in Kenya in February 1996. The team identified three types of visits for carrying out a diagnosis: contact visits to create rapport and establish confidence; reconnaissance visits to collect information on the water scheme, cultural background, social organization for a preliminary description; and field diagnosis visits for digging deeper and cross-checking.

In Nkoundja, a village walk helped to make community members aware of how they had neglected and abused their water resources. Lots of leaking valves and dysfunctional sections of the system were observed. Even chemical cans were found around the catchment area. After some initial hesitation, the participating community members were able to present their findings in pictorial form, and this generated much interest among the community members – many asked for more paper to copy their personal map to take home. The exercise exposed them to the problems of members in other parts of the community. In particular, the household visits provided an opportunity to hear the voices of women in this Muslim society, whose main concern was the lack of water during some months of the year, when the falling water table means that they have to obtain their drinking water from unprotected springs far away.

Sometimes, a transect provided an interesting and relaxing way of obtaining details without strain among community members. The transect was often combined with the village map for presentation. Venn diagrams often helped the team to pull loose ends together, showing the partners involved in the water supply. It also reinforced the idea of self-reliance. Participants were excited to realize how much power they could exercise in decisions and how much responsibility lies in their hands. Most leaders attended the closing session in Nkoundja, and this helped in the resolution of some conflicts between two communities over the use of the water system.

The PAR team made several short visits to Nyen/Mbemi and Nkoundja to identify problems, whereas in the case of the larger village of Baneghang the visit involved activities over several days. In this dispersed village, the walk took six hours, and attracted many people, who waited along the route to find out the reason for the walk, and contacts were made for later interviews. Again, women were most interested in water issues and were willing to contribute labour and cash to improve the existing system. The team learned that the efficiency of the tools used depends on the availability and willingness of the audience to participate and learn, and the capacity of the PAR team to grasp urgent concerns.

1.5 Local research teams, PAR volunteers and bell-ringers

Most of the PAR teams decided to train villagers as local/community researchers, to provide an opportunity for people of the communities to think about ways of identifying and solving their own problems and to regain the initiative for their own development, and thus for building a foundation for sustainable development in the long term. The role of the community research teams (CRTs or PAR volunteers or bell-ringers) varied from country to country.

In **Kenya** the name bell-ringers was chosen to reflect their role as intermediaries between the community at large and the water committees – they keep an eye on the committees and act as reminders. In **Pakistan** and **Nepal** water committee members were included in the CRTs and the PAR teams of volunteers, and played a major role in the experimentation phase. Gender segregation is the norm in Pakistan, so separate teams of men and of women were established. In **Colombia** the CRTs are perceived as indispensable agents of change, both in implementing action research, and in putting the findings and recommendations into practice. In La Sirena, the research team members were chosen for their relevant experience in community work. For the villagers of Ceylan, the most important qualifications were having appropriate training and clear leadership potential. As a result, they picked a 16-year old student of whom they thought she possessed the right qualities to become an effective community leader. In the Quiche zone of **Guatemala**, where educational standards are often low, a large proportion of older, illiterate people are actively involved in the CRTs, which helps to boost their popular image of reliability.

There is broad general agreement among the communities in all three continents that, to be an effective research team member, an aptitude for community work, leadership skills, and some knowledge of local history are more important attributes than educational qualifications. In most countries the CRTs and PAR volunteers received training from the PAR team.

In **Cameroon**, even before the actual field diagnosis the PAR team provided training for two or three members of each selected community and for the staff of water agencies active in community management (Helvetas and the Community Development Department). A four-day training workshop in Bamenda, which was facilitated simultaneously in French and English, was a successful and necessary step for the diagnosis phase. In Nyen/Mbemi, the community researchers felt comfortable enough to duplicate a PAR workshop, on their own initiative, in which they conducted exercises with other community members.

Training workshop for community researchers: PAID in Cameroon

The participants of the four-day workshop in Bamenda had been selected during village meetings. The required qualifications were that they had to be well informed and involved in water issues, involved in the implementation of the existing water scheme, respected in the community and literate. The 11 participants (four men and seven women) included nine community members and two water agency staff (Helvetas, Bamenda and the Community Development Department, Foumbot).

On the first day, the participants introduced themselves by playing various games, like adjective naming and Zip, Zap, Zop (see: IRC, 1999). The rules were then defined, followed by a presentation of PAR and the objectives of the workshop. Easy-to-use PAR tools were presented and discussed: secondary data reviews, direct observations with or without a

checklist, village walks, transects, Venn diagrams, farm and household sketches, and semi-structured interviews. Later, the two teams were seen roaming through Bamenda practising some of the tools direct observation, transect and mapping.

The next day the participants carried out fieldwork in Nsei Bamessing community. They visited the village and its water scheme using direct observations, unstructured interviews and focus group discussions. The village walk permitted them to draw maps of a quarter of the community and the scheme, and to describe the water committee. During plenary discussions on the third day the field observations were discussed: insufficient distribution of water, the water committee was subordinate to the development committee, which controlled all funds, making it difficult to extend the project. They also noted that the areas around the standpipes were dirty, that the villagers were overburdened with traditional rules, and that the road and bridge in the village were poor condition.

Finally, the participants drew up a team contract containing a list of attitudes needed to carry out the participatory action research, like humility, attentiveness, support, commitment to the team, respect for other peoples' views, and the willingness to listen and learn rather than to talk. Plans for future events were discussed, and the team presented their workplan for 1996.

The **Nepali** team organized a four-day workshop with the PAR volunteers of all four communities to 'familiarize the participants with experimentation and to help develop their capacity in facilitating community people to implement problem-solving strategies'. The tools included groupwork and presentations, role plays, field visits, games and case studies. The participants reviewed the community diagnosis phase, and summarized problem-solving experiences and the development of monitoring indicators. The volunteers gained a great deal from the workshop and the PAR team was encouraged by the number of female participants.

PAR volunteers in Nepal in action

In Gajedi, the volunteers realized that the activities were not being monitored properly, and so decided to form a monitoring committee of three members including one woman. In Lele the committee realized that the users were losing interest in the PAR activities, so they held a mass meeting to explain the process, the activities carried out so far and the guidance received. This transparency helped to revive the community's in improving management of their water supply.

In **Pakistan** two CRT workshops were organized, one in Gilgit for the teams of Hasis and Pakora, and another in Skardu for the teams of Hoto and Ghaziabad. Unfortunately, only the male team members attended. The workshops aimed to clarify expectations, to map out roles and responsibilities; to get feedback on the research done so far; and to build the capacity of the CRTs to undertake PAR activities. The staff of Aga Khan Health Services facilitated some of the activities, indicating that the research project was no longer being carried out in isolation.

Regional exchange visits were organized in which the CRTs of Pakora and Hasis visited Skardu, and those of Skardu visited Ghizer, and vice versa. During these visits briefing sessions, observation walks of the water supply systems, discussions and community chats took place. The villagers often talked far beyond the water supply system about their cultures, traditions, agriculture, livestock and horticulture. The teams made suggestions on how to deal with the owner of the land where a water

tank had to be put, or how to handle problems with leaking or and freezing water pipes. The guests stayed overnight and were impressed by the hospitality. Agricultural issues were most interesting, and some visitors took home new varieties of vegetables. After returning all CRTs held briefing sessions in their villages and a video was produced. During the mid-term evaluation in 1996, three CRT members were involved in the evaluation team. The CRTs also played a mayor role in drawing up and implementing the agenda for experimentation, and they were happy to describe their experiences to visitors.

In **Colombia** the CRTs attended a two-day training workshop, 'capacitacion al EIL (Equipo de Investigacion Local)'. Although the community of Corozal-Vallejuelo had already selected the CRT members, because the community was finally excluded.

1.6 Lessons learned from the diagnosing phase

- Although general principles can be applied, each situation, each culture, each location, and each experience requires its own approach. Adapting the approach to each situation depends on the experience of research teams/practitioners.
- Relationships of trust and respect are essential, and this needs adequate time and creativity on part of the research team.
- Openness and transparency will encourage each community to make the process of diagnosis their own, so that it will be a common learning experience for both the community and the CRT.
- A thorough analysis of problems and possible causes can help communities to begin to take action on their own behalf.
- Participatory rural appraisal (PRA) tools are very effective in getting the community members involved in the process of participatory action research.
- Diagnostic processes result not only in better understanding, but also in action and greater commitment.
- The PAR process often evokes changes in leadership and institutions. Wisdom is needed to make that transition smooth and respectful.
- The challenge is to open up 'charismatic' leaders to certain new functions, without destroying the respect they have or turning them into bureaucrats or technicians.
- Understanding change and the needs of the community are important, as well as harnessing the energy of the community to take up new challenges.
- Attention should be paid to the variety of symbolic ways in which power is used.
- Diagnosis is a continuous process. In the course of strategy development and experimentation, areas requiring further exploration may identified.

During the international exchange meeting, Orlando Fals Borda, IAG member from Colombia, expressed his enthusiasm: 'I must congratulate you. I have noticed great advances in your progress of problem identification and the way you present your ideas. Since the 1994 meeting I noticed more confidence in using PAR techniques. Compared to other teams learning PAR you have done a remarkable job in two years. We know this process takes time, so don't close the project. You may need more time to show results, especially if you do not limit yourselves to technical solutions to water supply problems, but pursue the root causes, which are socio-economic, political and cultural.'

1.7 Prioritizing problems and setting the goals of the research agenda

The stage of prioritizing problems and setting the goals of the research agenda was another crucial step in the participatory action research process. The local research teams (Pakistan), the community researchers (Colombia), the PAR volunteers (Nepal) and the bell-ringers (Kenya) proved to be effective in this process.

The problems identified in **Colombia,** and the communities' priorities are described in the following table.

Priority	La Sirena	Ceylan	Campoalegre
1	Sectors without sewerage systems	Conflicts between supporting sectors	Lack of coordination of the state agencies and regulation of water sources
2	No independent administration, no regulation of users	Lack of coordination between the staff of the administrative body	Lack of administrative organization
3	Irrational use of water	Contamination by chemicals and sewage	No potable water treatment
4	Lack of sand in water treatment plant	Lack of valves	No sewerage system
5	Sewage contamination of water sources	No wastewater treatment	Unable to enforce by-law

The criteria used to prioritize the problems were in Colombia the degree of urgency, the feasibility of solutions, and the beneficiary groups. Marks were awarded by consensus. The next step was to analyze how to change a problem situation into a desired situation. For that purpose the 'story with a gap' technique was used. The participants then made workplans and assigned responsibilities to specific individuals. The community researchers stressed the importance of exchanges between communities to seek solutions to common problems. There was also a general feeling that more concrete support is needed to enable the community to improve the water supply system through physical works.

In **Kenya** the objectives of the exchange visits were as follows:

- To obtain a common understanding of and perspective on problems.
- To demonstrate to committee members other management models used by other communities.
- To motivate the communities to take steps to improve their own management systems.
- To exchange views on experiences and alternatives.

The tools included village walks, group discussions, *barazas* (community meetings), observations and village mapping. Information was obtained by asking questions such as:

- What is the history of your project and where are your traditional water sources?
- What are the main physical components of your water system (e.g. source, water lifting devices, storage tanks, distribution systems, prime movers, are any parts of the community not served, etc.) ?
- What routine management functions to you perform with respect to your improved water supply? Which of these functions relate to the type of technology used, and which to the physical limitations of the system ?

Lessons learned from the community exchange visits in Kenya

The participants welcomed the exchange visits as they provided opportunities for them to reflect on their own problems by seeing the problems of others. After visiting Sigomere, the participants concluded that pumping systems are expensive to operate and maintain, and are thus undesirable in their situations – cheaper alternatives are available.

During a visit to Nyakerato, the Kiveetyo chairman saw a broken tap which had been running for several weeks. He said in a public meeting: 'People how do you let water flow to waste all this while, apparently you do not understand how precious water can be'. He asked the whole Nyakerato community to allow him to buy a replacement tap costing Ksh.120, since they seemed to be unable to contribute even one shilling for the replacement. The challenge was taken and not only was the tap repaired, but funds were also raised to extend the pipeline.

The most important insight from these exchange visits was that interest groups exist in all communities. In Sigomere, for example, the committee includes the area chief, assistant chiefs, religious leader, traders and other interest groups, but they had not explored sufficiently the provision of water to the poor in the community. By visiting the other water systems it became clear that the committee needed to take steps to rectify this. The chiefs from the other areas promised to work closely with their own water committees in order to avoid a situation where they are far removed from the management of the local water system and are only involved when disputes occur. The senior chief from the Sigomere Water Project noted that for any project to succeed one must work hand in hand with the administration, although this is rare, especially in Kiveetyo/Kathyoli. The senior chief and chief of Mbiuni were both present, and after being informed of the experiences of the Sigomere Water Project they realized that they could follow this example in other projects.

In Kenya a workshop for community leaders was held to review the exchange visits, to identify research assistants (bell-ringers), to prioritize problems, to set the research agenda, and to set out recording formats. Each research community was represented by ten people, five of whom had been involved in the exchange visits and including the chairmen, treasurers and secretaries.

In **Pakistan**, the problems were prioritized by preference ranking, although it was found that when there are too many items (more than six), pairwise ranking is better. Strategies for solving the major problems were identified, which in turn were also prioritized. For the preferred strategies, workplans were developed, including mutual responsibilities of the community and of the PAR team. Indicators were identified for monitoring the activities listed in the workplan. To a large extent these research steps took place in the context of workshops for the CRTs, or in separate workshops for men and women.

The PAR team regarded the CRTs as effective bodies to organize the community and to improve communication between the PAR team and the community. Although the PAR team faced difficulties in conducting meetings in a particular village during the diagnosis phase, the process went smoothly after the formation of the CRTs. A number of village organizations and women organizations were formed, a maintenance fund was raised and the LBRDD (Local Bodies and Rural Development Department) was approached for financial assistance to build a water tank.

To assist the PAR volunteers in devising problem-solving strategies, the PAR team in **Nepal** organized a four-day training workshop, after which the volunteers facilitated their own workshops in their respective communities. The PAR team found it difficult to assist communities in developing monitoring indicators, so that as a follow-up to the exchange visits, they organized an observation tour for the volunteers to a successful community-managed project. The objectives of this visit were to show the volunteers that women are actively involved in development activities in other communities, particularly water supply management. It was also hoped that the visit would help the PAR volunteers to provide guidance by exposing them to another community and culture. It provided and opportunity to learn how different communities manage their water system, their forests and other community schemes, although it was felt that the visitors were more interested in the physical than managerial aspects of the water system.

1.8 From problem-solving strategies to experimentation

The diagnosis phase created a sound basis for starting the process of developing problem-solving strategies and setting an agenda for experimentation. Action needs and problem-solving strategies, methods and tools were discussed in the second round of regional workshops (February–May 1996) facilitated by IRC. The workshops built on the findings and subsequent consultations with involved communities during the diagnosis phase. The teams were trained to develop experimental designs in the participating communities in order to test the chosen strategies, methods and tools. These designs had to be reliable and manageable for the communities and had to offer sufficient opportunities for monitoring and evaluation. Detailed development and design work was then undertaken by the partner organizations.

PAR teams and communities designed and implemented a programme for testing strategies to address managerial problems and to monitor the effect on service performance. They prepared necessary training in order to strengthen local capacity (skills, self-confidence, organization). Part of the preparations included strengthening exchange and supportive linkages with other communities or community members. The basic idea was to improve, reinforce, enhance and add to existing experimental practice. As part of the project a small budget was made available for some technical improvements in the community water supply system, where needed.

Monitoring and evaluation criteria and procedures were established for this phase. With close monitoring, the strategies could be adjusted to meet local requirements. Monitoring during this phase also resulted in additional research activities. The monitoring approach was developed by the PAR team in close cooperation with the communities to ensure that it provided the best possible learning opportunity for all involved. Evaluation objectives were also set jointly at this stage to help focus the research.

For some time problem-solving strategies addressed mainly technical problems. Many of the teams expressed their concern about this, but they did not know how to help communities to identify the underlying managerial problems. During the international exchange workshop in the Netherlands in September 1996, the international advisory group (IAG) was asked to comment, and the issue of management was thoroughly discussed. After this workshop more attention was paid to managerial issues by assisting the communities to look for the underlying causes of technical problems. Time was allowed for in-depth analysis, and the teams and the communities had to resist 'quick solutions'. For the research teams this included, what was called during the workshop: changing

from 'providers of occasions' to 'providers of informed options'. Some of the activities during this period were:

- reviews of existing experimental practices and innovations;
- design and planning of selected experiments;
- definition of criteria for the evaluation of the experiments (success or failure);
- development of monitoring and evaluation methods (what to observe, measure, record, when and how?);
- management of experiments;
- monitoring by the community research teams and PAR teams;
- exchange of experiences, discussions and evaluation in group meetings;
- visits to similar experiments and informing interested community members.

For the participants, the outcomes of this phase included a better understanding of the management problems causing some of the technical problems in the system, improved management skills, improved skills to design and implement experiments, a knowledge of manageable monitoring and evaluation methods, greater cooperation between participating entities in the communities, and a growing understanding of the supportive task of outside institutions. The communities also gained confidence in problem-solving.

1.9 Improving management capacity: an experiment

This section describes some of the major experiences in addressing the issue of the management of water supply systems.

In **Guatemala** priorities were related to technical improvements of the water system such as repairs of above-ground water lines, changes of conduction lines, flow reductions in domestic connections, and the division of water distribution tanks. These improvements were made with the financial support of ASDENA and the municipality of Palmar. ASDENA, an NGO working in development projects in the country, was interested in the project and facilitated a loan to the communities to improve their water supply system. UNEPROCH provided technical assistance and materials for the nurseries in APAGUA.

With regard to the strengthening of community management, committees and water engineers were trained in the extension of services, reduction of flows, interpreting basic blueprints, and basic rural hydraulics. The committees were also trained in administration, accounting and the use of economic resources. A suitable fee structure were established, and a professional accountant was hired to keep records of financial and material resources and to establish regulations and control mechanisms. All of these decisions were taken in consultation with the community assembly. Many of the decisions were taken by consensus.

The communities had their own ways of evaluating their water project activities. These were strengthened through record keeping and timetables, and especially through sanctions, both economic (fines, suspension of service) and moral (making known the irresponsible actions of individuals in the assembly).

A special case is Caserio Belen, one of the few communities where women and men manage water together. This raised the awareness of both the water committee and local leaders that water

problems are arise not only from technical factors but also from the lack of training and organization within the community and the committee. The water committee took several steps to solve these problems, including updating a map of the location of services; setting and administering regulation of domestic quotas; training in planning; and reorganizing the committee.

The PAR team also recognized the potential of the communities to negotiate, with or without their support. In one community, after years of negotiations, an electricity project was finally implemented. They also negotiated successfully about the extension of their road. These successes raised the credibility of the village water committee, the only that still existed, most of whose members were women.

In **Nepal** further exploration of the identified problems revealed managerial problems that required strategies to improve managerial skills to address financial and leadership issues. This was translated into a five-day training course for the water user committees of two communities on group management, leadership skills, and accounting.

Training in group management, leadership and accounting in Nepal

The objectives of the training course were to share knowledge and skills on group development in organizations, to highlight aspects of leadership, and to provide information on financial management and accounting. After the training the participants should be able to: understand group formation concepts; explain group management principles and practices; share a model constitution for the registration process; recognize the importance of leadership in group management; share the effective means and ways of good communication; conduct group meetings; identify the role of committee members and the need for participation of women; understand O&M requirements of the drinking water project; follow appropriate methods of financial accounting; prepare community action plans for the next six months; and be familiar with proposal writing techniques.

The experimentation phase in Nepal took a slightly different path. Various strategies were identified, ranging from technical improvements of the supply system to equalize the distribution of water, to the implementation of a monthly tariff system for operation and maintenance, to fundraising and the preparation of the legal registration of water user committees.

Changes in Nepali research communities

Mr Rameswor Lamichane can now keep his financial records up to date. He commented that his book-keeping system 'is an achievement of the training'. In Lele, Mr Rajenura Silwal introduced a receipt and voucher system. In Lele and Gajedi the water user committees drafted their own constitutions, based on a sample provided during training, and initiated the process of legalizing the committees. In Gajedi a decision was made to reform the committee, and Ram Bahadur Thapa was selected secretary at a mass meeting. For a long time Mr Shiv Paudel was both chairperson and secretary. During the training he realized the importance of leadership skills and the division of work. A woman was selected as treasurer, because 'women are more loyal and honest than men', according to Mr Paudel. In Rangapur a PAR volunteer now carries around pictorial handouts and shows them to colleagues during discussions.

In Batcham, **Cameroon**, a coordinating management committee was established, with members from seven sectors of the community. In contrast with the four other sectors these seven had a communal well system. The coordinating committee was given the mandate to raise the awareness of community members about water issues, to facilitate the creation of sector management committees, to be responsible for the day to day running of the wells, and to supervise the development of general rules and regulations for the functioning of these sector committees.

A goat for water in Nkouondja, Cameroon

Mr Isiaka from Nkouondja reports the increased confidence of his community in water management and the practical use of minutes: 'We were collecting funds for the maintenance of our system, and one young man refused to contribute. We discussed the matter in the council and fined him, yet he still refused to pay. We then caught one of his very big goats and sold it. He came and started a fight. The people had beaten him. He went to the police to report the matter. The police invited me and I went. On arrival the man had told many lies to this policeman and he threatened me without even asking about the matter. I kept quiet and the policeman then asked what was actually going on in the village. I explained everything, the man was surprised. Still not convinced he asked whether the village organization was recognized by the authority of the area. I showed him the Divisional Officer's letter. Now he asked for evidence that it is this village that had formed this organization. I showed him the minutes of the meeting that was held before the application for administrative recognition. The policeman then turned to the young man and asked if he was a member of this village. He accepted. He asked if he drinks from the water and the young man said that only his wife goes to collect water. The policeman then smiled. He drove both of us back to the village to settle the matter there. The young man had no choice but to forget about the goat.

In **Kenya** a number of training events were held for treasurers, secretaries, bell-ringers and water committee chairmen. In many of these activities the roles and responsibilities were reviewed. The treasurers were assisted in developing monitoring tools to ensure proper checks and balances of incoming money. The secretaries looked into the importance of record keeping and into the need for constitution and by-laws, against which actions can be checked. The bell-ringers concluded that there is a need for transparency, for a better flow of communication, proper record keeping and a separation and integration of roles and responsibilities. The committee chairmen concluded that, as a result of the PAR project, unity in the community had increased. He added that the members of the water committee now better understand their roles.

Management is an abstract concept, whereas physical improvements are tangible and are immediately understood. According to the PAR team in Kenya, it is important to enhance the image of management, so that the water committee (the management) guides physical improvements and not the other way around. One of the main problems identified and prioritized for experimentation in Kenya, was poor record keeping: financial records, management records, minutes of meetings, notes of discussions with visitors to the projects, and records of all materials supplied, bought and used. It was agreed that improved record keeping would enhance the confidence of the members, and thus create a greater sense of ownership.

Experimenting with record keeping

In Yanthooko, the committee treasurer gained confidence in her financial management abilities. She now keeps her records up to date and shares them with members on a regular basis, at least once a month. The effect was increased confidence among members, who have in turn been paying their contributions on time. Minutes of meetings are now kept, and are helping to reduce repeated deliberations on the same issues. This has reduced the length of meetings, which has greatly improved the attendance.

In Sigomere, the records of water production and sale revealed huge losses of revenue in the past. Actions are being taken to address this mismanagement. In Kiveetyo, the treasurer kept her financial books haphazardly, causing ripples in the management. The PAR team took time to discuss this with the management committee in order to improve the accountability of the management committee to the membership. In Nyakerato, greater scrutiny of records has ascertained the contributions of each of the subcommunities. Each has been credited with their respective contributions and advised to open separate bank accounts.

Also in Kenya, and identified problem was inadequate information sharing among the various community bodies, particularly the management committee, which provided little information to the community. This problem arose as a result of a misconception that management information should be regarded as confidential. The PAR team stressed that to improve communication, the roles, responsibilities and obligations of each of the partners involved in the water system – 'the community', 'the members' and 'the users' – need to be properly defined and understood. Also necessary for improved communication are clear management guidelines, including:

- a 'group' constitution, regulating membership criteria, management structures and reporting procedures, obligations and responsibilities of each of the entities;
- rules and regulations;
- staff recruitment, remuneration, job descriptions, etc.; and
- legal status, e.g. of self-help groups.

The PAR team then assisted the four communities to revise their existing management tools, especially the constitution.

Another result of the exchange visits

The PAR team asked the Sigomere management team to allow one person from Kiveetyo, Yanthooko and Nyakerato to attend the annual general meeting. These communities were impressed with the large turnout of the Sigomere community. In Sigomere the constitution has been reviewed and was planned for adoption by the annual general meeting. Due to a heavy agenda, some items were deferred to a special general meeting to be convened later by the new management committee, which was elected at the annual meeting. The community appreciated the guidance of the PAR team because, as they said, the constitution enhances fair and free participation as 'Kwa mjibu wa sheria' (rule of law). For the three community members from Kiveetyo, Yanthooko and Nyakerato, the meeting provided an impetus to develop and finalize their own constitutions.

In Kiveetyo, the management committee redrafted its constitution, which will be reviewed in

the near future by the general membership. In Yanthooko, the constitution was redrafted and is awaiting endorsement by the general membership. In Nyakerato the roles, responsibilities and obligations of the partners in the improved water system were defined. This resulted in the identification of three subcommunities: Nyakerato 'A' gravity, to serve lower Kiagware sublocation, Nyakerato 'C', to serve lower Sengera sublocation, and Nyakerato 'B', a shallow well to serve upper Kiagware and upper Sengera.

The two upper subcommunities now have a shallow well. The three subcommunities have each elected a management committee, from which central management committee members are elected. The subcommunities have mandated their committees to draft a constitution that clearly defines the terms 'member', 'community' and 'user'. Emphasis is on the subcommunities, where ownership of the systems is vested. The whole process has been a major breakthrough in the understanding by the Nyakerato community of 'who's who' with respect to the water supply improvement within their community.

The next important problem was resource management. The hypothesis of the PAR team was that improved resource management enhances the optimal utilization of resources, thus reducing the burden on the members (users/consumers) of the improved water systems.

Resource management revisited

The people of Kiveetyo obtain their water from a range of hills that belongs to another community. There is evidence of 'conflicts', thus calling for conflict management and resolution strategies. In Nyakerato the sharing of water between Nyakerato 'A' and 'C' needs to be worked out, because spring yields at the source are decreasing. In Sigomere a better understanding of the distribution is required because demand is overtaking supply. Sigomere has a borehole with a submersible pump with a metered distribution network including kiosks (communal water points) and individual connections. The PAR project donated a master meter to record the total amount of water produced and the total amount of water sold/consumed. This has contributed significantly to revenue collection and has reduced water losses due to leakages and inappropriate accounting.

In Yanthooko, a women's group started accounting for water sales at the end of each day, whereas in the past this was done once a month, and this has increased revenue collection. With respect to internal resource mobilization, Nyakerato 'A' instituted a contribution of Ksh.300 per member to extend the distribution network. In Kiveetyo, the community approached Christian Children's Fund (CCF) who assisted with materials to build a large storage tank. In Yanthooko, the women endorsed a member contribution of Ksh.20 per month, which enabled them to purchase a plot on which they intend to construct and install a posho mill, while at the same time they have plans to construct a second shallow well to increase the amount of available water. In Sigomere, the community realized that the submersible pump is operating in what they call 'injury time', a phrase they borrowed from soccer to express that the submersible pump has already exceeded its useful working life. They have instituted a renewal fund from internal resources and are approaching external donors for assistance to replace the submersible pump.

In **Pakistan,** the CRTs continued to be receive training in workshops. In a presentation to the National Reference Group the members of the PAR team described a community that had taken 'PAR steps' for the construction of a road. They also told to NRG that the community had been able to resolve conflicts, developed alternative strategies for the solution of their water supply problems and contacted other organizations, government departments and politicians for technical as well as financial assistance.

The PAR communities identified inappropriate system designs and the unequal distribution of water as the main technical problems of their water supply systems. They also suggested improving the storage reservoir and transmission lines, and extending the distribution network to improve the performance of their water supply schemes. To implement these expensive solutions, a large amount of money was required for the purchase of pipes and cement. The communities and the PAR team had to put a lot of effort into the related funding problems. At that time, little attention was paid to managerial problems; either the PAR team was not sufficiently able to identify them, or the community did not yet regard them as important.

Technical improvements in Pakistan

The community of Pakora installed pipes between the water source and the storage reservoir, but failed to overcome the problem of freezing in the channel. They repaired the sedimentation tank and storage reservoir, and they are in the process of resolving the problem of freezing and leakages in the pipe crossing the Pakora nallah (big stream). The community of Hasis identified the water freezing problem between the new reservoir and the water source (nallah), and drew up an agenda to resolve it. They moved the storage reservoir and installed an additional transmission line. The community of Ghaziabad connected their water supply scheme to a new source spring, located above the inhabited area. They developed plans to resolve the problems of the distribution network, and the implementation strategy was evaluated by the community in village meetings.

The water supply scheme in Hoto had not worked for about nine years. The social and technical diagnosis identified solutions to reinstate it, which would cost US$15,000. The community tried to get financial or material assistance from various organizations, but with no success, so they decided to use the small amount of funds available in the PAR project to construct the water reservoir and use some of the irrigation pipes available in the village to connect the water reservoir with the existing pipe network. In September 1997 the construction of the water reservoir was completed and the work of digging trenches to install the pipes was in progress.

The Pakistan team commented on the work done in this phase: it is true that many technical problems are due to socio-economic factors, yet some technical problems (such as inappropriate design, partial coverage and unequal distribution of water) have created severe social problems in the communities, such as disunity and lack of ownership. They also noted that it is necessary to make agreements (either written or verbal) with the whole community, particularly with those affected by the physical improvement work of the scheme. Digging in agricultural fields, cutting trees and demolishing walls while installing pipelines without permission, annoyed farmers because it interrupted their work.

A third lesson learned related to the quality of the material that had to be purchased from outside the community. An experienced engineer should ensure the quality of pipes and purchase material at normal rates. This is clearly a task of the supporting agency. Communities are not used to dealing with pipe dealers in big cities, and can not judge the quality of pipes without trying them out in the village. A fourth lesson was that when planning a communal action it should be ensured that the benefits are equally distributed among all community members, particularly women and the poor, to increase the feeling of unity and ownership. The final lesson learned was the need to develop rules and regulations for a project and to implement them properly. This will contribute to the sustainable and efficient management of water supply schemes in the communities.

In the **Colombian** community of Campoalegre the legal status of the administration was an important issue, so that regulations and statutes had to be drawn up, and community support mobilized. Improving the forest cover around the watershed was considered as a possible solution for the falling water table. Before starting the experimentation phase two possible ways of implementation were discussed. The first involved experimenting with one solution in one quarter (*barrio*) of a community, another solution in another quarter. etc. The results can then be compared and the best solutions selected for the whole community. The second way of implementation would be to experiment with all possible solutions in all quarters of the community, but it was felt that this approach would take too long – at least three months.

Each community opted for a different way of implementing the experiments. La Sirena tried all possible solutions, starting with the most viable. This was the development of the clauses of the association of members. First the clauses were developed by authorising each article in the assembly. When after two months this did not lead to a satisfactory result, they started experimenting with the next option: distribution of the clauses in each sector of the community. The third option was discussing the matter with sector representatives, and the last option was to discuss clauses with existing organizations.

The Ceylan community opted for the first way of experimenting: they tried one solution in one quarter, another in another quarter, etc. However, because of the national political elections, the experimentation was partially stopped because conflicting political groups started to interfere. However, technical solutions were successfully tested. The PAR team of CINARA, together with an NGO (Fundacion Carvajal) provided a training course on management, including administration procedures, book-keeping, legal and administrative tools, to which the three communities in the PAR project and other administrative bodies were invited.

Experimentation agenda of La Sirena, Colombia

Problems	Solution alternatives	Indicators	Time span	Responsible
A) Supervising construction of treatment plant pre-filters	Committees: - Community supervising - Board supervising - Operator supervising - Board prosecutor	Number of visits made Number of observations stated Number of observations solved by the constructor	3 months	EIC1 JAA2 Operative Monitor
B) There is no study on rates	Applying consumption rates vs. Rates with no measurement.	Consumption (m^3) Average payment per user	6 months	JAA
C) There is no record of water users	An inventory made by the community.	Number of EIC participants and community in general Number of water users vs. total population	2 months	EIC JAA Group of youngsters
D) Irrational use of water	Community education through: paging, wall journal, bulletins. Installation of water meters, and floaters	Number of leaking faucets vs. total number of faucets. Actual consumption vs. average consumption (m^3)	6 months	JAA EIC
E) There are no by-laws or rules for users	Item by item assembly approval. Distribution of rules per sector. Delegates per sector Through the existing organizations	Democratization: number of participants in the entire process. Efficiency: time required to approve by-laws.	3 months	JAA
F) Organization of administration, independent of the aqueduct	Study alternatives of administration To be preserved in the community board through the water committee. Independent management with community board representation. Completely independent.	Outcome indicator: Number of persons per alternative Process indicator: Number of meetings held	3 months	JAA EIC
G) Delinquency	Education; establishing several payment points; cutting the service; fines; using receipts in different colours; publishing a list of delinquent users	% delinquency Delinquency period	3 months	JAA

In **Guatemala** the PAR team supported the committee of APAGUA in Aguacatan to prepare an action plan to improve the system. Some priorities were technical, others administrative, such as the regulation of the uses of water. Others related to capacity building, such as meetings for plumbers from different communities to exchange experiences, and to get to know about basics of rural hydraulics, such as interpreting plans, understanding material specifications, inventories of

1 EIC: Equipo de Investigacion Communitaria, the CRT.

2 JAA: Junta de Agua y Alcantarillado, a water committee

materials, etc. The committee of APAGUA also negotiated a contract with a regional development corporation to start a programme of reforestation both for water conservation and to reduce soil erosion. The coordination of activities between the different water systems in the area has been one of the biggest successes.

1.10 Monitoring experiments and problem-solving strategies

Monitoring is an essential element of experimentation, since this allows for learning, setting directions for future actions and making decisions about which strategy to adopt. Close monitoring facilitates adjustments of strategies, methods and tools according to local findings and requirements. In some cases monitoring results in additional research activities.

For the PAR teams it was not always easy to develop comprehensible and manageable monitoring procedures for the communities, e.g. criteria and indicators that would allow the communities to assess the success of their experiments. At the international exchange workshop in October 1996, John Thompson, a member of the international advisory group, presented some guidelines for participatory evaluation.

Participatory monitoring and evaluation, and documenting the process: John Thompson

At the exchange workshop in October 1996, IAG member John Thompson talked about information control and the right of people to information. He first introduced the term 'participation: a means to which end'. Participation may range from co-option with full outside control in establishing priorities and objectives, to collective action in which local people set their own agenda and mobilize themselves with outsiders only as initial catalysts. The classical monitoring and evaluation, as accepted by donors and other external support agencies, is usually the last stage of the project cycle after design, planning and implementation. Outside consultants are flown in to present the classical indicators for evaluation. However, we want to go for monitoring by communities. Participatory monitoring and evaluation exercises include finding answers to the questions why and what is being monitored, how, when and by whom:

Why monitor and evaluate?

- *to strengthen capacities of local people to reflect and act;*
- *to enable local people to control information*
- *to improve performance and increase impacts;*
- *to share lessons learned with others;*
- *to ensure accountability.*

What to monitor and evaluate?

- *process;*
- *outcomes of activities – trends and changes over time and in space;*
- *outputs;*
- *impacts.*

How to monitor and evaluate?

- *establish benchmarks (the diagnosing phase may have given benchmarks, for example on the registered level of conflict, or the funds available in the maintenance fund);*
- *select key criteria and indicators, local and group specific, as well as generic and common;*
- *use participatory methodologies to involve key stakeholders.*

When to monitor and evaluate?

- *establish benchmarks in the diagnosing phase;*
- *as and when need arises.*

Who monitors and evaluates?

- *key stakeholders;*
- *local people/interest groups;*
- *local people and external support agencies (NGOs, government, researchers);*
- *Others? (donors for example).*

Monitoring took place at various levels: the community, the agency, and at IRC and Neda. Although all actors followed similar methods for monitoring development, they took their own objectives as a starting point. At the community level, the PAR teams assisted communities by jointly taking a look at problem-solving strategies. Then qualifications were specified and indicators developed. Monitoring instruments have been developed and implemented around three issues: those related to water quality and quantity; those related to monitoring the managerial aspects, and those around monitoring the PAR process at all levels. All three involve different stakeholders and need different monitoring techniques and reports.

To ensure that the community members in **Nepal** could manage the monitoring and evaluation methods, various tools were introduced. One of them was the spider's web, a model developed by CARE Nepal (see CARE Nepal, 1997).

Community organization as a spider's web

The spider model is a tool to assess the capacities of community groups within the areas of organization, management, linkages/networking, fund mobilization and participation/ representation. It aims at increasing the self awareness of communities through a high level of participation and is directed at action planning. The tool was first developed in Thailand. The five main strands of the spider's web symbolize the important characteristics of a self-reliant and sustainable community organization. Using different indicators and characteristics, participants score on each of the five key dimensions. If some pillars are lacking or are weak, the organization may not function effectively. The pillars need to be strengthened to make the overall organization stronger, more self-reliant and sustainable.

The PAR team from Nepal used exchange visits to help communities and PAR volunteers monitor the process and outcomes of their experiments. During these successful visits the discussions among participants were very dynamic.

Participatory monitoring exchange visits in Nepal

New things learned by the Lele team from their visit to Yampaphant.

- a latrine is very important for a healthy life and for keeping the village neat and clean;
- vegetable farming is a good source of income;
- women need to become more active in keeping the village neat and clean;
- if there is a unity among the people in the community, anything can be done;

- a feeling of ownership is very important to solve the community problems as well to sustain the system.

New things learned by the Rangapur team from their visit to Gajedi:

- Generating funds by offering loans at low interest rates was a good idea because the community can pay for their most urgent needs.
- sanitation is essential for households and roads. In Gajedi most households have latrines so that the sanitary conditions of households, roads and water points are good.

New things learned by the Yampa team from their visit to Lele:

- a regulator can be used to equalize the flow of water; in their previous visit to Lele they noted that the water supply was poor, and that it was not supplied in all taps equally, but the problem had been solved by a regulator.
- daily cleaning of tapstands was also new; in their previous visit, the sanitary condition of taps and village was very poor, but now they found that the taps were cleaner than before.
- the use of water tariff payment cards was also found very effective; if households pay their water bills in time, they get a 50 paisa discount.

In **Colombia** the water operators monitor the pH of the water and walk regularly through the village asking people about the water quality. In **Kenya** the village committee conducted an external audit of their funds, which was reported to the community, and is now repeated every year. In **Pakistan** the community thought that the PAR team did not behave sufficiently differently from other outside agents. They also commented that community meetings were held in the mosque or other religious places, making it difficult for some people to participate. The team now holds meetings in more accessible, neutral places.

Monitoring in Pakistan

The PAR team organized a role-play at the Aga Khan Health Service office in Gilgit on monitoring trying to get acquainted with the perceptions of different members and groups in the community. The first role-play, targeted at 'the community is organized', provided the following specifications and indicators.

Specifications
Ability to develop common decisions.
Collective initiatives are taken.
Acceptable leadership (for all) is present.

Indicators
Conflicting opinions are discussed or, if silent, noted.
At least 80% of households is represented when decisions are taken.
Low turn-out of people.
For a second role-play, targeted at 'a new site for the water tank is selected', the specifications and indicators were as follows:

Specifications
The tank should be accessible.
Pollution should not be possible.
The tank should be big enough to cover the needs of all.

The tank should be built on undisputed land.

Indicators
Location less than 1 km away from the village.
Location above the settlement, so that less human activities interfere.
Location of tank on communal land.

1.11 Evaluation and follow-up

The evaluation of the experiments was not postponed until the end of the experimentation phase. Even during the experimentation phase the community members discussed various aspects of the experiments and began to develop their own opinions. However, all the observations still needed to be brought together and the results systematically analyzed. In most countries this was done in October 1998. The analysis included recognizing any unintended consequences and the sustainability of solutions. Documentation the research process and evaluation of problem solving strategies and tools and methods also continued. The overall project results were consolidated at the end of 1998.

The final evaluation of the process and achievements has now been carried out. Monitoring findings have been summarized and complemented with information on the latest developments, in collaboration with the respective communities and partner organizations. The results will be presented at meetings with the national reference groups (NRGs), which will be open to participants of other organizations.

The partner organizations, supported by IRC, have documented the process and findings from the action research and presented them to the communities. The results will be presented in a national meeting with the reference group and open to participants from other organizations. Options for the national dissemination of the outcomes of the PAR project have been explored together with the partner organizations. Dissemination should include mobilizing the networks developed in earlier phases of the project, such as by inviting key individuals to participate in planning/evaluation meetings in the communities. However, because of funding constraints until October 1998 such meetings have not yet been held.

In July 1998 the PAR teams met in The Hague for an international writing and planning workshop, at which special attention was paid to documenting project experiences and findings in a readable format and making arrangements for dissemination. If the budget allows, the partner organizations will also set up a system to monitor the long-term effects of the PAR project with technical support from IRC. They will document the processes and outputs of the project, which will be clustered by IRC in a form suitable for publication and international distribution.

The evaluation emphasized two sides of the PAR project: first, local outcomes, e.g. new management practices, institutions, rules and regulations, payment systems, etc., and second, the effectiveness of the methods and tools used in the experimentation phase, e.g. methodological aspects of the participatory action development (PAD) process. The evaluation therefore involved both promising 'solutions', as well as ideas and experiences about 'how to experiment', e.g. innovative concepts, skills, training needs and organization. This last part is important because the participatory process should lead to self-management, and an ongoing capacity of communities to implement effective participatory processes to find solutions to problems in water management or

other areas of community life in the future. The PAR teams were therefore concerned to create favourable conditions for ongoing experimentation and for the development of sustainable community management in water and other sectors.

The evaluation gave a clear overall picture of the results of the experimentation and the process followed. Information on the suitability of the management practices that were tested under local conditions became available, as well as clear guidelines on how to implement the tested idea. Other outcomes were enhanced diffusion of strategies, methods and tools, improved institutional linkages, establishment of system of training and communication, documented and operationalized approach for participatory action research as well as resource materials that can also be used for other areas of interest, and finally a more supportive environment for experimenting. Activities in the evaluation phase included:

- *planning/evaluation meetings in the villages;*
- evaluation of the impacts of new management practices;
- documentation of the process of development and the methods used for diagnosing, experimentation etc.
- evaluation of the impacts of new management practices;
- phasing out by consciously shifting the style and role of the supporting PAR team: from facilitator to external consultants and supporter; and
- documentation and operationalization of the PAD approach which can also be used for other areas of interest, as well as resource materials.

Future activities might include:

- exchange visits between different communities;
- field workshops;
- assistance to consolidate committees by means of leadership training, encouraging networking among communities;
- community-to-community learning-by-doing training;
- formation of diffusion teams;
- development of community 'manuals' and audio-visual materials; and
- consolidation of institutional support for local processes.

2 *Putting community management in place: creating the conditions*

This chapter deals with putting in place the conditions to create optimal learning opportunities for all involved in the process of enhancing the capacity of rural communities to manage their water supply systems. Section 2.1 describes the various partners in the process, and the ways they were selected, as well as their roles in the research process. Section 2.2 highlights the planning workshops and regional workshops that were held to provide training and for the PAR teams. The integration of project experiences and findings in wider institutional frameworks is addressed in the next two sections. First, Section 2.3 discusses the national reference groups, and then Section 2.4 describes the partner organizations and their efforts to create support for community management in institutions in their own countries. The most important conclusions of the mid-term evaluation are described in Section 2.5, and finally, reporting and dissemination are presented in Sections 2.6 and 2.7 as the major elements in ensuring the effective outreach of project findings.

2.1 Selecting partners on different levels

In the context of the PAR project the various research actors, communities, support organizations, and IRC, had to select partners at different levels. IRC selected a number or partners for the country-level implementation of the research, which in turn had to select the members of the multidisciplinary research teams. These teams had to select four communities in their countries. Within these communities the members of local PAR-teams were selected. IRC also selected the members of the International Advisory Group (IAG), and the country teams selected the members of their National Reference Group (NRG). At each of these levels the selection was carefully considered, based on clearly defined criteria.

IRC selects partner organizations

In order to cover different cultural and socio-economic settings it was decided that the research would be conduced in two countries in each of Africa, Asia and Latin America. The selection of these countries was determined by the presence of an organization that was interested in becoming a partner in the research project, and its estimated potential.

Since IRC already had some close partnerships with NETWAS in Kenya and CINARA in Colombia, these were obvious choices as research partners. These organizations were also interested in extending collaboration with IRC through PAR. The criteria used in selecting the other partners included:

- Can the organization carry a share in the action research?
- Is the organization active in the water and sanitation sector?
- Does the organization have an affinity with participatory methodologies and community management?
- Is it a sustainable organization and does it believe that research can contribute to future work?
- Is the organization in a position to facilitate the dissemination of information on the research activities and the results through advocacy, training, etc.?
- Is there scope for long-term collaboration between IRC and the organization?

IRC staff were asked to suggest organizations with whom they had experience, either through IRC assignments or through previous jobs. These organizations were then asked to express their views

on the above questions and their interest in the research. None of the four still to be selected partners fulfilled all the criteria, so that the organizations finally selected show some differences. They all expressed interest in the nature of the research and in the organizational development opportunities it offered. However, they ranged from organizations with a mandate to provide assistance in implementing water supply and sanitation programs, such as Nepal Water for Health (NEWAH) and Agua del Pueblo (ADP) in Guatemala, to institutes that organize rural development training, such as the Pan-African Institute for Development (PAID) in Cameroon.

Few of the organizations had real experience with long-term, participatory research, and none of them was a research institute *per se*. Even the Water Sanitation Health and Hygiene Studies Project (WSHHSP) in Pakistan, which was set up to do research, was a separate project of an implementing organization.

Partner organizations select research teams

In May 1994 each partner organization selected an interdisciplinary male/female project team of two to three people, representing technical and social expertise. For this IRC developed guidelines for the partner organizations: the team members would have to work closely and in a cooperative spirit with men and women in the communities, and they might have to help them in solving managerial as well as technical problems. Indicative terms of reference for the selection of members were drawn up.

Attributes of the team members

- *time and availability for the four-year process;*
- *gender (the team should consist of one female and one male);*
- *willing and able to travel and stay in villages;*
- *able to communicate with male and female villagers on an equal footing;*
- *genuine interest in and commitment to village life;*
- *technical and/or social know-how in low-cost rural water supply systems;*
- *have worked with villagers in planning and implementing participatory projects, preferably in water supply, although agriculture, health and forestry could be taken into consideration;*
- *some experience in conducting participatory action research;*
- *creative in looking for locally appropriate solutions;*
- *good writers in the regional language (English, French, or Spanish);*
- *willing and able to travel abroad;*
- *able to finish reports on time;*
- *one team member should be prepared to act as the overall coordinator with IRC;*
- *the combined team should cover most of these characteristics.*
- *experience in the use of participatory techniques and with training (in technology, leadership, problem solving) is an asset, but not a condition.*

In three cases, no mixed teams could be formed right from the start. In Nepal, due to the lack of research capacity, the NEWAH management decided to hire a consultant. The team, which first consisted of two women with social and health backgrounds, intended to add a male supervisor (middle level technician) on a part-time basis. The teams in Cameroon and Guatemala were all male, but for the fieldwork a female team member was involved.

However, the absence of research experience within all the organizations meant that some effort went into development of and support regarding conceptual issues and the research methodology. Although not negative in itself, this had not been accounted for in the budget and it went at the expense of other activities of in particular IRC staff. The lack of research experience also meant that reporting on research findings and process was.a demanding challenge for everyone, requiring extra attention from IRC staff in terms of feedback on submitted reports, and in terms of time spent during support visits.

In Pakistan the research, and its documentation, suffered from changes in the research team, since staff seconded to the WSHHS project were denied career development if they did not return to their organizations. In Cameroon and Guatemala the composition of the research teams changed due to institutional tensions and, in the case of Cameroon, also because the team leader passed away.

A continuous concern of all the partners was the busy schedule, leading to delays in the delivery of outputs such as progress reports, case studies and evaluation reports. Institutions are dynamic entities, it is uncertain whether these problems can be avoided in future research of this kind. However, through the PAR experience, the IRC team discovered a number of institutional factors that may have a negative influence on long-term research. Knowing the possible problems means that measures to prevent them can be catered for in the overall research plan and budget. In general, at the start of any project sufficient attention has to be given to discussing the implications of the research programme with the management of partner organizations.

Country teams selecting research communities

Each partner organization had to select four communities that would be willing to participate in the research. During the international planning workshop in 1994 a number of selection criteria were identified, on the basis of which and, in most countries after discussions with the national reference group, a number of communities were shortlisted. After visiting the communities, the information obtained was used to assess them using the criteria identified, often by means of a ranking exercise. The shortlisted communities who were not selected were duly informed.

In retrospect, the Colombian team felt that outside institutions had tried to influence the selection process. Fear of such influence was reason why the Pakistani team established the NRG after the community selection process. In Nepal and Kenya, however, the NRG members made useful suggestions with regard to possible communities.

Communities selecting members for the local PAR team

In all participating countries, local teams were established to facilitate the research process and to provide communities the opportunity to regain initiative of their own development. This was also regarded as the foundation for sustainable development in the long-term future. The roles and responsibilities of these local teams were not the same in all countries, as noted elsewhere. The local teams received training at various intervals, and were encouraged to play a facilitating role during the research. At times, the establishment of local research teams led to change in leadership and such process of change had to be dealt with carefully and respectfully.

IRC team selecting members for the IAG

At the start of the project it was felt that in order to be able to execute a project that would challenge conventional thinking on community participation in the water sector, the research would benefit from the support of a (small) group of professionals with extensive experience in either the water and sanitation sector, or in participatory (action) research. This international advisory group (IAG) of recognized specialists with relevant background and experience, was formed to provide advice on project planning and implementation, to monitor the development of the action research regarding the process as well as development of the content, and to help disseminate the research findings and approaches relating to the management of rural water supplies at the national and international levels. Again IRC staff were asked to nominate candidates, and to indicate their reasons why they should be selected.

In June 1994 the IAG was established, with members specializing in participatory action research (2), water supply (2) and gender (1), with three specialists from the South and two from the North. The members of the group were:

- Mr Bunker Roy, Director of Social Work and Research Centre in Tilonia, India
- Ms Grazia Borrini Feyerabend, Coordinator Social Policy Service, World Conservation Union (IUCN) in Gland, Switzerland
- Mr Orlando Fals Borda, then Secretary-General, Comisión de Ordenamiento Territorial, Instituto Geografico Augustin Codazzi, Santafé de Bogotá, Colombia
- Mrs Teresa Kavita, Women's Programme Coordinator, Catholic Diocese of Machakos, Machakos, Kenya, and
- Mr John Thompson, Sustainable Agriculture Programme, International Institute for Environment and Development (IIED), London, UK

The IAG members provided valuable inputs and posed critical questions during the international workshops, all of which were well appreciated, indicating that the members of the Group were well chosen.

Country teams selecting members for the national reference groups

During the international planning workshop in the Netherlands it was decided that each country team would establish a national reference group (NRG) for active sharing of information and experiences. The terms of reference were jointly drafted and criteria for the selection of potential members were drawn up. However, from the outset it was clear that, just as in the selection of communities, the NRG members should be selected with due consideration of the possibilities and the political context in the respective countries.

2.2 Capacity building for the PAR research teams

Training and planning workshop (October–November 1994)

The workshop at IRC was held to exchange experiences and to jointly develop a framework for participatory action research on community management of rural water supplies. The participants learned about participatory tools that would enable them to strengthen the dialogue between their institution, resource persons and local communities. The workshop used principles of experiential learning (or 'discovery learning'), which takes the participants' own experience and working context as a starting point for the development of new skills, attitudes and knowledge.

A picture emerged of what is actually being done and of what the PAR teams believed should be done, on which basis additional knowledge and skills were introduced in order to close the gap. The workshop gradually developed from analyzing one's own context, through theory-building and acquisition of participatory approaches, to a workplan suited for each country team for implementation by the partner organizations. The workshop included a self-reporting system whereby the participants monitored and evaluated the workshop activities in a brief daily report.

During the workshop it was found that community management:

- goes beyond community participation, and equips communities to take charge of their own water supply improvements;
- involves a long-term partnership between a community and the support agency. It strengthens the capacity of each partner and enables the effective use of their combined resources;
- can result in a widespread implementation of sustainable water supply systems;
- means a new role for support agencies as facilitators rather than providers, demanding new skills and offering greater opportunities.
- brings benefits in the form of management tools that can be used in other development activities;
- extends its scope beyond rural water supplies to peri-urban supply;
- can be monitored and evaluated using slightly adjusted conventional progress indicators, as capacity building is a major component.

In the course of the workshop, the participants also

- acquired an understanding of the meaning of participatory action research, and knowledge about participatory tools;
- improved the original research sequence of phases;
- developed criteria for the selection of members of an NRG in their own country;
- developed criteria for the selection of communities;
- developed checklists for the community diagnosis phase;
- prepared an overall workplan and budget; and
- met with members of the International Advisory Group.

The materials and the methodology developed for this workshop have been adapted and documented as a tool for holding international and regional workshops on participatory approaches for community management support. It will be published in the form of a *Training for Trainers Manual* (IRC, 1999).

First round of regional workshops on methods and tools (February–May 1995)

Regional workshops were held in Cameroon for the African teams, in Nepal for the two Asian PAR teams, and in Guatemala for the Latin American teams, facilitated by IRC coordinators. Their main objectives were to prepare and further train the teams in participatory appraisal techniques for actual field work. The workshops provided opportunities for exchanges of information and mutual learning.

The training focused on the following areas: using of participatory rural appraisal (PRA) tools; adapting community selection criteria and making a shortlist of communities; establishing criteria for the selection of local CRTs, developing guidelines for holding community meetings; testing

participatory tools; and beginning problem identification. The participants then updated the overall workplan and drafted a report on the outcomes. Later, some of the teams revised the proceedings into a 'Methodological guide for participatory diagnosis', which was distributed to NRG members and has proven to be a valuable tool during the field research. The teams reported a much better understanding of the PAR approach.

Regional workshop on setting agendas for experimentation and developing problem solving strategies (February–May 1996)

A second round of two-week regional workshops was organized in early 1996, one in Nairobi, Kenya for the two African teams, one in Islamabad, Pakistan for the two Asian teams, and one in Cali, Colombia for the two teams from Latin America. As in the first round of regional workshops, they were facilitated by IRC regional coordinators, and the participating PAR teams were able to exchange information and experiences. The main objectives were:

- to consolidate experiences in community diagnosis;
- to develop agenda setting and strategy development skills;
- to clarify the role of the teams in the experimentation phase;
- to continue monitoring the PAR project at the levels of the communities and of the partner organizations;
- to look at ways to disseminate the research findings; and
- to revise and agree on the workplan and budget.

The workshops used a variety of learning methods, and included field visits to a rural community, where the teams assessed local experimentation capacity and problem-solving strategies. Time was also spent documenting and drafting articles. SWOP analyses (Strengths, Weaknesses, Obstacles and Potentials) of the partner organizations were conducted, together with the directors of those organizations. In the African workshop this resulted in a deeper analysis of the institutional basis of the project in Cameroon. Again the research teams themselves produced the proceedings of the workshops, which are available from IRC.

The regional workshop in Latin America was attended by a representative of one of the research communities, who presented the results of the diagnosis phase, using maps and photographs. Dr Orlando Fals Borda, member of the IAG, was also present, and he was impressed by the community's presentation. Later he offered the following comments:

- On the importance of allowing the communities to attend such meetings: 'If you stimulate their initiatives they will continue the process forever'.
- On the history of the Ceylan community: 'Villagers who study their own history have a more conscious understanding of the origin of many of their problems and of the situation in which they are now embedded'; and 'One has to share the stored "knowledge"'.
- Related to the question of registration: 'You should not 'paperise' everything; the written word is just one way of describing the work done'; 'You have to look for more lively documents'; and 'We first have to think about the reader of the document before we start writing'.
- Related to organizing information: 'It is necessary to do it, because it helps us to order our thoughts. To be able to communicate something we have learned, we have to put it in a certain order to make it understandable'.

After the workshop the teams felt that they were better able to carry out the next phase of the research. Both the African and the Asian teams asked for more support in reporting. In fact, none of the team members was selected because of their excellent reporting. The habits and customs of report writing still had to be better developed during the remainder of the research.

The second international exchange workshop (September 1996)

A second international exchange workshop was held in 1996. Initially planned as a meeting between members of the IAG and IRC staff, it became a workshop bringing together the IAG, IRC staff, representatives of the PAR teams and the mid-term reviewer. This was due to a suggestion made by the Kenyan team to have the country teams benefit directly from the presence of the IAG, rather than through a meeting report. The objectives of the meeting were as follows:

- to inform the members of the IAG on project progress and the research findings so far, to solicit their comments, questions and advice, and to give them the opportunity to provide inputs on specific topics they feel are of importance for the research process;
- to allow the teams to exchange experiences;
- to discuss future steps in the project;
- to discuss proposals for disseminating information on the project;
- to prepare for the World Congress on Participation Action Research in Cartagena, Colombia, in June 1997; and
- to introduce the mid-term evaluator and inform him about the project organization, methodology, processes and the results obtained.

Reflections on the international exchange workshop: the roles of other institutions and leadership

*In the workshop the question was raised whether the PAR teams had received any reactions from **other organizations**. In most cases, communities had been approached by existing agencies (often NRG members) and local organizations. The increased coordination among organizations has been helpful in preventing conflicts and duplication of efforts. With regard to existing **leadership,** it seems a common feature that 'old' leaders play an important role in bringing about change in communities. Therefore leadership issues have to be approached with care and with understanding. The challenge is to open up 'charismatic' leaders to new functions and attitudes, without destroying the respect they have in the community, or transforming them into bureaucrats.*

All teams prepared for the workshop. In Colombia the process recovery workshops with the communities were used to provide an input in the exchange workshop. The representatives of the PAR teams gave general presentations on the progress of their research and the results so far, and presentations on a specific topic. The IAG members gave a presentation on a relevant issue. The mid-term reviewer presented his ideas on the terms of reference for the review. It proved to be very worthwhile to have an exchange at this point in time. The PAR teams dealt with specific elements of the research process that were helpful for all the teams, since they were all going through a similar process. The workshop proceedings are available from IRC.

Reflections on the international exchange workshop: changes resulting from the participatory community diagnosis

Grazia Borrini from the IAG asked the PAR teams whether the diagnosing phase had produced results, beyond information, in terms of raised awareness, increased internal communication, and organization for action. The teams from all countries reported interesting achievements in all three areas:

In a very traditional community in Gilgit, ***Pakistan,*** *men now allowed women to attend their meetings, and had started to look for other ways to include the women of the community. In* ***Nepal,*** *the PAR process had improved communications between two households that had not been on speaking terms for years. One member from each household had joined the community research team. In* ***Pakistan,*** *regular meetings between the CRT and various groups in the community had improved communications and had stimulated new initiatives. In Hasis,* ***Pakistan,*** *a dispute over land and a water source ha been resolved. The community acquired land for the construction of a new water tank through a local agreement with the landowner. The community of Ghaziabad in* ***Pakistan*** *contacted other donors for financial and technical assistance to solve the water problem identified in the PAR process. The* ***Nepal*** *team also reported action: one PAR community (Yampa) had started to keep records of important village decisions, and another (Lele) had set up a maintenance fund and is struggling with non-payers.*

After some training in book-keeping, the people of Sigomere, ***Kenya,*** *had questioned the way their accounts were being kept, with the result that the accountant was fired. The Nyakerato community in* ***Kenya*** *visited the Department of Water and Energy to demand an explanation for the delay in implementing a promised water scheme. In Yanthooko,* ***Kenya,*** *the community realized that if they could feed the visiting PAR team members with chicken at a cost of Ksh.20,000, they would also be able to raise money to buy a plot of land for a communal shop in the local town. In Nyen/Mbewi in* ***Cameroon,*** *the visiting members of the NRG asked people how they felt being part of the PAR project. The community answered that they felt more committed to the water scheme; more people attend meetings, and they have decentralized the handling of emergency problems to the local caretaker. Also in* ***Cameroon,*** *the village of Nkoundja, after a meeting with the PAR team, had resolved a communication problem between the water committee and the caretaker that had hampered the functioning of the system for more than six months. In the same community, after a PAR session on the causes of their water problems, the executive members of the committee went to the Community Development Service to ask for pipes to repair all the leaks in their water system.*

In ***Colombia,*** *one community has already started to implement solutions to reduce water wastage. In a workshop in which 13 community members evaluated the PAR team inputs they cited the following outcomes of the process: people listen better, people are more aware of water resources and water losses have been reduced. In* ***Guatemala,*** *community associations have developed measures to protect the catchment area in order to improve the quality of the river water.*

World Congress on Participatory Action Research (June 1997)

The Eighth Congress on Action Research, Action Learning and Process Management was held in Cartagena, Colombia, in May–June 1997 to find common denominators in the different concepts and practices used in action research. These concepts include participatory rural appraisal (PRA), which was developed in the North and is being used in the South, and participatory action research (PAR), which was developed and is being used in the South.

IRC presented several papers on the PAR project on community management of water supplies, and proposed to convene a workshop in the 'Garden of Proposals'. The project was presented by six PAR team coordinators and the project manager. Colombia, the host country, was represented by two participants.

The coordinators from IRC and from CINARA presented papers to different working groups (Cecilia Gomez, 'La IAP un enfoque para el fortalecimiento de la Gestión comunitaria de los servicios publicos', and M.P. Lammerink, 'Learning together: Experiences with participatory action research and popular education'). The Pakistan team prepared two summaries ('The role of local organizations in transforming private property into communal use' and 'Community research teams: local research and management systems'). Summaries of these papers were published in the conference proceedings.

The PAR team coordinators met in Cartagena two days before the congress to prepare their presentation for the Garden of Proposals, and to 'brainstorm' on how to present the information. They agreed on the following topics: from divergence to convergence during the research project; methods and techniques; changes in the community: what are their experiences?; and lessons learned from the experiences in the various countries. The presentation was to be an interdisciplinary and converging manner and should allow for participation. Subtopics were assigned to subgroups of two participants each, who then rehearsed the presentation. Using various participatory tools in two languages (Spanish and English), they started by asking the participants to form groups of four, and to make a small sketch to illustrate what the word 'water' means to them. It was very interesting, and the various sketches produced made people laugh. Some performed the sea, paddling a canoe, rain, bathing and a woman carrying a water bucket. The sketches provided a smooth transition to the main presentation of the PAR team coordinators. They began by introducing themselves in their native language in order to illustrate the cultural differences that exist both within and between country teams. One team member used overhead sheets to show how the project had developed from divergence to convergence, its background and objectives, the countries and organizations involved, the phases and the agencies providing technical support.

The attendance at the congress was overwhelming, especially when many Colombian students showed up unexpectedly. In his closing speech on the last day, Fals Borda noted that there had been 1200 participants rather than the 500 expected. It was good to see such interest in Participatory Action Research.

An exchange visit to Valle del Cauce

After the congress, the team coordinators from the six countries started a three-day visit to the PAR project of CINARA in Colombia. The group first visited the CINARA research centre, where they observed an experiment to compare different ways of water quality control using (sand) filtration systems. The group also gave a presentation at the university, where the project is based. Four of the

team coordinators visited La Sirena and Ceylan, together with members of other research communities.

During the exchange visits to the villages of La Sirena and Ceylan in Valle del Cauce, the PAR team members made a number of observations:

- the communities in our respective countries are facing many similar problems;
- women here take leading roles in managing their water supplies, and even the president of this committee is a woman. The Asian participants were astonished about the role of women in these communities;
- the PAR methodology is effective in enhancing management skills, and is now also being applied in other fields, including the recycling of water from a sewage system in one community; and
- the president of a water committee commented that PAR had enhanced the local capacity to manage our lives in terms of better organizing, in a sequential manner, in order to prioritize activities. Women members of the CRT are now using their new management skills to organize micro-enterprises.

At the World Congress in Cartagena and during the exchange visits, the teams met very different people, all involved in participatory research but from different angles, both theory and practice. Both experiences were fruitful and useful to the teams, demonstrating the importance of exchanges of experiences for the learning processes of individuals and communities.

2.3 *Forming national reference groups (NRGs)*

At the international planning workshop in the Netherlands in 1994, it was decided that each country would establish a national reference group (NRG) to help disseminate information and experiences. The terms of reference of the NRG included:

- to share knowledge, experience and findings;
- to assist in community selection and in review of workplans, objectives and procedures;
- to assist in the dissemination of research findings and methodology;
- to assist in advocacy, and
- to provide logistic support if required.

The NRGs were also to strengthen the links between NGOs, research organizations and (national) governments, and to contribute to the further development of community-based approaches in the water sector at both the policy and operational levels. Each NRG was to be a platform for discussion, ensuring that issues of interest to national organizations were addressed in the research.

At the same planning workshop, the criteria for the selection of NRG members were defined as follows:

- Experience: at least five years' experience in the water sector, preferably with a rural orientation, with direct involvement with rural communities.
- Competence in the field of either technical, socio-economic, management, research or community participation.
- Interest: a genuine interest in the research project and in improving community management, willing to contribute time and personnel.
- Influence: willing to take an advocacy role and to support community management.

In addition, the NRG may have national or regional operations, membership will preferably be by institution and not on a personal basis since continuity in membership is important, members may be NGOs, government departments, external support agencies, communities and religious development organizations, and the group should preferably not have more than 10 members. However, the exact criteria for NRG member selection should be based on the institutional and political context of the country concerned. In Colombia, for example, it was decided to select regional organizations for the NRG, whereas the Pakistani team selected representatives from all provinces of the country.

In all countries, a large number of institutions and organizations expressed their interest, and discussions were held with those showing interest in the research. Four NRGs were established in the first few months of 1995. In Pakistan and Kenya they were established later in the year. In the first few years the NRGs met two or three times per year, but in 1998 their activities had to slow down due to budget constraints. In general, the purpose of the NRG meetings was to exchange experiences and to offer feedback. In some cases the development of dissemination strategies was included in the agendas. In some countries NRG members met with people from the research communities, either by inviting members of the local research teams to attend an NRG meeting or by organizing field trips for the NRG members to a research community.

In **Kenya,** NRG members included institutions, NGOs, church and government agencies in water, health and community development, and a few donor agencies (Regional Water and Sanitation Group of the World Bank, and UNICEF). The first meeting was held only in October 1995, due to the transition of NETWAS to full autonomy from AMREF, and its registration as an NGO in June 1995. Only then could it enter into legal contracts independently from AMREF, and only then could the PAR team invite potential NRG members to the meeting.

Ten organizations attended the meeting in Kenya, and four others expressed interest in becoming members. It was agreed that regular NRG meetings would be organized and that eight members would constitute a quorum. The optimum number of members was limited to 15 institutions/organizations. However, to ensure continuity, it was decided that the same representatives would attend the NRG meetings. At this first meeting in Kenya, three of the seven shortlisted communities were chosen. It was interesting to see that in cases where distance and accessibility might prevent the inclusion of a particular interesting community, the NRG members offered to share the costs of travel.

The NRG met again in January 1996, and changed its name to advisory group to avoid political connotations. The group met some four times a year in the different regions to review progress, to share experiences, and to provide guidance to the PAR teams. Its members were highly motivated, and bore their own travel and lodging expenses. The meetings addressed specific learning events, such as a visit to a community or the 'rope exercise', which helped the members experience how it feels to not be able to participate fully, and the importance of collaboration to achieve certain objectives.

In **Cameroon** contacts were made with 12 organizations promoting rural water supplies, including the National Water Cooperation (SNEC), Helvetas, CDD, CIACC, CARE International, and the Ministries of Mines, Water and Energy, and of Social and Women's Affairs. Only SNEC showed little enthusiasm. In January 1995, at a workshop with potential NRG members, the project was presented and each institution summarized its activities detailing achievements, methodologies and

constraints, particularly in aspects of community management of water supplies. The results of this workshop were compiled in a booklet. At a second NRG meeting the selection of action research communities was discussed. The potential members showed a lot of interest in the project and in meeting each other. It was felt particularly useful to establish common ideas on how to work with communities.

In **Pakistan** contacts were made by phone and letters with a dozen government departments and agencies involved in the rural drinking water sector or practising PRA. In June, each of these organizations was formally asked to nominate one NRG member. In selecting the members, a gender balance was taken into account. The NRG members who were selected, received more information on the project, and a first meeting was held in November 1995. Most time was spent describing the project, getting to know about each other's projects, exchanging expectations, and clarifying roles and responsibilities. NRG members included representatives of the Ministry of Local Government and Rural Development, the Multi-donor Support Unit, ActionAid, the World Bank, IUCN and the Aga Khan Foundation.

The NRG members identified a number of possible ways to disseminate the research findings. They also offered to host future meetings. Some of the NRG members indicated that they would like to receive information on the tools used during the diagnosis and problem analysis phases. In 1996 the PAR team decided to expand the NRG to include representatives of all provinces of Pakistan. A first meeting of this expanded NRG resulted in a proposal to make the NRG a recognized national forum for debate and discussion on drinking water and sanitation issues. A brochure on the NRG was produced to describe its mission.

In **Colombia**, the NRG involves regional organizations: Programa AGUA PURA of the Secretary of Health of Valle, the Committee of Coffee Growers in Valle, FINDETER, the Departmental Planning Department, EMCALI, the water authority in Cali and one new organization called Programa de Agua Potable y Saneamiento Basico. National entities like the Ministry of Development and its Water Entity participate only on a partial basis, but still wish to be fully informed. Even though the involvement of the Coffee Growers' Associacion was desired and encouraged, their participation was rather weak.

In **Nepal**, the first NRG meeting was attended by representatives from six organizations: UNICEF, Nepal Red Cross, HELVETAS, FINNIDA, WaterAid and the Department of Water Supply and Sewage. They were briefed about the project, its objectives, and methodology. The representatives shared their experiences in community water management and came to a common understanding of the concept. A second regional NRG meeting was held in November 1995 to report on research activities and to obtain feedback on the methodology and the research process. The meeting suggested that the NRG could also be used as a platform for sharing experiences from other projects. The PAR team therefore revised the composition of the NRG to include more government representatives and institutions from outside the water sector. At the third NRG meeting in 1996 the team addressed a few nagging questions. How can community members and institutions be encouraged to think of alternative solutions, i.e. solutions other than the easiest ones? How can the community's interest be sustained? How can the PAR experiences be best utilized?

Learning points shared with the NRG in Nepal

From time to time agency guidance is essential for effective community management of water supply. In Lele, for example, the committee involved in community forestry is doing well with regular meetings, participation of women etc. The constitution of the committee authorizes the committee to penalize people who violate the constitution. If a heavier punishment is required, the matter can be referred to the district forestry official, who also monitors the community's income and expenses in forestry and provides information, guidance and technical support once a year. This form of support will be gradually reduced once the community is fully capable of managing the forest itself. Excessive outside intervention might cause the community to lose interest in improving its management skills and increase dependency. A balance is therefore required.

At the fifth NRG meeting in September 1996 in Kathmandu, the participants discussed different approaches and tools for sustainable management of rural water supply, including planning and implementation, the linkages with government departments, support operations. etc. The meeting identified various issues for further discussion. WaterAid Nepal expressed its willingness to sponsor similar events in future.

In **Guatemala,** 18 organizations, some government agencies and NGOs involved in the water sector were invited to an initial NRG meeting, to inform them about the project and to learn of their expectations of and interest in participating in the NRG. This also allowed them to air their doubts about the project and to make suggestions. Ten organizations attended the second meeting: UNICEF, the Secretariat of Hydraulic Resources, Highlands Water and Sanitation Programme, Rural Agueduct Programme Executive Unity (UNEPAR), Environmental Sanitation, Ministry of Public Health, PAYSA, CARE, Helvetas and the IDEAS association. Three of them expressed interest in participating in the PAR team, resulting in two formal arrangements for the integration of team members from PAYSA and UNEPAR in the PAR project.

After these meetings the Guatemala team felt that the NRG members were acting as inquisitors rather than advisers. In addition the NRG member organizations often delegated different people to the meetings. The team therefore started to question the usefulness of its NRG. After a workshop with a small number of agencies, efforts are now being made to make the NRG more meaningful. The NRG was reduced to four organizations, UNEPAR, PROSAR, INFOM and SER because they all work in the region where the project is being implemented. INFOM participated because they were involved in the reorganization of the national water sector. With these institutions meetings are held every two months to discuss progress, and to incorporate the research methodology in the institutions. The teams of UNEPAR and ADP were trained by the Guatemalan PAR team in PAR methodologies.

Lessons learned

During the international exchange workshop in 1996 the functioning of the NRGs was discussed at length. The lessons learned were grouped into three categories: (a) the usefulness of the NRG for the PAR team and the PAR process; (b) organizational issues; and (c) their general role.

(a) *Usefulness of the NRGs for PAR.* In some countries, the NRG has been able to support the PAR team and the process. The Colombian team decided to change the NRG into a regional

advisory group, which turned out to be more useful for them. The Guatemalan team felt that the NRG members were acting as 'inquisitors' rather than advisers, and so questioned the concept of an advisory group. The other four PAR teams noted that their NRG had provided support in a number of ways:

- valuable suggestions and feedback, contributing to the confidence of the PAR team members;
- useful advice in the process of selecting communities;
- some members were interested to know the findings so that they could adopt them in their own water programmes;
- they had broadened the scope of the PAR projects and their impact at the national level;
- they had provided a platform for policy changes, and for sharing tasks and responsibilities among members;
- the NRG had been an appropriate tool for formulating a national policy for dissemination and advocacy; and
- regional NRGs can be effective in dissemination phase.

(b) *Organization.* The timing of convening the NRG is crucial: too early means that there are no lessons to be analyzed; too late means that members feel left out of the process. Regular, smaller meetings on site, and preferably not in urban areas, are more effective. The issue of the continuity of membership is important, so that issues relating to the representation of institutions should be resolved in advance. The challenge is to open up NRGs for community representatives, when the project is finished.

(c) *General.* The NRGs have played an active and effective role in stimulating discussions on community management of water supply systems at the national level.

2.4 Research team consolidation and institutionalization

The training and support activities, regional and international exchanges and workshops have increased the capacity of project staff in the six countries. In the first two years, these activities concentrated on the process and skills of participatory action research and on the proper use of participatory tools. Also, technical improvements versus managerial improvements has been an issue of continuous discussion. Over the last 15 months the emphasis has changed to the skills of consolidation and documenting the research results, as well as capacities to support other organizations.

A point of concern has been the fact that in some partner organizations staff members left the PAR team or the partner organization before the end of the project. This hampered the planned capacity development at the level of the organization. Thus for a variety of reasons changes have taken place in the composition of the research teams, not only in some of the participating countries, but also in IRC. In some partner organizations the teams faced 'institutional' problems, due to a variety of reasons. Most team members were happy with their work and found ways to consolidate mutual support, understanding and trust. Regular meetings were held within their organizations to share ideas and research outcomes. The NRGs provided an additional sounding board for their experiences.

However, it became clear during the coordinators' in Cali (Colombia) that the team members felt that other people in the organization, even bosses, were sometimes 'jealous' of their frequent and

intensive exposure to international experiences. In another case, the team felt that their organization was not interested in the project results, or even worse, was only interested in the money the programme provided. For the IRC team, the lesson learned in this respect is that in the beginning of a project sufficient attention has to be paid to informing the management of the organizations about the implications of the research programme for the organization and its future functioning. This has been taken into account in the dissemination phase. A special international meeting was held in July 1998 to get the commitment from directors of the organizations involved, giving them an opportunity to comment, to get to know each other and to discuss the institutional consequences. Examples of the institutional situation in each of the countries during the PAR process are given in the following.

In **Kenya** the team consisted of Mr Isaack Oenga (water engineer and team coordinator) and Ms Pauline Ikumi (sociologist), who at the start of the project was still working for the FINNIDA project in Kakamega. In 1995, at the start of the PAR process, problems arose due to the transition of NETWAS, the Kenyan partner organization, to full autonomy from AMREF. NETWAS was registered as an NGO late June 1995, and only then could it enter into legal contracts independently. Contractual arrangements for staff to join NETWAS had to be made. After registration the PAR team was allowed to make contacts to different communities and potential NRG members. This made a late start of the PAR project inevitable. The Kenyan PAR team then started to collaborate with the African Centre for Technology Studies (ACTS), which was conducting a study of the governance of water resources. NETWAS provided training and logistical support, while ACTS contributed one of their researchers Mr Stephen Ngingi (a social geographer).

To increase the level of sharing ideas and research results, regular meetings were organized within NETWAS. Colleagues also participated in meetings of the NRG and visited communities in order to get a better grasp of the project. The Kenyan team, together with the one from Colombia, has been the most stable since the start of the project in 1994.

In **Cameroon** the institutional setup has been a continuous problem since the start of the project. The PAR team was originally composed of two team members (Mr Anthony Nchari and Mr Amouye Nguettakan, both economists) from two institutes, PAID West Africa and IPD Douala, respectively. However, the team had a serious setback in 1995 due to the severe rainy season and the hospitalization and later death of the coordinator, Anthony Nchari. The team went through a very difficult period. In December 1995 Mr Amouye was appointed team coordinator, and another full-time researcher was contracted, Ms Pauline Poubom (agricultural engineer). From thereon the team worked very hard to catch up. However, the team members were heavily involved in other activities of the institution, so that progress has been slow. In part, this was because they were employed only part-time, so that other activities were often more pressing, and was also due to insufficient institutional support and the unclear 'location' of the project. These issues have been regularly discussed with PAID's Secretary-General.

In 1996 the IRC coordinator suggested another team member, Mr Andrew Tayong (water engineer) of SOWEDA, an organization that had participated in the first discussions with PAID on the research project. It was agreed that Mr Tayong would be invited to the regional workshop in Nairobi, and later he joined the PAR team for the duration of the project.

Personnel changes at director level also produced uncertainties about the continuation of the project in Cameroon. Mr Amouye had to leave the team against his will, because he was transferred to

another branch institute of PAID. Intensive communication was needed to keep the process going. Finally, Mr Andrew Tayong became the new PAR team coordinator. Due to the late start of the research process in both African countries, IRC staff had to invest more time in supportive consultancy work than anticipated.

In **Nepal,** due to the lack of research capacity within NEWAH, the management decided to hire external consultants. For some time the team consisted of two active consultants, two coordinators, Ms Hari Subba (a female social anthropologist), and Mr Rajan Thappa (middle level technician). A third team member from NEWAH, Ms Renuka Rai (public administration), was never able to integrate in the team due to her overloaded programme as manager of NEWAH's health and sanitation programme. Discussions with the director of NEWAH to increase her involvement were not successful. However, because of the positive project results, the PAR team coordinator started to participate in NEWAH's monthly management discussions and was regarded as an important resource person. Within NEWAH regular encounters were organized with senior staff.

In 1997 the PAR team leader submitted a report on the activities, future plans and challenges of the project during the annual meeting of the executive board of NEWAH. A lively discussion followed in which the NEWAH maintenance sections shared experiences related to operation and maintenance. Many of the suggestions that came out of the diagnosis phase were adopted by NEWAH sector heads.

Lessons from PAR project with respect to operation and maintenance

- *Project management committees should be formed at the ward level rather than village level.*
- *Advanced maintenance training should be provided for caretakers in tube-well project areas.*
- *Exchange visits need to be organized to ensure that skills and knowledge of project management committees and caretakers are brought up to date.*
- *Adapt PAR findings.*

Early 1998 Ms Hari Subba, the team coordinator, resigned as a consultant before the end of the project, taking with her many undocumented experiences. This caused serious problems for the continuity of the project. New staff have been recruited: Ms Laxmi Paudyal, hygiene specialist, and Mr Raju Khadka, educator. They only became involved in the final stage of the research, which seriously hampered the consolidation of experiences. Extra resources had to be spent to get the full research on paper.

The **Colombian** team has been consolidated as an inter-institutional team. The team consisted of two members from CINARA, Ms Cecilia Gómez (sociologist) and Mr Mario Pérez (economist), one from Agua Pura, Mr Alfonso Rojas (sanitary engineer), and one from Emcali, Ms Ana Ariztizabál (civil engineer). The last two supported the CINARA team in all major events, at the expense of their respective organizations, which shows their interest in participating in the project. There were many opportunities for transferring the experiences of the research process to all cooperating organizations. However, the Agua Pura and Emcali organizations provided minimal logistic support.

Early 1996, Mr Jairo Benavides from the health department of CINARA joined the team working in Campoalegre. Emphasis was placed on team building through regular team meetings to discuss aspects of the community diagnosis work. In the second year Ms Cecilia Gomez replaced Mr Mario Pérez as project coordinator, because he started to prepare his doctoral thesis. Mr Perez remained member of the research team. The special Columbian feature to involve two 'volunteers' from other institutes could be continued, especially for Mr Alfonso Rojas, who was very active and dedicated in all stages of the research process.

At one of the 'backstopping' meetings with the Colombian team in 1997, it became clear that a more promotional approach was needed. The team was still too 'shy' to present their findings and did not work sufficiently on influencing their respective institutes. As a result the team started to present its findings to CINARA staff at so-called 'seminarios de los lunes', and to the Departmental Health Ministry to motivate this institution.

In **Guatemala** the two initial members of the team from former Aqua del Pueblo were Mr Fabián Gonón Ortiz (social worker) and Mr Carlos Simón Perén (water technician). Two other organizations showed interest in being part of the team, resulting in a formal arrangement for the integration of a team member from UNEPAR, Mr Oscar Nimatuj (community development worker). A second external member from PAYSA, Jefatura de Salud, Ms Aracely Lopez (health technician), was withdrawn, but after negotiations she became a team member in September 1995. When the former coordinator (Mr Fabián Gonón) became director of Agua Del Pueblo, a new female team coordinator was assigned, Ms Milagro Escobar (social worker).

Monthly meetings were organized to document experiences and to evaluate progress. In Guatemala the three partner institutions are still involved in joint research work, planning and report writing. Gradually Agua del Pueblo became more confident in handling research projects and in establishing relationships with other organizations. Agua del Pueblo management organized a workshop for staff involved in technical and educational projects with the aim of sharing participatory techniques and techniques to stimulate community management. Agua del Pueblo also looked into the question of how to restructure its working methodology with the communities.

In early 1996, however, changes in the team composition had to take place due to an institutional crisis in Agua del Pueblo. Mr Fabián Gonón was dismissed as general director, and became external adviser to the project. The changes at director level produced much insecurity and mistrust of the PAR team towards the organization and its leadership, and hampered the smooth continuation of the project. In 1997 the situation of the Guatemalan team became extremely difficult. The team became worried about the possibility of implementing the research activities according to plan. The team became disjointed from the rest of the organization and the coordinator was relieved of her duties. Although different people from IRC tried to intervene to get common understanding and agreements, in the end all had to admit that further cooperation was unproductive.

The agreement with Aqua del Pueblo was brought to an end in mid-1997. The original team started to work from the premises of a small consultancy company, SER (Servicio al Desarrollo), founded by Mr Fabián Gonón and other former managers from Agua del Pueblo. In SER the team was able to bring together the many interesting experiences that during the first two years of the research programme. SER will be the Guatemalan partner for the dissemination phase of the project.

In **Pakistan**, the PAR team consisted of three team members from different departments in the Aga Khan Rural Support Program, Ms Dil Feroze (midwife and health visitor), Mr Altaf Hussain (social anthropologist) and Mr Muhammad Saleem (economist and team coordinator). In early 1995 the team organized a presentation to policy makers and senior staff from sister organizations in the Aga Khan Development Network (AKDN). The team members also attended weekly meetings of WSHHSP, the health research project. This resulted in a better understanding of the project objectives and processes and in better coordination between different departments of AKDN. In the past they sometimes visited the same community on the same day, and this obstructed the participation of the villagers.

The Pakistan PAR team had to overcome several internal conflicts, and regular counselling was needed to establish a good team spirit. The project director of the health research project (WSHHS) was very supportive from the start, resulting in stationing the project under his umbrella. However, in 1996 the team went through major changes. Because the team coordinator was seconded from his Aga Khan office, he felt he would lose his promotion prospects and was forced to choose either go back to his regular job, or to quit and continue with the research project. 'Out of sight, out of mind' was one of the reasons he gave for leaving the project as coordinator, but he stayed involved from a distance.

Changes also took place in the mission and aims of the umbrella organization. WSHHS was transformed into the Water and Sanitation Extension Program (WASEP). It is expected that WASEP will offer good opportunities for the future dissemination phase. However, the Aga Khan Health Service refused to extend the contract of Ms Dilferoz for further participation in the PAR-Manage project. She left in September 1996 and rejoined the AKHS. Two female members were added to the team, but now there was only one member that had been participating from the beginning. This team member was coordinator until early 1998, but left with difficulties. The IRC coordinator visited Pakistan to discuss the situation of the team and to meet the new director of WASEP. This resulted in a fruitful discussion on the continuation of the activities in Pakistan. The new team, unfortunately with no experience in the earlier research phases, had to consolidate major findings on process and outcomes.

At IRC level, the team established in 1994 consisted of Ms Eveline Bolt (health educator), Ms Norah Espejo (psychologist), who were responsible for the research in Asia and Latin America, respectively, and the project coordinator Dr Marc P. Lammerink (economist and social scientist), who was also coordinating activities in Africa. Ms Norah Espejo resigned from the project in October 1996. At IRC, a new team member, Mr Peter Bury (social geographer) was added early 1997. He supported mainly the Cameroon team.

Within IRC regular discussions took place on the felt lack of integration which was seen an obstacle to project sustainability. The learning potential of the project (in particular with regard to research methodology and project management) was not always sufficiently recognized by other colleges in IRC. On the other hand, it was felt that the project made insufficient 'use' of experiences and expertise of colleagues within IRC. Throughout 1997 and 1998 efforts have been made to use and create opportunities for institutional learning. Increased understanding about the project among colleagues was realized through small workshops for mutual exchange and by making project materials available.

In some of the participating countries the learning potential of the project was also insufficiently explored, for various reasons. In some countries the organizational structure was too complex and the members of the research teams did not really know where to go to share their experiences. In other countries the teams felt they had not enough to share, mainly because too little time had been given to reflecting on and documenting experiences. In the last year IRC staff have focused on supporting the teams with collating and documenting research process. IRC staff have also assisted in developing strategies to create a learning environment within the organization.

All in all, the above changes in team composition and organizational setup show that it has not been at all easy to consolidate the findings of this long-term research project over the years. The type of approach of the research permitted organizations and teams to put in a lot of creativity and to develop their own styles and approaches. But at the same time this demanded high commitment of both the team members and the organization to allow for innovation. It was sometimes hard to consolidate the lessons learned in the organization.

2.5 The mid-term evaluation

The mid-term review focused on the understanding of PAR in the communities and its impact on management of the water supply system. It also looked at institutional embedding of the research (team) and the usefulness of the NRG. The actual review started in October 1996 with the participation of the reviewer in the International Exchange Workshop. This provided him with an excellent opportunity to acquaint himself with the project, to get to know the members of the country teams, to discuss a number of issues with them and to start preparations for the field visits.

During the workshop it was decided that the reviewer would visit Kenya and Nepal and members of the teams in Cameroon and Pakistan would participate in the reviews in Kenya and Nepal, thereby gaining experience in carrying out the reviews in their own countries. Given the experience of the Colombian team and the review work already done by this team, it was decided that the Colombian team would support the team of Guatemala in their review, possibly with some assistance from IRC staff. The IRC staff member responsible for Asia was to take part in the review in Nepal (taking part in the review in Kenya was not feasible). The team leader from Nepal was invited to participate in the mid-term review in Pakistan

The Kenyan team indicated two major challenges for the evaluation: how to transform the research process from externally driven, i.e. by the PAR team, to internally driven, i.e. by the communities themselves, and how can we (help stakeholders) answer the question into the benefits of this research? How can we quantify achievements.

At IRC and at the country team level, the review was a participatory one. IRC staff and PAR teams formulated their own review questions and jointly decided on methods for information collection. Discussions were held with community members, PAR volunteers, bell-ringers, PAR teams, NRG members etc. In some communities PAR volunteers had prepared themselves for the review and made a presentation. Extensive walks through the communities and discussions with groups and individuals provided a lot of information.

The Nepal team conducted debriefing meetings to help the communities to internalize the outcomes of the review.

Learning points from Nepali team on the mid-term review

Participatory evaluation helps:

- *To make the programme more transparent;*
- *To review strengths and weaknesses of the programme;*
- *To establish open communication with outsiders;*
- *To become accountable for the programme.*

In Pakistan the mid-term review was done in March 1997. For this purpose the team leader of the Nepali research team went to Pakistan.

An important conclusion of the mid-term review was the need to consolidate and document the processes and outcomes of the research. A large amount of interesting findings were available, but should be made accessible to a larger public. For this purpose documentation workshops with the country teams were planned. The review also revealed the need for additional research activities. Attention should go to improved integration of the research programme in its environment, which included looking for opportunities to 'use' the NRG and for stimulating institutional embedding of the research.

The mid-term review, conducted by Mr Haverkort of ETC, was an interesting experience of a participatory review in line with the objectives of the research project. The review helped IRC and its partners to reflect critically on what had happened and what is happening in the communities and the partner organizations. The descriptions of processes, results and issues that need reinforcement, the mid-term review gave an overview of the state of the art of participatory action research.

2.6 Reporting

The style of reporting is another crucial aspect of participatory research. In conventional research, practitioners often only report to their colleagues and the sponsors, and are often not trained in writing in a comprehensible way. Their reports are inaccessible to outsiders, and make democratic discussions on the research results rather difficult.

Participatory research results are documented and distributed in such a way that people from outside the scientific profession can participate in the discussion. The documents may have little scientific prestige, but give a great deal of satisfaction and provide a good check on the validity and relevance of the results. Various reporting styles and procedures can be used to document data and information, adapted to the level of political awareness and the ability of stakeholders and the public to understand written, verbal or visual messages.

Three levels of communication therefore need to be established, depending on whether the message and the information are addressed to local people (sometimes pre-literate), professionals, or intellectuals. The PAR teams have had to address all three levels with the same message, using written, verbal or visual means of communication, including the use of images, sound, paintings, gestures, mime, photographs, radio programmes, popular theatre, videotapes, audio-visual materials, poetry, music, puppets and exhibitions.

Participatory action research is committed to systematically returning the information gained to the originating communities and organizations, because they continue to be the owners. These

communities and organizations should determine the priorities in relation to its use, and authorize and set conditions for its publication and dissemination. Above all, the information should be published in plain, understandable language using everyday expressions that will be accessible to everyone.

For all PAR teams, the process of disseminating information involved 'learning by doing', and some teams made it clear that they needed support. The Nepali team, for example, did not feel comfortable at first, but the quality of their reports improved noticeably. The Pakistani team put a great deal of effort into their field reports, and published a report of a workshop for the community research teams as a booklet.

In 1997 one of the concerns was still on how to document the experiences with the PAR approach in the communities. Large amounts of information had been recorded during the research programme, but the most vivid accounts of the work in the field were still in the heads of the researchers. This issue was addressed in detail during the back-stopping missions of IRC team members to Cameroon, Colombia, Kenya and Pakistan, and they provided support through monitoring and support visits and e-mail contact.

The activities during these visits included workshops and training courses on compiling information writing reports. The workshops concentrated on how to document experiences in such a way that will help interested readers to understand better what the PAR approach is all about and how the management performance of communities can be improved. At a workshop in Kenya, these were referred to as the 'juicy stories' of people, events and processes. The teams were encouraged to write not only reports, but also articles and case studies that can be used for different audiences on different occasions. Some teams decided to hire support from outside to do the documenting, or instructed their own members to do it. The IRC team held an international writing and dissemination workshop for all the PAR teams in the Netherlands in June 1998, at which formats for different kinds of reports were jointly prepared, to improve the quality of case studies and final documents.

The 'magic' of the Nyakerato meeting

On the sloping hills of Nyakerato, in Kisii District in Kenya, a trumpet is blown and people stream from all directions to attend the meeting. The District Officer has sent a message that he will come to the area to resolve a water conflict.

The 'Abakione' clan of the Ogembo division crouch on their side of the meeting. The 'Abatabori' clan of South Mugirango constituency hurry up the steep hill, stumbling over the rocky boulders in their path. Soon all are gathered, each clan crouching on their own side of the arena like lions ready to pounce on each other.

Women in colourful dresses sit behind the men of their clans, others with their children still strapped to their backs, talking in low voices and whispers. Many times these two clans have met in this arena to discuss issues of water. Many meetings have ended in disarray, each clan not willing to give in to the other. There is anxiety all over the place.

How can the 'Abatabori' clan take all our water, burst the 'Abakione' clan, who live on the high ground, from where starts the Nyakerato spring, the source of the gravity scheme. The government

has tried to pacify the 'Abakione' clan by providing a shallow well, but this has proved ineffective to quench the fury of the people living on the hill. They feel cheated and robbed. The shallow well only worked for 2 months. Their anger is unquenchable, how they ask us to dig trenches for a gravity scheme, why didn't the engineers tell us that gravity will never serve us if we live higher than the source? The bitterness of the people of Ibencho hill is deep, as deep as the ocean. They see themselves as having been used as labourers without pay.

The PAR team arrive, one walking with a few women, talking and laughing and the other member staying behind with a few old men, also talking and feeling at home. They sit down with the people on the grass. This surprises the Chiefs and DOs, who ask why they are not sitting with them on the 'high table' which has been reserved for them. The members of the team are happy where they are, and say they are part of the community.

Order! bursts the officiating District Officer. Order! There is hushed silence. He starts to talk: Ladies and gentlemen, we are gathered here today to talk about your water supply. Could we have suggestions on how to resolve the conflict between the two clans? Between those living on the hill and those living on the slopes. The DO Ogembo stands up to talk. The Kisii District water engineer gives his speech. The people only stare, as though looking at some distant object, hidden from their sight. Sitting day-dreaming, no response, no movement. There is a road block. The people are afraid to talk, they fear being victimized, they fear being labelled black sheep in their respective clans or areas, the hills and the slopes. It is stalemate.

The PAR team takes the stage amidst the people, and starts by telling them a story and making a few jokes to break the ice, and people start laughing. We have worked together for many months, we have visited your homes, we know that your women walk through steep rocky paths to fetch water. Those who live on the hills were involved in digging trenches. Digging trenches hoping to have water they have not received and will never do from the Nyakerato gravity scheme. YES! your bitterness is understandable.

The mood starts to change, as people slowly respond and start to ask questions. The DOs, DWE, Chiefs and Assistant Chiefs have a surprised look on their faces. Women start moving closer to men showing interest and they too start to ask questions. A lot of people ask irrelevant questions, but they are tolerated and brought back to the subject by the PAR team. At times the two clans are almost fighting with words, but that too is allowed to continue to let the steam out. They are all accepted as they are.

Today the DOs, DWE, BKH and the PAR team have come to hear the cries of the oppressed. Oppressed by nature, oppressed by the steep hills, oppressed by the rocky paths, yes! The government officers are here not to seek trouble, but to bring a new birth to Nyakerato. The Swahili saying goes 'Ajuae uchungu wa mwana, mzazi' (the pain of giving birth is only known by the one who gives birth).

The meeting resolves that there will be three new committees, each representing their own areas, and one central committee. The DO then suggests how the elections will be conducted, but the PAR team says that the community itself should decide. The PAR team then facilitates the elections.

2.7 Dissemination

In late 1995, a detailed proposal for dissemination yet without budget requirements was developed by IRC in collaboration with the international advisory group and the PAR teams from the partner organizations, for submission to DGIS. The idea was that each organization would develop a national workplan and budget within the overall framework of the proposed dissemination strategy. Extracts from the summary are presented in the box below.

The dissemination strategy: a summary

The project envisages to disseminate its experiences and results. Until now this has been done in a passive way, by publishing results at regular intervals. The purpose of this proposal is to develop a more active dissemination strategy to help shape the emerging trend towards decentralized management of water supply systems. Training water sector staff and sharing findings and experiences on the approach, the activities, process and results with organizations in the countries concerned and a wider international audience will very much contribute to the general development of effective community management of rural water supply. This will help in the design and implementation of more sustainable projects. It will help in the mobilization of people for communal action, and it will promote collaboration and coordination among agencies. An organized information base on community management at the national level will help people to improve their strategies and will facilitate information sharing between rural people and technicians and planners.

The dissemination strategy is planned in such a way that it will allow projects to share products from the first stages with a wider audience. This will create a broader platform for information sharing. Implementation partially parallel with the current community management project will enable project partners to combine their activities and, armed with details of the research process and results, better equipped to confront practitioners and policy makers with. This will stimulate the flow of results to end users, and to those outside the sphere of the relatively small group of fellow professionals and scientists.

At the suggestion of DGIS, briefing notes and flyers containing general and country-specific information have been compiled, and these will be distributed to the Netherlands embassies and other interested institutions in the research countries.

In some of the participating countries, project staff visited the Netherlands embassy to inform staff about the project, even though the research funds were not channelled through them.

In the context of dissemination, Mr Orlando Fals Borda, one of the organizers of the Cartagena World Congress in June 1997, described the event at the workshop with IAG members in 1996. On the basis of this information the CRTs made suggestions to make PAR participation in the congress useful (see Cartagena conference).

In November 1995 the IRC coordinator of the PAR project presented a paper at the Third Forum of the Water Supply and Sanitation Collaborative Council (WSSCC) in Barbados. The Council is now sponsoring a working group on community management and partnerships within civil society.

The five-minute overhead presentation in Barbados

COMMUNITY MANAGEMENT – YES!
COMMUNITY MANAGEMENT – HOW?
WILL IT BE SUSTAINABLE AFTER COMPLETION?
PARTICIPATORY ACTION RESEARCH FOR COMMUNITY MANAGEMENT

In early 1996, the IRC coordinator was invited to a planning meeting of the newly formed working group on community management in Cairo, Egypt. The meeting finalized the terms of reference for and working arrangements of the working group, and defined the tasks and responsibilities of the participants. Under the presidency of Bunker Roy, the efficient two-day agenda resulted in an interesting but ambitious work programme for the 18 months leading up to the next WSSCC meeting in Manila, the Philippines.

The planning meeting evolved a new approach to highlight the policy implications of community management based on a number of relevant experiences in Africa, Asia and Latin America, and to promote policy changes at the level of the Collaborative Council and other forums for the benefit of community management and sustainability.

Both NETWAS from Kenya and NEWAH from Nepal coordinated regional workshops at which a number of case studies of community management were presented. Most partners in the PAR project were involved in documenting their best practices.

The partner organizations and IRC have prepared articles on the research experiences, two of which were published in issues of *Waterlines*. Members of the IRC team have also published papers in *IRC in Brief* and *Water Newsletter*, and have made presentations at conferences and workshops (e.g. at the IDS workshop 'Linking Participatory Methodologies with People's Realities: Towards a common agenda'). An interview with two IRC staff members about the project was broadcast by Radio Netherlands.

The Pakistani research team published a resource guide for NRG members on technical and social matters, and submitted three abstracts for presentation at the national symposium of the Aga Khan University of Karachi. Three members of the team presented a paper entitled 'The importance of community research teams in the participatory action research project'. The abstract of this paper is reproduced in the box below.

Abstract of the presentation at the Aga Khan University

The importance of CRTs in the participatory action research project
D. Afroze, M. Saleem and A. Hussein
Water, Sanitation, Hygiene and Health Studies Project, Aga Khan Health Service, Gilgit, Northern Area, Pakistan

The Participatory Action Research (PAR) team started its project in 1995, to identify problems in the management of rural water supply systems. For this purpose the team contacted individual key community members to organize meetings with male and female members of the community. It soon became clear that this method of approaching the community was not having the hoped for result.

When they discussed this issue with the village community of Pakora, they came up with the idea to form 'Community Research Teams (CRTs)'. The members would be representatives of the different muhallas within the village. The CRTs would be responsible for the organizing meetings, communicating and collaborating with the PAR project, and for carrying out PAR activities to solve the problems related to the management of the water supply system. The general terminology would allow this same group of people to develop research projects on other community issues. Similar CRTs were then formed in the other three communities involved in the PAR project. CRTs were found to be extremely helpful in bridging the gap that often exists between a research team from outside and the concerned community. Moreover, after receiving training on how to identify and solve problems, the methods proved to be valuable to the communities for the resolution of various other issues.

A team member in Gilgit (**Pakistan**) also conducted a workshop on PRA for the staff of the Building and Construction Programme and IUCN.

The **Colombian** PAR team presented a paper on the project and its first results during a regional preparatory meeting for the World Congress on Participatory Research in 1997. The **Guatemalan** team prepared a presentation for the CARE Latin American meeting to representatives from Honduras, El Salvador, Dominican Republic and Peru.

In **Nepal** the PAR team leader acted as a resource person at a training course organized by the Rural Water Supply and Sanitation Project supported by FINNIDA.

The **Cameroon** team is involved in various ongoing dissemination efforts, using radio, TV, newspaper articles, and the PAID/WA Newsletter, to encourage interested individuals and organizations (mainly staff of the Community Development departments in the regions) to participate in field activities.

Pre-dissemination in Cameroon

A sub-director at the Central level of the Community Development Department was so impressed that he requested training for all CD field staff (70 managers and 180 CD assistants) on the approach, which was approved by the Ministry of Agriculture. In his official letter he wrote: 'Since the mission of the CD Department has been and continues to be to encourage community participation in all development endeavours, including thousands of water supply and sanitation projects that have management problems, the need to retrain our personnel in the PAR approach is of paramount importance to boosting our programme's effectiveness and ensuring community project sustainability'.

The University of Dschang, a member of the NRG, invited the team to participate in a curriculum development workshop for a Masters course in water resources management. At the national level, the approach has already been covered by TV and radio (Radio Bamenda, National news and TV station), and a national newspaper (La voix du paysan) published an article on the approach and the NRG meeting in Bamenda. At the institutional level (PAID) there is growing interest in the approach. PAID/WA has now included action-oriented research in its integrated rural development course.

In **Colombia** the team prepared a 17-minute video film about the process in La Sirena, a PAR community, based on the testimony of two women community leaders, who show the work realized over time. They also wrote an article on the PAR approach for the CINARA publication *Rumor de aqua*, and presented papers at the regional preparatory meeting for the World Congress on participatory research in Cartagena in 1997, and during a workshop of the Congress itself.

The PAR team leader **Kenya** presented papers at the ITN conference in Harare, Zimbabwe, on 'Defining community management', and at a meeting of the working group of the Collaborative Council on Community Management and Partnership in Civil Society. A PAR team member also presented a paper based on the findings of the PAR project, entitled 'Understanding community management of water supplies', at the 23rd WEDC Conference in Durban, South Africa. The paper was very well received, and many participants later asked to meet the author. The NETWAS PAR team member also participated in a two-day workshop organized by the Participating Learning Network (PALNET) in Nairobi.

Although a major effort will be made to disseminate the results of the project in the next few years, an early inventory (1996) of activities that already have been carried out shows that a lot has been done, although the teams may not have identified them as being part of dissemination.

Dissemination activities identified during the workshop in October 1996

Activity	Purpose	'Audience'
Conferences on comm. Management	- find out whether training matches with professional demand	- trainers - implementers - donors
Presented paper on CM at the ITN Africa meeting (Harare)	- exchange and synthesis of experiences	- NGOs - govt. dep. management level - donors
Organized workshops with communities and with NRG	- share exp. Influence policy - get feedback - capacity building for undertaking analysis	- wide variety - community members
Development of comm. Management of water supplies strategies for MLRRWD Kenya	- contribute to policy development	- government - donors
Workshop with NRG (water sector: PRA practitioners) on comm. management	- awareness-raising - capacity building	- NRG - Water agency - university - PRA practitioners
Produced reports on workshop proceedings	- advocacy	- trainers - fieldworkers
Attended other workshops and gave presentation		- sector professionals
Articles in various journals/newsletters		
- Forum for sociologists on PAR	- Preparation for Cartagena to identify areas/themes	- sociologists & popular educ.

- International workshop on water - The CRTs presented their progress before the regional workshop (Colombia – Guatemala	- exchange of exp. on all techn. - exchange of exp. - awareness raising through exposure	- engineers - CINARA PAR teams (IAG member)
Exchange visits with communities to see comm. Managed projects	- advocacy	- community members - implementers
Briefing sessions for managers from Ethiopia on comm. management	- sharing for awareness - capacity building - advocacy	- regional managers (govt. staff)
Presentations about PAR and its process outcome to: 1) communities 2) within organization 3) beyond organization at country level through reports, and at regional level a training course attended by engineers from India and Bangladesh	- awareness raising	Eng. India/Bangladesh

Bibliography

AKRSP and NEWAH (1996). *Selection Process of Communities for the PAR-project.* Unpublished paper, Gilgit, Pakistan.

Bolt, E.; Espejo, N. and Lammerink, M.P. (1996). 'The researchers- why knowledge is more valuable than gifts'. In: *Waterlines*, Vol. 15, No.2, October 1996.

CARE Nepal (1997) *The Spider's Model Manual: A trainer's guide to monitoring community organizations capacities.* Katmandu, Nepal.

Chikombe, P.S. (1996). 'Kenya - PAR study intensifies'. In: *Water and Sanitation News*, Vol. 3, No. 1, April 1996.

CINARA *Rumor de Agua* (various article).

CINARA (1997). *La participación en la Gestión de Acueductos Administrados por Comunidades Rurales. El Caso de la Vereda de Campoalegre.* Pregraduate thesis in sociology, Cali, Colombia.

CINARA (1997). *Gestión Comunitaria del Servicio de Agua en un Barrio de Ladera de Cali.* Pregraduate thesis in sociology, Cali, Colombia.

IRC (1994). 'Workshop on Community Management of Rural water Supply at IRC'. In: *IRC in brief*, No. 5, October 1994.

IRC (1995a). 'Community Management Project: A Progress Report'. In: *IRC in brief*, No. 6/95, December 1995.

IRC (1995b). 'Village walk: Start of joint problem identification'. In: *Water Newsletter*, No. 235, September 1995

IRC (1996a). '"MANAGE": Second International Exchange Workshop'. In: *IRC in brief*, Number 3/96, September 1996

IRC (1996b). *Report of the Second International Exchange Workshop.* The Hague, The Netherlands.

IRC (1996c). 'Community Experimentation in WSS Management'. In: *IRC in brief*, No. 2/96, 1996

IRC (1996d). 'Community Exchange Visits in Nepal: Learning and Sharing'. In: *Water Newsletter*, No. 240, February 1996.

IRC (1996e). 'Participatory Action Research - Village Walk, start of joint problem identification'. In: *Water and Sanitation News*, Vol. 3, No.1, April 1996

IRC (1996f). 'The Community as Researcher: Local Research Teams in Guatemala and Colombia'. In: *Water Newsletter*, No. 243, August 1996.

IRC (1997a). *Water supplies Managed by Rural Communities - Country reports and case studies from Cameroon, Colombia, Guatemala, Kenya, Nepal, and Pakistan.* PPP 5-E,The Hague, The Netherlands.

IRC (1997b). 'Community Management team shares experience in Cartagena'. In: *IRC in Brief*, No.1, June 1997.

IRC (1997c). 'Participatory Action Research on Community management of Rural Water Supply' In*: Water Newsletter,* No. 251, October 1997

IRC (1998). *Director's Meeting 7- 9 July 1998.* The Hague, The Netherlands.

IRC (1999) *Training for Trainers Manual.* The Hague, The Netherlands.

Espejo, N. and Escobar, M. (1996). *La communidad en su rol de investigacion: los equipos de investigacion local en Guatemala y Colombia.* Unpublished paper, The Hague, The Netherlands.

Feroze, D.; Saleem, M. and Hussain, A. (1997) Community Research Teams: the Local Research and Management Systems'. In: *Abstracts Convergence Congress*, Cartagena, Colombia

Gomez, C. and Rojas, A. et al.(1997).*La IAP un Enfoque para el Fortalecimiento de la Gestión Comunitaria de los Servicios Públicos -Tres casos Ilustrativos- Experiencia en Colombia*". Paper Presented at World Conference on Participatory Research in Cartagena and at the Seminario Internacional Agua 97, Cinara, Cali, Colombia

Gomez, C. and Rojas, A. et al.(1998). *Gestión Comunitaria en Proyectos de Abastecimiento de Agua. La Convergencia de Dos lógicas.* Paper prepared for WEDCC Conference, Islamabad, Pakistan.

Hussain, A.; Saleem, M. and Feroze,D. (1997). 'Role of Local Organization in Transforming Private Property into Communal Use'. In: *Abstracts Convergence Congress*, Cartagena, Colombia

Lammerink, M.P. (1995). *Community Management of Rural Water Supplies in Developing Countries - An ongoing Participatory Action Research Project.* Paper presented at Third Global Forum of WSSCC, Barbados.

Lammerink, M.P. (1998a). 'Community managed rural water supply: experiences from participatory action research in Kenya, Cameroon, Nepal, Pakistan, Guatemala and Colombia'. In: *Community Development Journal* , Vol. 33, No. 4, October 1998

Lammerink, M.P. (1998b).'PAR on community management of rural water supplies'. In: Hussein, K. and Pero, D. *Linking participatory methodologies with people's realities: Towards a common agenda.* IDS , Sussex, UK

Lammerink, M.P. and Wolffers, I. (1994). *Selecting some examples of participatory research.* The Hague, The Netherlands.

Lammerink, M.P.; Oenga, I.; and Croxton, S. (1995). 'Freeing the channels - farmers managed water supply'. In: *Waterlines*, Vol. 13, No. 4.

Lammerink, M.P.; Bolt, E.; Oenga, I. and Gomez, C. (1997). Participatory action research on community management of water resources in six countries from the South'.

Lammerink, M.P., Visscher, J.T.. (1998). Putting Community Management in Place. Paper presented at International Conference in Barcelona.

NETWAS (1995). 'Participatory Action Research (PAR) in Community Management'. In: *Water and Sanitation News*, Vol. 2, No. 8, December 1995.

Oenga, I. (1995). *The Role of Communities in the Management of Improved Rural Water Supplies Project: Participatory Action Research.* Paper presented at the ITN Africa Conference, Harare, Zimbabwe.

Oenga, I. (1997). *Understanding the Role of Communities in the Management of Improved Rural Water Supplies: Participatory Action Research.* Paper presented at 23 rd WEDC Conference, Harare.

Oenga, I. 'Understanding the role of Communities in the Management of Improved Rural Water Supplies: Participatory Action Research'. In: *Kenya Engineer*, Vol. 18, No. 1, January 1998.

WSSCC (1996). *Third Global Forum - People and Water: partners for life.* Meeting Report, Geneva, Switzerland

Radio Netherlands (1996). *A good life - water and development.* Radio program, Hilversum, The Netherlands

Regular up-dates at IRC Web-page: http://www.irc.nl .

From the six PAR teams we received:
Country reports and case studies from six countries (1994)
Field reports during different three phases from six countries (1995-1998)
Yearly Workplan from all six countries (1995-1997+)
Half-yearly Progress reports from six countries (1994-1998)
Community workshop reports during different phases from six countries (1995-1998)
Community evaluation reports from four countries (1998)
Guideline documents on diagnosing from six countries (1997)
Guideline documents on experimenting from four countries (1998)
Regional workshop proceedings from two workshop in each region in six countries (1995-1996)
Final Documents from four countries (1998)
National Reference Group Meeting Reports from various meetings from six countries (1995-1997)
Cases from 22 communities in all six countries (1998)
Community histories from Colombia (1996)
Exchange visit reports from various countries (1996-1998)
Photo series during different phases of the research from six countries (1994-1998)
Videos from Colombia (1994, 1997)