

pla notes
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Community water management



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PLA 35: Community Water Management

The special theme section of this issue of Participatory Learning and Action focuses on community management of water systems.

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Editorial

• Theme issue

Welcome to this issue of *PLA Notes*, where the theme is community management of water systems. This issue presents the outcome and progress so far of a research project for the International Water and Sanitation Centre (IRC), based in The Netherlands. Working in collaboration with 6 partner organisations (see Box 1), the project looks at the role of communities in the management of improved rural water supply systems in the South. It focuses on the many possibilities for improving community management of local water resources, working with communities based in Kenya, Cameroon, Guatemala, Colombia, Nepal and Pakistan.

The guest editors for the theme section are Marc P. Lammerink and Dick de Jong. Marc, an economist and social scientist, is the director of FMD (Forestry Manpower Development) Consultants. Currently, he is also working with the IRC to co-ordinate the community water project. With more than twenty years of experience, his main areas of interest are the scaling-up of participative training and research approaches in the field and on institutional support to organisations to implement sustainable development projects.

Dick de Jong is a journalist from the School of Journalism, Utrecht, The Netherlands and is a practising communications specialist. Primarily responsible for IRC's public information, advocacy and marketing programme, he also provides support to its activities concerning information management, public relations, and training. Dick has been involved in water supply, sanitation and hygiene education in the South since 1981. He is editor of *Source Bulletin*, member of the Editorial Advisory Board of *Waterlines* and is joint author of 'Communication in Water Supply and Sanitation: Resource Booklet' and 'Communication Case Studies for the Water Supply and Sanitation section'.

BOX 1

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• In this issue

This issue opens as usual with a suite of more general articles. In the first article, Hilde Van Vlaenderen discusses the use of video in community development in South Africa. The video was used to help identify the development priorities of 14 villages and was a key tool in aiding both the understanding of the reality facing the villagers in their daily lives and also as a catalyst for community mobilisation.

In the second article, Paul Scholte et al look at how PRA can be used in a conflict situation in Waza National Park, Cameroon, to deal with sensitive information on illegal park exploitation. The authors discuss how carefully the resulting information had to be used, for fear of disrupting the dialogue that had been initiated with the stakeholders.

In the third article, Neela Mukherjee et al discuss the use of a method for participatory evaluation, the project benefit-impact matrix, and show its use within the context of a project evaluation in the Maldives. Participants are requested to review project activities and score them with reference to their impact at the individual, group and community levels. The method enables participants to evaluate project activities as a group and encourages wide participation in the process of evaluation.

In the final article of the general section, Michele Nori et al discuss the use of complementary methods to understand land-use changes, with an example from the Ethiopian Rift Valley. The study examines agro-pastoralism and recent landuse change through analysing social and environmental processes. The researchers combined information derived from soil sampling, aerial photography and mapping, and satellite imagery with socio-economic and cultural data derived from local communities using PRA.

Regular features

In the *Feedback* section, Anneli Connold and John Rowley discuss the learnings from the use of PRA in community assessments in Berkshire. Through the use of PRA to assess various communities living on housing estates within the county, the authors raise methodological problems and challenges to using PRA methods in a northern context. In a challenging and critical response, Alison West, the Chief Executive of the Community Development Foundation, UK stresses the multitude of methods currently used in the UK for community needs assessment and questions whether the introduction of PRA adds anything new to the range of methodologies currently available.

For trainers in participatory learning, we have reached the last in the serialisation of the *Trainer's Guide to Participatory Learning and Action*. This section describes how training needs analysis, combined with in-depth institutional analysis, can help design a training programme. This includes suggestions for planning the logistical arrangements, course structure and content, and evaluations and revisions for the future.

The *Tips for Trainers* section has been prepared by Jane Bañez-Ockelford and discusses a technique to aid problem analysis. This exercise enables participants to work through issues and identify the root causes of problems, at the same time learning how inter-related are socio-economic, political and environmental problems.

The *In Touch* pages (at the back of the issue) share experiences and publicise new and relevant materials and training events. The *RCPLA Pages* in the *In Touch* section profile one of the RCPLA Network members, the Learning Resources Center of the Center for Development Services (CDS) based in Egypt. The *RCPLA Pages* also provide some news and latest information of some of the other RCPLA Network partners' activities during the recent months.

Happy Reading!

Community Water Management

Strengthening community water management

Marc P. Lammerink, Eveline Bolt, Dick de Jong and Ton Schouten

• Introduction

This *PLA Notes* has a special focus on community water management. It has largely been drawn together by an international team from IRC, International Water and Sanitation Centre¹, in collaboration with teams from six organisations world-wide². It aims to share the lessons learned from a challenging participatory action research programme to improve rural communities' management of their water supply systems. This programme, known as the PAR-Manage project, has been running for the past five years in six countries from the South: Cameroon, Colombia, Guatemala, Kenya, Nepal and Pakistan (see Figure 1).

Figure 1. Countries of PAR research



¹ IRC in the 1970s used to stand for 'International Reference Centre'. Now the acronym means 'International Resource Centre', to better reflect the current support package of advisory services, advocacy, briefing and training, documentation services, publishing and research.

² CINARA from Colombia, NETWAS from Kenya, NEWAH from Nepal, PAID in Cameroon, SER in Guatemala, and WASEP from Pakistan.

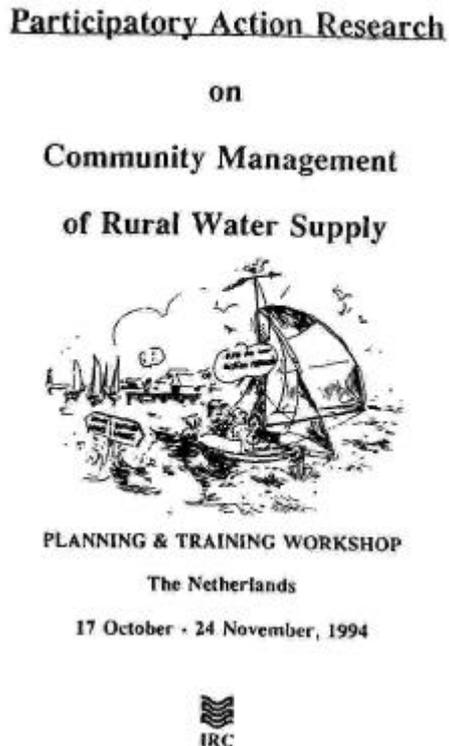
IRC and its partners, supported by the Netherlands Directorate General for International Co-operation (DGIS), have developed a flexible approach to community-managed water supply systems that can be used by various support organisations, and can easily be adapted to local circumstances. This participatory approach, known as Participatory Action Development (PAD), draws on the best practices, principles, tools and techniques developed by practitioners of Participatory Action Research, Participatory Technology Development and Participatory Rural Appraisal.

The PAR-Manage project started in 1994 (see Figure 2). The programme dealt with community management and developed approaches, methods and tools to enhance the capacity of rural communities to manage their own water supply systems with appropriate backup support and guidance. The research projects have been executed by organisations dealing with support and capacity building for community-managed rural water supply systems at the country or regional level. The IRC, which deals with issues around community-managed water supplies at the international level, provided the overall co-ordination, training and support for the research teams.

Between 1994 and 1998 the approach was tested in 22 communities in the six countries, each with a wide variety of water supply systems and service levels, and representing a range of environmental, socio-economic and cultural conditions, as well as variations in managerial performance. Based on the programme's experiences, valuable lessons have been learnt about improved strategies,

innovative methods and tools for building management capacity within communities.

Figure 2. The planning and training workshop that started the programme in 1994



Many of the teams involved have identified the need for capacity development in their respective organisations, and for strategies and tools that could help them to implement a participatory methodology for improving water supply system management that is flexible enough to adjust to different local circumstances. The programme is now at the stage of disseminating its experiences by means of publications, more active sharing and capacity building.

We have divided the theme section of this special issue of *PLA Notes* into two parts. The first contains two articles following on from this overview whilst the second part of the theme section presents some highlights from experiences at community level in the six countries where the PAR-Manage was implemented.

In this overview, we explore what community management of water means, outline the research process and principles and present the

results and lessons learned from the PAR-Manage project. In the next two articles members of the IRC project team describe the methodology and its phases in more depth (Lammerink et al, and Lammerink, this issue).

In the second part of the special issue 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 management. Each of the articles has a different focus, but all are based on the same PAD approach. Also included in this second part is a separate article giving a detailed account of a participatory evaluation of a WaterAid community water management project in Tanzania (see Forrester *et al.*).

- **What community water management is, and what it is not**

Community water management is a new form of co-operation between support agencies in the water sector and communities. It involves 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. Some fundamental principles of community water management are that:

- communities own the process of change;
- facilitators and local researchers participate in the community's projects, not the other way around;
- increased management capacities are the basis for improved water systems; and that
- each community develops its own specific management systems.

Through this approach, 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 technical goods, but are active participants, knowledgeable and accountable for their actions. At the core of this co-operation are partnerships and ownership based in the community. 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, at some point, one way or another. The facilitation task is to initiate the process, using a variety of participatory tools and information. An example of this facilitating role during experimenting is shown in the community of Lele, Nepal (Khadka et al, this issue).

However, community management is not a 'magic wand' for solving problems in the water sector, or for governments who are keen to decentralise or privatise water provision. Neither is it a recipe that can be replicated wholesale as a blueprint.

The articles in this special issue demonstrate that although the approach and theory is similar 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 the authors of these articles want to convey.

Selling the community approach

A common early difficulty encountered by many of the teams was the 'dependency culture' instilled in many rural communities. After decades of paternalistic relations

between the state and rural communities, it is difficult to sell the idea that communities need to take more responsibility. For decades, communities have been used to state agencies playing the role of providers: the state delivers the goods, for whatever reason, and the community receives and carries out the tasks the state prescribes.

In these circumstances, it is hardly surprising that communities do not accept the idea of community management with open arms. All the PAR project teams have therefore needed a lot of creativity and understanding, both at the start, and throughout the process, to get communities and local service organisations to buy into the process. Gonón Ortiz et al (this issue) experienced this in Guatemala, so did their colleagues in Pakistan in the community of Pakora (Ahmad and Raza, this issue).

There is always the danger that advocating increased community accountability and responsibility will be seen as a way for governments to cut spending and to wash their hands of community contact. However, there is a need for continued support from government - without this, the approach will simply not be sustained.

Understanding the social context: a vital ingredient for success

Communities are complex social realities; for this reason it is impossible to separate out the management of the water supply from other concerns. Management capacities can only be built successfully when there is a clear understanding of the social, economic and cultural characteristics of the community.

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, as in Colombia, (Gomez and Rojas this issue), while others are still struggling with the concept of management, such as in Nyakerato in Kisii, Kenya (Oenga and Ikumi, this issue). These differences are due to many different factors, many of them rooted in the socio-economic structures of a community.

Also leadership is an important factor. It seems to be a common feature that ‘old’ leaders play an important role in facilitating change in communities. If the leadership of a community is committed and receptive to change, the process is likely to proceed smoothly (see the second Tayong and Poubom article, this issue), but if the local leaders are too dominant and want to pull all the strings of community life, they can also be counterproductive. 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. 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, as in Nyakerato, Kenya (Oenga and Ikumi, this issue). 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.

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 be able 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 recognised by technically focused agencies and policies. However, villagers clearly start to understand the importance as was acknowledged in Yampapnant, Nepal (Khadka and Paudyal, this issue).

Moving beyond a technical focus

It is understandable that communities often focus on technical improvements. Water systems have been designed and constructed according to strictly technical parameters. For many engineers, water is a technical matter. Both agencies and communities usually do not even consider the management aspects of water systems at the community level (see Figure 3). It is still believed that if technical problems are solved, the system will work. It may indeed work, but it will only be sustained if the procedures and institutions to manage the improved systems in the communities are 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 cannot 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. This was for instance needed in Pakora, Pakistan (Ahmad and Raza, this issue). 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. In the case of water, meters and regulators, for example, are important monitoring instruments that can provide information that can be used to support the management of the system. The participatory action research learning by IRC and its six partners has shown how effective such instruments can be (see first article by Tayong and Poubom, this issue).

Figure 3. PAR team and community research team discussing water shortages at the public water standpost in Yanthooko, Kenya. (Photo: M. Lammerink)



Strengthening community water management systems

It is important to remember that efforts to enhance community management are not starting from scratch. Many communities have managed their own water supplies for a long time, however well or badly, so that traditional knowledge of water management and water quality usually exists. They often already have water committees or caretakers, and have helped with the construction of their system. Neither are communities inexperienced as managers generally: 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, as do leadership structures. These various processes of management are already ongoing when a project team arrives, and should be fully utilised 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 that 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 organisations to monitor what happens in the communities after the projects end. To take such time and care is obviously expensive, but will pay-off in the long-term as 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 a different way of accounting.

Community management cannot 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 in all the six countries participating in the PAR process. 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 energise institutions and their staff.

- **Using the process to stimulate democratic governance**

Community management is not merely a concept to increase the effectiveness of water supply systems; it is also firmly based on a 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 operationalisation of community management (see Box 1).

Some impacts

What have been the direct results of this process for the 22 communities involved? These include:

- increased capacities of communities to manage their water supply system;
- minor technical improvements to water supply systems, (see Box 2);
- improved community management of water systems;
- the development of mechanisms for negotiation and decision making, including rules and regulations and payment systems;
- more women involved in decision making;
- communities' adoption of PAR to solve other development problems;
- communities starting to define their own projects and search for funding; and,

- communities supporting neighbouring communities to improve their management of the water supply system.
- **Reflections from an international exchange workshop: changes resulting from the participatory community diagnosis**

Grazia Borrini from the International Advisory Group asked the PAR teams whether the diagnosing phase had produced results, beyond information, in terms of raised awareness, increased internal communication, and organisation 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.

BOX 1

DISSEMINATING LESSONS IN CAMEROON

A sub-director at the central level of the Community Development Department (CDD) was so impressed with the results of the process that he requested training for all CDD field staff (70 managers and 180 assistants) in the approach, which was approved by the Ministry of Agriculture. In his official letter he wrote: *'Since the mission of the 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 invited the team to participate in a curriculum development workshop for a Masters course in water resources management. At the national level, TV and radio (Radio Bamenda, national news and TV station) have already covered the approach. A national newspaper (*La voix du paysan*) published an article on the approach and there was a meeting of National Reference Group Bamenda. At the institutional level (Pan African Institute for Development -PAID) there is growing interest in the approach. PAID/West Africa has now included action-oriented research in its integrated rural development course.

BOX 2

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, 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 community in village meetings evaluated the implementation strategy.

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 organisations, 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.

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 has 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 realised 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 National Reference Group

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 decentralised the handling of emergency problems to the local caretaker. Also in Cameroon, the village of Nkoundja, after a meeting with the PAR team, 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.

• Sharing the findings

These articles are only one of the many ways in which lessons from this programme are being disseminated. Following the research phase, the Dutch International Development Assistance, DGIS, is financing a dissemination phase. Other dissemination tools on PAD for community water management in the pipeline include:

- manuals;
- six country videos and one global video;
- development of training courses in partner organisations;
- articles and presentations at conferences; and,
- electronic networking.

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

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Mrs. Grazia Borrini Feyerabend, Primary Environmental Care and Policy adviser, Gland, Switzerland;

Mr. Orlando Fals Borda, Professor Emeritus of Sociology; Participatory Action Research, Bogota, Colombia;

Mrs. Teresa Kavita, Gender Specialist in Water, Machakos, Kenya;

Mr. Bunker Roy, Community Organiser, Tilonia, India; and

Dr. John Thompson, Participatory Rural Appraisal and Water, London, UK.

6

An introduction to Participatory Action Development (PAD)

Marc Lammerink, Peter Bury and Eveline Bolt

• Introduction

Involving people in the analysis of problems that affect them and in the design of potential solutions is a good way to achieve sustainable development. Although more time consuming than traditional development approaches that rely on ‘blueprint’ plans and development experts, participatory approaches generally lead to development efforts that are sustainable over the long term because the people themselves have a stake in their success.

An approach to community water management requires a methodology that is sufficiently flexible and compatible to enable rural communities and support organisations to share, analyse and enhance their understanding, and allow them to plan and implement problem-solving activities. This is precisely the focus and rationale behind the Participatory Action Development (PAD) approach for community water management¹. The simplest description of Participatory Action Development is that it is an approach to development work in which all those involved contribute both to the creative thinking that goes into the problem-solving and planning, as well as to the action that is the subject of the development work.

¹ The approach is largely inspired by material developed by FMD Consultants to support approaches in the forestry sector, entitled ‘A stepwise approach for social forestry’ (FMD, 1994, *Participatory Learning Techniques: Some Examples*. Haarlem, The Netherlands; E-mail: fmd.nl@wxs.nl).

• History

Various trends have contributed to the evolution of concepts and practices of Participatory Action Development (Lammerink and Wolffers, 1998). The first is an ongoing debate about the *sociology of knowledge* (Habermas, 1971). In this debate, the view of society, human order and human history are presented from the point of view of the marginalised, the workers, the poor and the deprived, as opposed to the dominant form of knowledge produced and articulated throughout history from the point of view of the rulers.

The second trend came from the work of Paulo Freire and Ivan Illich. Illich’s critique of schooling in modern societies and Freire’s contribution to an *alternative pedagogy* merged with a number of contributions in the late 1960’s and early 1970’s. This showed the interlinkage of the process of ‘knowing’ and the process of ‘education’ and reaffirmed the fundamental linkage between knowing, learning and reflecting (Freire, 1982).

The third historical trend comes from the *practice of adult education* in the countries of the South. Adult educators developed a methodology of learning, which helped to establish the control of the learner over his or her own learning process (Tandon, 1988).

Another trend in the history was the contribution of *Action Research*. It argued for ‘acting’ as a basis of learning and knowing. This formulation of Action Research, going back to the work of Kurt Lewin, was influenced by the formulation of Participatory Action Research in Latin America (Fals Borda,

1985). From Lewin comes the following statement: ‘If you want to know how things really are, just try to change them’ (Lewin, 1958).

Another trend came from the work of phenomenologists (Solomon, 1987). These contributions legitimise experience as a basis of knowing, along with action and cognition. This expanded the basis of knowing beyond mere intellectual cognition and helped to develop the practice of *Experiential Learning* (Kolb, 1984).

Finally, the debate on ‘development’ began to place the question of participation as a critical variable in mid and late 1970s: people’s participation, women’s participation, community participation etc.. The emerging failures of top-down, expert-designed development projects and programmes supported the promotion of *participation as a central concept* in development. This has put the use of knowledge and skills of those who are critical participants and central actors in the development process in the centre (Chambers, 1983).

The PAD approach to community water management has been further developed and tested in 22 communities in six countries during a participatory action research programme from 1994 to 1998, known as the PAR-Manage programme.

• The research process

The main stages of the research process of the PAR-Manage programme were as follows.

1. *Preparations* (1994); in which the partner organisations 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.
2. *Selection of communities*; four communities in each of the six countries were selected 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. Those communities selected represented a broad range of environmental, socio-economic and cultural conditions, as well as managerial capacity.
3. *Participatory field investigations* (1995–96); to identify problems and diagnosis. This stage consisted of in-depth examination of local conditions and the actual demand for managerial improvement through participatory research. 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.
4. *Joint development and field testing of problem-solving strategies, methods and tools* (1996–97); based on 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 to address managerial problems and to monitor their effects on service performance. Each community then drew up an agenda for experimentation and 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. The results of the experiments and the use of monitoring instruments were analysed 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.
5. *Evaluation, follow-up and sustaining the process* (1998); this stage involves the currently ongoing final phase of the project, 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.

In the cases presented in the following articles, the approach has been developed to find solutions to problems and conflicts in the management of rural water supplies by rural communities. In the process, it also enhances their problem-solving capacities. In this article we outline the principles behind the PAD approach whilst the subsequent article explores the methodological process in more depth.

• Appraisal, training and action

By stressing the relationship between appraisal, training and action, the PAD approach is useful for:

- finding solutions to social problems;
- identifying the needs for change; and,
- working out improved knowledge, technology and patterns of action in order to meet those needs.

This approach can bring benefits to everyone involved: the community can enhance its capacity to solve its own problems, and support organisations working in communities can strengthen their own capacities and effectiveness, and thus cope with the increased demand for community management. There is much to learn throughout the process, and this is linked directly to the identification, development and testing of specific problem-solving strategies and tools together with men and women in the communities concerned (Lammerink, 1995).

In the PAD approach, (some) community members actively participate with 'support workers' throughout the process, from the initial design of the support process, through data gathering and analysis, to the final presentation of results and discussion of their action implications (Whyte, 1991). The community is actively engaged in the quest for information and ideas to guide their future actions. These practitioners are involved as both subjects and local development workers. An important feature of PAD is the dialogue between development professionals and people in the villages.

PAD offers an effective and powerful strategy for the type of interdisciplinary work that is

needed to improve the community management of rural water supplies. It also allows for a better understanding of the strengths and weaknesses of community management. It permits rapid adjustment to different local conditions in different countries in Africa, Asia and Latin America. In particular, by applying rapid feedback mechanisms, it stays closely in touch with reality.

• Common features of PAD projects

All projects based on PAD share common features, which according to Barton et al., (1997) include three foci; local, action and process.

Local focus

- *An orientation towards the felt needs of local people and institutions* - PAD deals with issues directly experienced and explicitly acknowledged as problems by local people and institutions.
- *A strong link with locally generated initiatives*- PAD aims to generate information and support decision-making processes relevant to local aims and applicable to local initiatives.
- *The involvement of non-local professionals as partners in a learning process* - Non-local professionals contribute to PAD as facilitators or by providing technical/management information, and via discussions and negotiations with local actors. Typically, they serve more as facilitators than as experts.

Action focus

- *A minimal time gap between data collection, analysis and feedback* - The timelines of analysis and rapidity of feedback are important, both to increase the cost-effectiveness of the support activities, and to promote the practical utility of the results.
- *A direct feeding of analysis results into planning and action* - PAD incorporates methods for translating the knowledge gained directly into practical decisions and/or feasible courses of action.

Process focus

- *An equal concern for process and results* - PAD aims at making all participants aware of the implications of the issue (problem, situation, possible solutions, outcome of experiments) being analysed and supporting them in undertaking relevant action.
- *A built-in communication strategy* - Final written reports are useful for institutional or training purposes of professionals; but meetings, posters, development theatre, workshops are more important means of providing feedback to local institutions and the community at large.

The PAD methodology places strong emphasis on participatory and gender-sensitive appraisal and needs assessment methods. It uses both qualitative and quantitative data collection on system performance and service, such as distribution problems, breakdown rates, costings, and local organisation (see Figure 1).

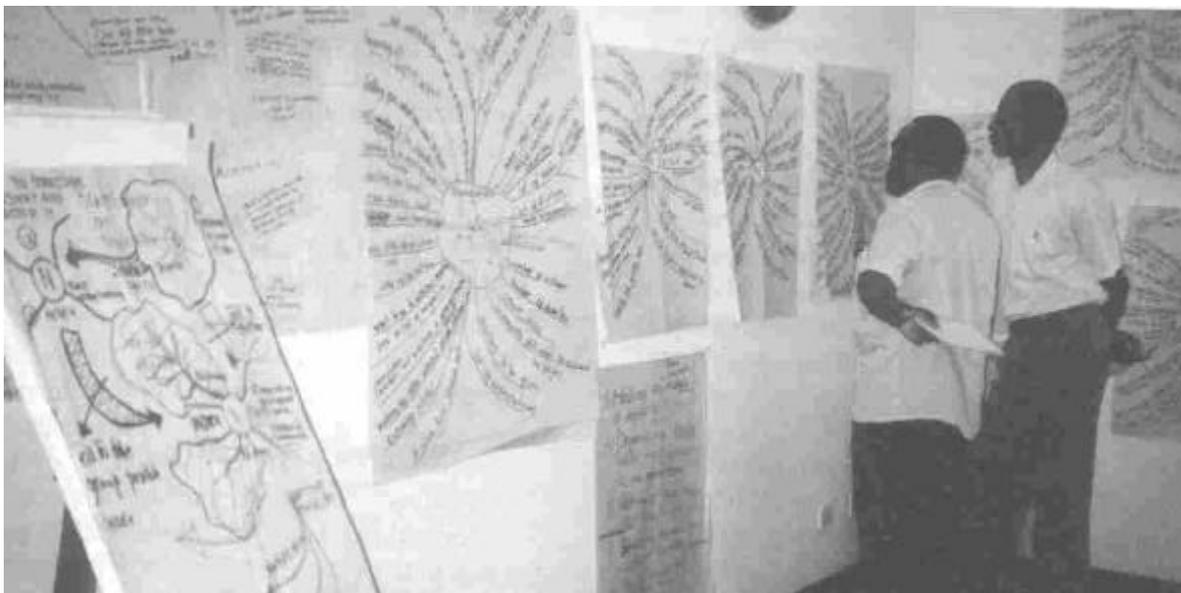
• A three-stage approach

In general, the PAD approach is implemented through three stages (see the next article for more detail):

- diagnosing phase;
- experimenting phase; and,
- sustaining phase.

For the diagnosis, a combination of methods and tools are available. Some of these emanate from the tradition of participatory research and Participatory Rural Appraisal (PRA), such as semi-structured interviews, observations, participatory mapping, transects, seasonal and other diagrams of flows, causality, trends and local organisational relationships, ranking, brainstorming and portraits or case studies of experiments. For feedback, various visual and communication tools can be used, such as village meetings, theatre, puppet shows, celebrations, games, posters, and other visual means.

Figure 1. The PAR team in Kenya assist in a mind mapping exercise in Nyakerator, one of the PAR communities. (Photo: M. Lammerink)



Implementation follows a logical sequence, starting with the joint preparation by fieldworkers and project staff of a common framework for a support project and the selection of communities. This is followed-up in the selected communities by a participatory situation analysis, a needs assessment and problem identification, and recording past experiences and identifying possible solutions. All of these activities together form the diagnosing phase.

An interactive process is then established with the communities to explore the problems facing the community and to discuss, jointly design and adapt possible solutions. These solutions, which may include technical readjustments to the water system, or methods and tools for improved management, can then be field-tested and evaluated by the communities themselves. These joint activities form the experimenting phase. The third and final part of the approach, the sustaining phase, focuses on disseminating methods and tools for improved management, sharing the findings, and planning and co-ordinating further work in order to sustain both the process and the outcome.

• Conclusion

Facilitating processes in rural communities to strengthen the capacities of people to manage their water supply systems is fascinating. It can only be done in close contact with them, 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.

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7

A detailed look at the PAD approach

Marc P. Lammerink

• Introduction

As explained in the previous article (see Lammerink et al), the PAD approach encompasses a number of steps, activities, methods and tools to encourage the full participation of men and women in improving the management of their water supply and sanitation systems.

The PAD approach involves various activities clustered into three phases: diagnosing, experimenting and sustaining. In this article, I address the process as a whole, and explain the logic and the sequence of steps within each phase. The sequence of these steps should not be regarded as fixed; each actual process may differ, so that if necessary, some steps may be repeated or run in parallel. In some cases, one might even move back and forward, increasing the participants' understanding in the process. In addition, some activities will be continuous throughout the process, such as:

- the taking of decisions by community members;
- the strengthening and empowering of community organisations;
- the development of understanding by community members of management principles and practices for the water supply; and,
- the encouragement of new ideas about a possible future.

• The diagnosing phase

The steps in the diagnosing phase include preparation, training for the support team, selecting the communities, and identifying problems and possible solutions.

Preparation

First the support organisation assembles an interdisciplinary male/female project team of two to three people, representing technical and social expertise. Later local development teams at the community level will also be formed. New teams can prepare themselves by collecting and reviewing information on other examples of community management of water supplies in their country, holding discussions with other support organisations on their approaches, and assessing common problems from the points of view of the community and the organisation. Field visits to other community-managed projects may also be useful.

This step allows the support organisation to get a general overview of experiences and results with community management in their own country. It also provides an opportunity for the support staff to orientate themselves in the field with respect to issues to which they may have paid little attention, such as gender and the environment.

Training

The team of professionals will need to develop appropriate attitudes and skills for participatory work. An important element in these preparations is team building. Smooth teamwork and effective collaboration will not happen automatically, but they are essential for the process. Teamwork also involves mutual trust and dialogue.

The need for the team to gain self-confidence is also often neglected. This will not happen quickly, but is mostly a matter of practice, and requires a genuine belief in the importance of each contribution in bringing about

BOX 2
TRAINING RESOURCES FOR PAD

To allow for the proper and flexible development of the PAD approach, training, support and backstopping for development workers in developing and executing this type of participatory work is needed, which can be given by support organisations and fieldworkers with experience in applying the methodology. In addition, the field staff of support organisations need access to problem-solving and gender-specific methods and tools in order to deal with the particular problems and issues that emerge from the studies. These tools are based on experiences in participatory action research projects to improve community management. The tools can be used by institutions and communities to develop their own, local problem-solving methods and tools. Draft manuals developed by IRC and its partners contain a wide selection of methods and tools for PAD and are now in the process of testing. The manuals, all part of the *Community Water Managers for Tomorrow Series*, will be published early next year, and are listed below.

- Putting community management in place: four years of experience in improving water management
- Learning in the Field: How 22 communities improved their water management
- The Participatory Action Development Approach: supporting community water management
- Facilitating community discovery: getting to know about water management
- Experimenting with the community: Identifying sustainable solutions
- Training of Trainers manual

Such planning and training workshops can be facilitated by members of organisations that have already experienced the PAD approach and have developed training facilities (see Box 2). Such organisations already exist in at least seven countries, and their number is likely to grow in the future (see the Editorial, Box 1, this issue).

Selecting communities

Following the workshop, work may begin on selecting communities. This selection can be based either on communities that have requested an intervention (this is the ideal starting situation), or on communities known to the support organisation. If the latter is the case, efforts should be made to encourage more communities to enter the process.

The support team's work with the community can start with gathering and analysing secondary information, and building a relationship with the people in order to reach a basic agreement. Events like parties, community walks (see Box 3) or just having fun together can help build trust and establish good communication.

However, it is not always so easy to 'sell' the PAD approach. Most communities are at first more interested in technical improvements ('hardware') and give less priority to 'software issues', such as good management. In such a situation the support team might have to do different activities to get to a common view. One example is from Guatemala, where the process of 'selling' the project to the communities started in two small workshops for the water committees, and one or two meetings with the whole community. The support team facilitated the meetings, using a variety of participatory techniques, such as mural newspapers and mapping exercises. Another example is from Colombia. Here the support team started a 'sensitising' phase, in which the communities and local authorities were invited to a presentation workshop to gain their commitment. It is important to establish as soon as possible a practical and clear basis for the proposed collaboration, which may result in a contract describing the proposed process, the role of the participants, the potential outcomes, and the proposed methods of working with the community. The support organisation and the community should together draft and agree upon the contract.

BOX 3

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 neighbouring villages took part, were 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.

At the end of this step, the team members should be ready to implement the PAD methodology. The communities should have been selected and agreements reached. There should be a preliminary understanding of the socio-cultural, physical and technical situation of each community. Team building efforts and training to develop facilitating and documentation skills should have started for community team members (see Box 4).

A core network of individuals and organisations that may contribute to strengthening and sustaining the process, and can use the outcomes, can also be identified at this stage. Earlier experiences with the approach in the water sector have revealed that, because of the innovative nature of the participatory support work, it may be useful to set up a national or regional body with a mandate to reflect on the activities in the field. Such a body can be organised through existing sectoral co-ordinating bodies or by forming a national reference group. Such a reference group can provide a forum for sharing information on activities, progress and results throughout project implementation, contributing to the development of effective community management of rural water supply systems throughout the country. At the same time, the support organisation can strengthen

its collaborative links with government, national research institutions and members of other national support organisations involved in water sector development.

Identifying problems and possible solutions

In this step of the diagnosing phase, the support team helps the community to describe and analyse their water supply system, and to identify their problems and opportunities in community management. Important elements in this analysis include:

- a performance assessment to gain a preliminary understanding of local socio-cultural and water-related environmental conditions;
- a mapping exercise and surveys of general sanitary conditions;
- an assessment of gender issues related to the establishment and management of the water supply system, such as the roles of men and women in local management, and the effects of gender factors on the efficiency and use of the water supply;
- an exploration of environmental concerns such as water source protection and watershed management; and,

- an assessment of issues of cost recovery and community-based financial management.

During meetings, informal gatherings and interviews with key individuals, the team and community members can determine the range of topics of interest and concern related to the local water supply. The community members are encouraged to evaluate themselves, and to compare their findings and experiences with other communities through exchange visits.

The next part of this step involves a series of activities, which can be summarised as developing the agenda for experimentation: gathering information for detailed analysis of priority problems and identifying promising solutions. The agenda may include screening indigenous technical knowledge and past

experimentation in the community, as well as gathering promising ideas from outside the community as options for further testing.

The staff of the support organisation can begin analysing the data, although the results should be continuously reviewed by the community in a series of return visits. During these visits the objectives will be to establish criteria for setting priorities (for example through ranking exercises), and to review potential solutions by assessing their advantages and disadvantages. Also, consensus should have been reached on the list of priority problems and on possible solutions to be tested (an agreed 'research agenda'). This should formulate precisely what should be tested, and by whom. The last part can be done at a village meeting or other gathering.

BOX 4

START-UP TRAINING WORKSHOP FOR COMMUNITY RESEARCHERS IN CAMEROON

The participants of the four-day workshop in Bamenda had been selected during village meetings. On the first day, the participants introduced themselves by playing various games, like adjective naming and Zp, Zap, Zop (an 'icebreaker'). 'Rules for learning' were then defined, followed by a presentation of PAD approach and the objectives of the workshop. Easy-to-use participatory tools, mainly emanating from PRA, were presented and discussed: e.g. 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 of direct observation, like 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 development, like humility, attentiveness, support, commitment to the team, respect for other peoples' views, and the willingness to listen and learn rather than to talk

- **The experimenting phase**

The two steps in the experimenting phase involve the community members experimenting and evaluating possible solutions.

Community experiments

The overall aim of this phase is to design experiments that are reliable as well as manageable, and which can be monitored and evaluated by the community members themselves. To achieve this, skills, self-confidence and organisation, need to be enhanced so that the community can independently plan and design their own experiments and can improve, reinforce, enhance and add to existing experimental practices. Capacity building also includes the ability to set up and monitor experiments, which will require skills training, team building, and efforts to strengthen exchange and supportive linkages with other communities or community members. Attention should also be paid to enhancing the community's experimentation and documentation skills; these will be needed to record the outcomes of the support work and the process. Such records can be used to improve the support organisation's methodology and to make the approach more sustainable.

Activities to be developed during this phase include reviews of existing experimental practices, by exchange visits to relevant communities; and workshops for examining possible solutions. During these workshops the community can plan and design the selected experiments, and decide on their scale and layout, what inputs will be required, and who will participate. It is also important to decide right from the start on the criteria that will be used to evaluate the success of an experiment.

Evaluating possible solutions

After these preparations, community members and external facilitators can begin to establish, manage and monitor the experiments. Simple monitoring and evaluation methods can be used throughout the implementation phase.

Group meetings can be held to discuss the results and begin to draw conclusions. However, the results of all observations need to be brought together and systematically analysed. The process should lead to more sharing and co-operation among community members, as well the more active support of outside institutions.

If the same experiment is also being carried out in other villages, the analysis may be conducted at both group and inter-village levels. The analysis will include recognising unintended consequences, and how the innovation could contribute to solving other problems in a sustainable way.

From the feedback provided by the evaluations, a clear picture should emerge of both the experimental results and the process that has been followed. Preferably, this picture should be discernible to a wider range of community members than the experimenters, but at least for all members of the water management committee. There should be a clear indication of the suitability of the various management practices under local conditions, and technical guidelines on how to implement the tested idea. Of course, the solutions accepted or rejected by the community should also be recorded. The process should serve to build the community's confidence in its ability to solve problems, and to create a supportive environment for experimenting.

- **The sustaining phase**

This last phase of the PAD approach is important because the participatory process should lead to self-management. The aim is to leave communities with a greater capacity to implement effective participatory processes, and the ability to find solutions for future or other situations that need improvement. The key to sustainability is a support approach that addresses the priorities of the community (in this case with respect to improving the management of their water supply and sanitation systems), and which is fully compatible with local conditions and culture so that community members can build on it independently with further experimentation. Communities will sustain what meets their objectives and reject what does not.

Right from the start of the process, the PAD team has to be concerned with organisational development and the creation of other favourable (external) conditions, so that the community will continue to experiment in other situations that need to be improved in the future, whether related to their water supply system or in other fields. Members of village committees might also develop new functions as PAD practitioners, fostering emerging organisational structures in the community. Throughout the process, the role of the external support team gradually changes. They gradually 'wind up' and phase out their support by consciously changing their role as providers of direct management support and facilitation, to that of external consultants called in only at the request of the community. However, at the same time they maintain their interest in issues such as scaling up the experience to the regional or national level. Two important steps in the sustaining phase of PAD are sharing and evaluating the results of the experiments.

Sharing results

Many experiences have shown that good ideas diffuse spontaneously, as the experimenting communities share their results with neighbours, pass on management advice, or make use of the traditional inter-village 'grapevine'. These effects can be amplified by setting up a programme to share the results with others. An important component of such a programme is the mobilisation of the networks developed during earlier phases as channels for communication and dissemination.

Such a programme could focus on the outcomes (new management practices, the use of indigenous trees to protect water sources, etc.) of community experiments, while emphasising the basic ideas and principles

underlying the experiments, and the methodological aspects of the PAD process. The programme could also publicise the experiences of particular communities, together with ideas about promising 'solutions' that could be tested elsewhere, and tips on 'how to experiment', such as testing innovative concepts, acquiring skills, and the organisation required.

Exchange visits have proved to be a strong ingredient in the sharing 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 (see Box 5). 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.

Evaluation

The sustaining phase continues with the evaluation of tested problem-solving strategies (the experiments) with the community, the further systematisation of processes and results (at the level of the community and of local support organisations), and helping to ensure the sustainability of the process within the community.

BOX 5

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 that the cheaper alternatives that re available would be more appropriate for them.

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 realised that they could follow this example in other projects.

Activities during this phase may include inviting key individuals to attend planning/evaluation meetings and organising field workshops. It is also important to document details of the process of development and the methods used for diagnosing and experimenting. At the same time, community members can put together manuals and audio-visual materials, and continued leadership training may be needed. Special attention should be given to encouraging networking between community members and organisations in order to consolidate institutional support for local processes.

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8

Aguacatán in Guatemala: how seven communities joined hands

**Fabián Gonón Ortiz , Carlos Simón Perén,
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Cifuentes**

• Introduction

In 1994 the support team from SER¹, began a process of Participatory Action Research to improve water management in seven communities within the municipality of Aguacatán three hours from Quetzaltenango, where SER is located. At the start of this process, the community leaders asked us: *'Do you have financing to fix our project? Can you give us pipes to improve the flow?'* The directors of institutions such as UNEPAR, the main governmental body involved in providing water and sanitation throughout the country, with whom SER had co-ordinated, also doubted our ability to improve water management of the communities. More importantly, they doubted the effectiveness of a process of this nature. To be honest, each member of our team also had doubts. However, as will become clear below, five years later the approach had proven such a success that local government and other nearby communities are interested in adopting such a process themselves.

• The background to SER's involvement

To get to Aguacatán from the capital, one must cover 305 kilometres. This municipality is made up of 49 rural communities. Seven of these, Chex, Chichoche, Tucuná, Aguacatán

Canton, Patzalam, Agua Blanca and Río Blanco, are home to 550 families (3600 inhabitants), see Figure 1.

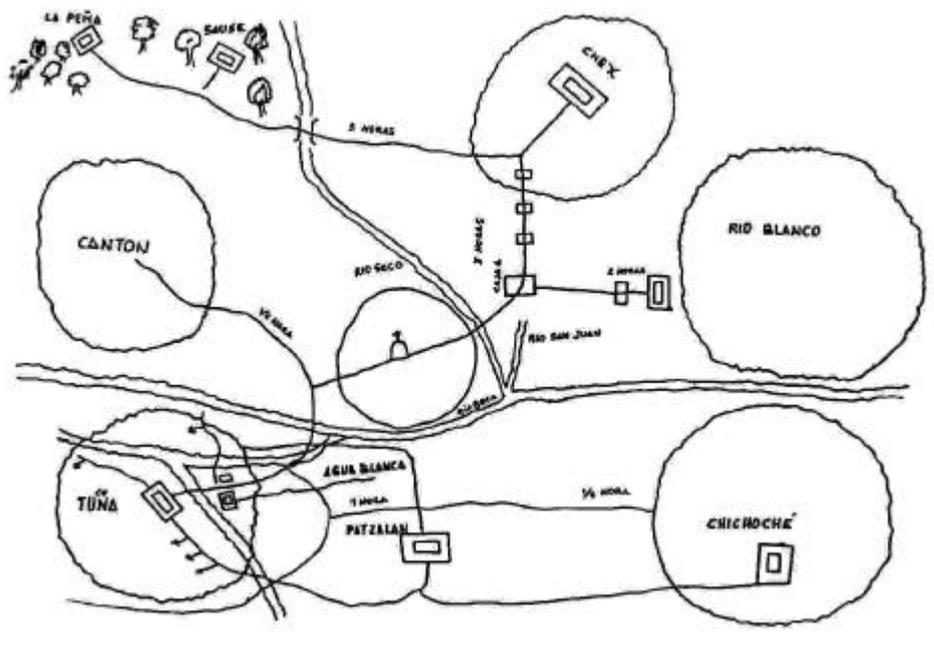
Until 1986, long before SER's involvement, these seven communities did not have a potable water system. The women and children would get water from the rivers, streams and home-made wells in the area, running many risks because of the steep ravines and swift currents. They spent three hours every day bringing water back to their homes. The water was of poor quality, and consequently the children in particular developed various disorders, such as diarrhoea, vomiting, stomach aches, headaches and dehydration. Without health services at their disposal or the financial means to pay for a doctor, many children died.

For five years they solicited several governmental institutions, but these did not respond. They then found the support of an NGO called Agua del Pueblo (ADP)², who made the initial studies and budget. The president of the Patzalam committee recounted the process: *'We in Patzalam began looking for an institution that would help us bring water from Pericón. Since it was very expensive, we thought that it would be better to speak with other communities to do one single project for everyone. That was how Tucuna Chex, El Cantón and the other communities got involved. That was the hardest thing about this project.'*

¹ Servicios del Desarrollo (SER) is a non-governmental organisation that works towards developing and transferring participatory methodologies in development programmes, including water projects.

² Water of the People

Figure 1. Map drawn by villagers of participating communities



The leaders of the other communities held assemblies. The seven communities realised that they had the same problem and that the water source could supply them all. They also realised the many advantages of working together.

- The project would be cheaper.
- There would be more manpower for the construction.
- The labour could be divided into operation, maintenance and improvement when the system was finished.

Then they decided to do one single project for all seven communities, taking advantage of the same water source, as well as the financial resources and technicians from the institution that was going to support them.

Seven local committees were then organised, one in each community. With two representatives from each committee, a general assembly of 'associates' was formed. Also, a Central Council was elected, initially devised only to co-ordinate the project's execution.

A participatory process

Fourteen years after being built, and after eleven years of serious technical and administrative problems with the supplying of

water in Aguacatán, the PAR support team, came to this group of seven communities. The type of issues the communities were facing fit well into the process of the PAR project we wanted to start to improve community water management. We presented the PAR project and discussed it with the Central Council of the association of water projects in the seven communities of Aguacatán – APAGUA. At first, incredulity reigned because they saw us as outsiders from yet another institution that came offering 'stuff.' They were also suspicious since there were many paramilitary groups in the region that used any pretext to obtain information about the community. We began the process with a few community leaders that were willing to try. Along the way, other community leaders got involved; still later, the community members themselves became protagonists. This passage from 'spectators' to 'actors' occurred only when they saw that the meetings, assemblies and discussions, which initially seemed like a waste of time, took on life and showed results. After 'selling' the research project to the communities, we defined and discussed with the village committee the selection of local research teams in each community. Together with the local research team, we began the diagnosing phase.

The PAR process involved participatory assessment, problem sharing and analysis. We began with an assessment of the seven communities through meetings with council members, which was later subjected to consultation and validation in community assemblies and with key informants. To get a better understanding of the problems and potentials for community management, several techniques were used, such as mapping, walks, observation, matrices, cross sections, structured interviews, as well as the community's daily routine and an examination of the Mayan calendar. This local calendar is used to find out what religious, agricultural activities and market days take place to map out periods during which PAR and other activities could best be planned (see Figure 2).

Figure 2. The Mayan calendar

ACTIVIDADES	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC
Corría de Seta Toda La Fuerza	☀️	☀️									☀️	☀️
Siembra de Café Hombres					👤	+	+					
Siembra de frijol					👤	👤						
Obono y Limpieza de Café					👤	👤					👤	
Siembra de hombres y finca											👤	👤
Fiesta Tiruar	☀️									☀️		
Obono de Paca y Bambú											☀️	☀️

ACTIVIDADES: Siembra de frijol, Obono y Limpieza de Café, Siembra de hombres y finca, Fiesta Tiruar, Obono de Paca y Bambú.

CALENDARIO MAYA: ENE, FEB, MAR, ABR, MAY, JUN, JUL, AGO, SEP, OCT, NOV, DIC.

CHIHUITO: ENE, FEB, MAR, ABR, MAY, JUN, JUL, AGO, SEP, OCT, NOV, DIC.

ACTIVIDADES: Siembra de frijol, Obono y Limpieza de Café, Siembra de hombres y finca, Fiesta Tiruar, Obono de Paca y Bambú.

CALENDARIO MAYA: ENE, FEB, MAR, ABR, MAY, JUN, JUL, AGO, SEP, OCT, NOV, DIC.

CHIHUITO: ENE, FEB, MAR, ABR, MAY, JUN, JUL, AGO, SEP, OCT, NOV, DIC.

In January 1996, we 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 organise 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.

Little by little, the deeper everybody got involved in the PAR process, the better it was understood. Based on this understanding, the community leaders and their organisations made a plan, later to be validated in community assemblies, detailing priorities, alternative solutions, and decisions. For this process several planning techniques were used, such as the scale of priorities, matrices, logical frameworks, and *la placita*³. This process occurred with respect for the community's own way of organising and participating.

As the community progressively got more involved in the process, it was increasing unlikely that they would leave it. Don Chabelo, the president of APAGUA, explained: *'If we don't solve our water problems ourselves, nobody is going to solve them. If someone else does it for us, we get used to that, and that is even worse because water is not our only problem'*.

Together with the people, the SER support team have also managed to learn and understand. These processes need to combine the short term and the long term, the theoretical with the practical. People told us that *'it's fine what you're saying, but we're the ones who have to mend the pipes and have water.'*

The Council of APAGUA decided to: *'First, look for a solution to fix the technical problems with the water so that people give their contributions and don't sell their taps. Later, let's strengthen the committee and local water technicians to avoid the same problems in the future'*.

Thus, in the seven communities, priorities were set concerning 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. For these improvements, financial support was sought from a NGO, ASDENA, (Asociación de Desarrollo Nacional en Agua) which was working in the country, and the municipality of Palmar. ASDENA was interested in the

³ 'The little plaza' is a technique in which people familiarise themselves with activities and results through charts and diagrams.

project and provided a loan to the communities to improve their water supply system.

With regard to the strengthening of community management, committees were trained in the basics of water engineering, such as 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 was 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.

What can be achieved through the community's own knowledge and resources

In Aguacatan, the earlier water supply system, which cost US\$140.625, had not provided the seven communities with water. Broken pipes and lack of maintenance were the key problems quoted by the villagers. After heated discussions facilitated by the Local Research Team the communities and their leaders began working together. The seven communities elected water committees, which in turn formed a general co-ordinating committee. Through this process the community members, organisations and leaders participated and made decisions about the water management. They managed to organise the operation and maintenance of the water system. They divided the 17 kilometres of connection line from the source to the villages in seven parts, each part being the responsibility of one community. The collection of the water fee system was improved and made more transparent. The communities agreed to paying additional fees for repairs on top of the annual fee, as long as they would regularly be informed on what the money was spent. For those people not paying the fee a system of sanctions was introduced. In this whole learning process, once the PAR-Manage project was in place, they could always get help from us, the support team from SER

Now, the community takes advantage of the new system and manages it, but also continues utilising its different water sources – wells,

rivers, streams -to wash clothes, irrigate crops and water their animals. They do this in accordance with their own agreements, some of which are established in the regulations

As a result of the learning process, the community elders now act as advisors to the water committee. The community assembly continues to be a mechanism for consultation, discussion and collective decision making. The experience and training that the leaders have received from SER in accounting, organisation and water engineering now constitute the basis for permanently maintaining a water service of high enough quality for human consumption.

The process has given legitimacy to the community's operating norms, which now have more validity and support. These norms are complied with, not because they are written down, but because the community members themselves have defined them. The oral tradition is highly respected by the community members themselves. Social pressure is an indispensable element for proper control and management of water. The leaders have also established some formal mechanisms to keep track of and follow through on planned activities. Many of these mechanisms work by means of visits by the leaders, meetings and community assemblies.

One of the biggest achievements has been the use of participatory methodologies and tools. The leaders not only apply these to water management, but also in other community development work. An ex-council member and current worker in the local co-operative provides just such a case: *'I was given work in the co-operative because they say that I can handle participatory techniques to work with people.'*

Making a community business of the supply of water

With regard to the water project, the leaders and associates consider some basic ideas important.

- The project is the community's; that means there exists an idea of ownership.
- It is not acceptable that the municipality assumes responsibility for this service.
- There is a desire to continue managing the project.

- Management implies expenses that must be charged to the associates.
- The capacity of APAGUA must be improved.

From these ideas came the initiative to institutionalise the water service; that is, to make it run as a 'business.' To do this, APAGUA now has land and a local headquarters where its office currently functions with minimal equipment – desks, blackboards, benches etc., and water engineering equipment. A general co-ordinator and an accountant have also been established as paid staff.

Although no one specifically posed the idea of a community business, it arose as part of the project's activities. Some council members did not think it was a good idea because the associates might have interpreted it as business profitable only to the leaders. The leaders' idea, however, was to *'have a business directed by the community members themselves to permanently provide themselves with sufficient high-quality water at the lowest cost possible.'*

- **Additional accomplishments of the project**

With the improved management capability, APAGUA could move beyond their role of supplying water and promote 'Integral Community Development' projects benefiting the associate communities.

APAGUA has been invited by the Public Health Ministry to present its experience before the directors of all the institutions in the country's water sector. Also, the neighbouring communities have solicited support from APAGUA to train other committees and follow the process of water management.

The municipality of Aguacatán and other communities have asked the SER support team to help with other processes, using the experience with the seven communities in Aguacatán as a base. APAGUA currently has co-operation agreements with two other institutions; a Housing Cooperative and *Asociación de Desarrollo Integral de Aguacatán* (ASDIA), to help plan and improve water management.

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 co-ordination of activities between the different water systems in the area has been one of the biggest successes.

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9

Women's involvement: a switch in thinking, Hoto, Pakistan

Nahida Aziz and Sarah Halvorson

• Introduction

One of the greatest barriers to improving the water situation in Hoto in Northern Pakistan has been a heated dispute on water rights with the village of Pakora. The origins of the conflict lie in the history of a water supply scheme implemented by the government 11 years ago. A spring was constructed in Hoto without considering the traditional water rights in this hilly region. Pakora began using the water as well by diverting it from the distribution pipeline from the Hoto scheme. The dispute became increasingly heated and was finally taken to a lower court in Skardu, the regional capital of Baltistan, where it continued for seven years.

The Participatory Action Research team came to Hoto in Pakistan in 1994 in order to learn if the community of Hoto would be interested in participating in a process to improve their water supplies. Hoto was a complicated choice for PAR, because the village did not have a positive reputation in the region. The community-development activities in the village had all failed and NGOs in the region had labelled it as a 'bad' village in which to work, because of the lack of successful projects and the lack of community organisation. However, the PAR team decided that this could be a village that would offer many lessons about communal action to improve drinking water.

The most important lesson was that with a little 'push' and motivation from outsiders, the

people were able to 'switch their thinking' in order to address their water problems. This was a major achievement that came out of a process of dialogue.

Not just a duty for men

The initial meetings were held with the male members of the community (see Figure 1), who did not allow the PAR team to meet with the women. The men distrusted these 'outsiders' and feared that they would prove to be 'agents of negative change' in a village in which the women follow a strict form of purdah (the system of excluding Muslim women of rank from public view) and are not allowed to meet with people, especially men, from outside the community.

The women were initially invisible to the PAR team. For a year, the men would not give permission for the PAR team to meet them. However, as confidence and trust eventually developed between the PAR team and the community through a long process of dialogue and meetings, the female PAR team member was allowed to meet with the women. At this point the women were brought into the dialogue on drinking water. However, the women did not perceive their involvement to be important or even essential to the process, as they told the PAR female team member: *'We did not know any information about the meeting. The men didn't tell us about the meeting, otherwise we were free to come. Anyway, what are we supposed to do in the meeting? What concern is it of ours? This is the men's duty and not ours.'*

Figure 1. A female PAR team member discussing with male villagers (Photo: by M. Lammerink)



But once the women started participating in the meetings they began to see that they have an important role in the process of improving water supplies, and they quickly realised during the problem-solving exercises that decision-making regarding the water scheme is not just the duty of the men.

- **The Pani Ki committee**

At first the PAR team had a lot of difficulties in approaching the people because the village is spread out and has many internal divisions. It is a large village of 180 households divided into five *mohallahs* (wards). The community is divided between the following: Sherpa, Fishpa, Gon, Gandapa and Auzapa, and these wards are largely based on family or clan membership. Each clan has its own identity and way of looking at their position in the community. The first strategy the PAR team applied, to get to know the village and to begin a process of dialogue, was to approach the traditional leaders of each *mohallah*. Then the traditional leaders, assisted by the Community

Research Team, started organising *mohallah*-based water committees. These committees would then be responsible for communicating with the households in their *mohallahs* and for organising their *mohallahs* at times of community-wide meetings. It was decided to organise the community according to *mohallah* divisions in order to reflect the traditional social organisation of the community.

The younger and more educated members of the community became the leaders of the five *mohallah* water committees. This decision was made because the traditional leadership felt that people with an education would be better prepared to take on the responsibilities of implementing a water supply scheme. This marked the beginning of the traditional leadership giving power to other people; something which was not easy for them to do because it required a new way of thinking as well.

But a vacuum remained because the individual *mohallahs* water committees could not organise all activities and responsibilities for

the entire water system. Two members from each committee were then appointed to be members in a community research team (CRT) that would serve not only as the research team, but also as the organising body to co-ordinate the activities of the *mohallah* organisations (see Box 1). The community refers to this organisation not as the CRT, but as the *Pani Ki*

Committee (Urdu for Water Committee). This hierarchical structure of village teams was a very new idea for them. It allowed information sharing and capacity building. The separate women's committee was also structured on the bases of the *mohallahs*. This was the only way to have women participate in the PAR process.

BOX 1
COMMUNITY DEVELOPMENT ACTORS

In Hoto, the water is owned and managed by the community itself. While women are the ones who are largely responsible for domestic water work and some of the irrigation work, the men have traditionally been responsible for making decisions which affect the management of water resources. In the past, the village elders and the *numberdar*, a traditional leader who makes decisions regarding communal resources, were responsible for the management of water in the community and for assuring that all members of the community received an equal allotment of water. However, this traditional organisation of elders was ill-equipped to deal with the management of new technologies and the institutional structures required for the management of an improved water supply.

Since 1994, the Community Research Team (CRT) has filled the institutional void in the community and has become the primary organisation for managing the improved water supply scheme. It has become the catalyst of change when it comes to improving drinking water. The CRT has maintained a good working relationship with the traditional leadership structure in the village and has made a point of holding meetings which do not exclude the traditional leaders from participating.

There are also several external actors which influence water management and community development in Hoto. One is a government agency called the Local Bodies and Rural Development Department (LB&RDD) which was the first agency to attempt to improve the drinking water supply situation in Hoto about 11 years ago. The scheme which was built at that time originally led to the bitter conflict between Hoto and the neighbouring village of Pakora. LB&RDD remains one of the main agencies working in the rural water supply sector in Northern Pakistan. While they do provide technical and financial support to villages, they do not give much support in developing the internal capacity of villages to manage their water supplies themselves.

Another development actor working in Hoto is the Aga Khan Rural Support Programme, the most reputable NGO working in the region. On the basis of their self-help approach to community-development, AKRSP helped initiate a Men's Village Organisation and a Women's Organisation in the village and tried to encourage various income-generating activities. However, these organisations were not sustained by people in Hoto until recently

AKRSP has found work in Hoto frustrating because they feel the villagers are 'lazy' and uninterested in community development. The Hoto villagers, however, felt that AKRSP was trying to convert them to another Islamic sect and was attempting to change their culture. They felt the AKRSP staff had not respected local culture when they came to the village. This sentiment had a negative impact on the PAR process in the beginning and the PAR team had to overcome these views in order to meet with the women of Hoto.

The women's strategy is selected!

Both the men and women met together to develop strategies to solve the drinking water problem. The male members allowed the women to participate in a joint meeting. The men decided that the best strategy would be to extend the distribution pipes of the old government water supply scheme to all of the households in the unserved area. The women argued that this was not the real issue at all. What they felt was needed was a new water tank built on unused land, which would first provide water to the presently non-functioning public standpipes.

In the end, the community chose the women's strategy rather than the men's. The women convinced the men by arguing, '*What is the point of a new pipe if the present pipe is not already being used?*'. The construction of the tank, which the women proposed, came to a cost of Rs. 20,000 and would benefit 70% of the community. The laying of new pipe would have been more expensive and would still not have ensured that water would be secured for the system. The men gave up the idea of putting in pipes and instead focused on the construction of the new tank.

The selection of the women's strategy marked a major change in thinking. Traditionally and religiously, the women in Hoto were not supposed to play a role in public meetings or in decisions about problems in the community. This change was particularly dramatic when compared to the beginning of the PAR process, when the traditional leadership feared that women's participation in the PAR team meetings would lead the women towards becoming *baipurdah*, which means taking the women out of their traditionally ascribed purdah existence.

Changes in women's lives

At the beginning of the project, the women seemed passive in their attitudes towards improving the drinking water situation. The men were not interested in the water problems because domestic water work was not 'their' problem. The women have changed from being passive to active participants (see Box 2). Women observe that significant changes

have been made in their lives because of their involvement. One village woman said recently, '*We do not have the burden of bringing water now. We can stay home and take care of our children.*' In addition to this time that has been freed up from mundane water work, they feel that they are able to spend more time paying attention to personal hygiene. '*We are washing our clothes in the water now that the water is available from the nulka (water) system,*' states one of the women members of the *Pani Ki* Committee. These female members are making new demands on behalf of the women in the community such as asking for hygiene education, and are themselves selecting the subjects that they are most interested in learning about in the future. Women are paying attention to the storage of water, they are taking care of personal hygiene and they feel their knowledge and understanding about disease transmission has increased.

BOX 2

ANOTHER CASE OF WOMEN'S INITIATIVE

The women of the *Pani Ki* Committee took it upon themselves to begin collecting money for an operation and maintenance fund for their water system. They went from house to house collecting Rs. 10 (approximately US\$21). This money provided the basis of the fund. Today the *Pani Ki* Committee members are exploring other ways to sustain the fund rather than collecting money from each household. They feel strongly that households in Hoto are too poor and will not be able to make monetary contributions on a regular basis. But money does not have to be the only form of contribution, they suggested. The Committee President explains, '*We are going to collect one kilogram of apricot kernels from each household; this will be easy for every house to give because every house has apricots. We (the Committee members) will sell the kernels and the money will go to the fund*'.

Probably the most significant effect is the demand by women for the education of their daughters. When the PAR team was discussing different hygiene conditions in the community, one of the women said, *'I wish my daughters could have got an education, but there were no schools in the village when they were young. When we see you, we want our girls to be educated too. But we know that the older girls cannot go to the school now so we are sending our young daughters to schools. We don't want them to live like us but much better than us'*. In 1998 a new school was opened in Hoto, to which girls are being sent.

- **Taking the approach to other villages**

Local traditional leaders have been very impressed by the results of the PAR approach. Sheikh Ali Ahmad, the traditional leader of this village, commented that *'The PAR project has helped the community in solving the biggest problem which was once impossible to think about. We have learned how to organise our resources and bring them together to put them to use'*.

When Sheikh Agha Saheb,, another traditional leader living outside of the village, visited the village and discovered that households were using tap water and that the people themselves had solved their water problem, he became very impressed. The Pani Ki Committee too were very pleased by his impressions, stating,

'Hamara Sheikh bahut khush hua la log safpani pi raha hei' (our Sheikh became very impressed that the village people were drinking tap water).

He decided to take what was learned during the PAR experience and use the team as a model for another village-based organisation. He formed the Al-Muntazeer Organisation with the goal of applying the same participatory approach to other issues of community development.

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10

Convincing people to pay for water: Nkouondja in Cameroon

Andrew Tayong and Christine Poubom

• Introduction

Nkouondja village in Cameroon was suffering from a collapsed water management committee and a water supply system that functioned only partially. It is now transformed into a system that wins the confidence of donors and serves as a famous example in the area. The changes in management, and the rehabilitation of the physical system, were as a result of the experimental approach taken by the PAR (Participatory Action Research), which allowed people themselves to develop improved approaches to fund raising, good record keeping, accountability and transparency.

• Learning the hard way

Before the arrival of the PAR project, the village already had rules and regulations for the management of the water supply system. These specified that each household pays 100 CFA Francs (US\$0.17) each month. This contribution was made without keeping any records. The management of the Water Management Committee (WMC) took advantage of the situation and embezzled the money. As a result, maintenance ceased and the supply system collapsed. The people had no choice but to stop contributing and go back to some of their natural water sources.

This situation became clear to the PAR team when they first arrived in Nkouondja in 1995, *'like God sent'*, as an old woman whispered to the team, when they came out of the first village meeting for a break (she could not be in the discussion hall where the men were). *'My children, you people should really help us out.*

These men like that are not serious. We contribute money, but they do not write it down and afterwards they said we never contributed'. Although the PAR team could have gone straight into solving the problem, they preferred the people to do it themselves and learn from it, which was the main principle governing the experimentation concept in the project.

In Nkouondja, 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. Their 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. Women were most interested in water issues and were willing to contribute labour and cash to improve the existing system. The PAR team made several short visits to Nkouondja and the other PAR villages Nyen/Mbemi and Baneghang to jointly identify problems. 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.

Sometimes, a village walk provided an interesting and relaxing way of obtaining details without strain among community members. The resulting 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 (see Figure 1).

Figure 1. Villagers discussing a Venn diagram (Photo: M. Lammerink)



Participants were excited to realise how much power they could exercise in decision making and how much responsibility lies in their hands. Most leaders attended the closing session in Nkouondja, and this helped in the resolution of some conflicts between two communities over the use of the water system.

New collection system

Later in the process in Nkouondja, a new funds collection system was tried as the first improvement suggested by people under the PAR process. This was after restructuring of the water users committee, for which the community elected new members. In this system the collector wrote down the names of any contributor on a list. However, this list was never signed by any of the contributors. This went on for some time. During their monitoring and evaluation meetings, some complaints emerged, including:

- some people contribute but their names were never written down;
- the collectors embezzled some of the money since the contributors have no means to prove they ever contributed;
- those who do not contribute are seldom identified and punished;
- no information was given on the management of the money; and,
- the water committee could not estimate the amount of water used and had to come back to the community several times to ask for higher contributions.

In the light of all these problems, the management system was redeveloped. With the knowledge and ideas after involvement in the PAR project, the people modified almost everything: from how they organised themselves, to improving their fund collection, accountability and transparency.

This time the water committee bought receipt booklets and a stamp, which were kept in the custody of the chief alone. He stamps and signs receipt booklets, which are distributed to the neighbourhood leaders. The neighbourhood leaders collect the money from their respective quarters against a signed receipt given to the contributor. The money and the stubs of the receipts are submitted to the chief. The chief gives these to his private secretary (a villager who is literate and chosen by the village), who counts the money and checks against the receipts stubs before handing over the money to the treasurer. The stubs of the receipts are sent to the financial secretary, who is also the minute secretary of the committee, to record the sum and update his records. This process continues in the

village now and seems to be one solution to their financial management problems.

Finances in the open

No matter how good a fund collection method is established, without proper accountability and transparency, the system is doomed to fail. The people of Nkouondja know this and have developed their own way of ensuring this, as we shall see next.

The secretary of the Water Management Committee (WMC), Mr. Mama, keeps all records relating to finance. He has developed a system which seems quite convenient to the community. He started by establishing a list of all people eligible for contribution from each quarter. Knowing the levy per person, it was easy for him to estimate what is expected from each quarter. At the same time, he keeps the list of contributors and defaulters. During prayer sessions in the mosque, where almost the entire village converges on Fridays, he reads out the financial report which shows the income, expenditures and balance left. The names of those who have not contributed are also read.

The chief uses this method to monitor the participation of various quarters. He counts the stubs of receipts from different quarters and compares the level of participation of the various quarters. He reported once about the recalcitrance of Mapoche quarter, where the president of Village Development Committee lives, and asked him why, but no clear answer was given.

The women use these receipts to control those who can collect water. One person is chosen to monitor each tap. Those whose names were read out for not having paid have to show their receipt before collecting water. In this way the fund's collection is improved. However, a major obstacle to this control method is the fact that some private connection users give water to these people.

The new financial system helped the WMC to forecast and plan the improvements to the water supply system. The system allows them to estimate the contributions likely to be made, and to identify the extra money needed, which can be applied for from donors. For example, a

representative of the committee was sent to Gabon, where some of their wealthy village elite are working. The committee member returned with a donation of 500,000 CFA Francs (US \$833). This was more than could normally be expected in the typical culture of Cameroon officials keeping strong links with the village of their origin, where they usually also retire. With this money their project, which was partially funded by Helvetas from Switzerland, was quickly accomplished.

It is interesting to see people taking control of their development after they have developed the capacity to do so.

No 'angry' food

After going through the diagnosis and experimenting phases of the PAR project, the people of Nkouondja decided to construct a new water catchment. The village had been promised financial support from Helvetas worth five million CFA Francs (about US \$ 8330) In return, the village was expected to contribute 1,200,000 CFA Francs, approximately US\$2000, which is less than 30% of the project cost. This was discussed with the people and agreed.

Helvetas sent a team to evaluate the project before the contract was signed with the executing agency, which could be any reliable NGO. However, this team did not show interest in the people of the village, and gave the impression that the village would have to accept just anything since they were looking for help.

During a subsequent visit to Nkouondja, the Helvetas team were shocked by the friendly reception the villagers gave to the PAR team, who arrived coincidentally in the village while the Helvetas team was there. When the Helvetas team arrived, one could sense an atmosphere of tension. In a combined meeting the chief took the floor and rejected the behaviour of the team from Helvetas during their last visit and questioned the amount Helvetas finally accepted to assist them. He spoke bitterly, though in a gentle low voice, but any one who knows him will understand how disappointed he was. As he put it:

'We know that we are requesting for help, but that does not mean that we will die if you do not help us. When somebody gives you food with anger you will never feel like having eaten something. These PAR people from Buea do not bring anything, but when they arrive everybody is happy, even children and women. It is not because they bring us money, but for the love, interest and respect they have for us'.

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He went further to express his discontent with the amount finally decided, which was reduced from five million to three million CFA. At this point one of the Helvetas team members explained that they had had problems locating the water catchment that day, and because they were tired, they may have behaved impolitely to the villagers. For this, they apologised. He then explained the reasons behind the reduction in the funding from Helvetas, which was because they had managed to obtain cheaper pipes at duty free prices - this would not affect the community's contribution or the scope of the project.

The key issue here is not who is right and who is wrong, but the extent to which the villagers know now that they have a right to decide on their destiny.

'Things seems to have changed in this village', a Helvetas team member said *'the people are talking with so much confidence'.*

• Conclusion

Convincing people to pay for water is not often easy in communities. The people of Nkouondja used accountability and transparency to convince the community members to contribute to the maintenance fund. This enabled them to extend their water supply system, and to improve management and maintenance of their system. In addition, they now command a lot of respect from outsiders. How stimulating and committed leadership contributed to the Participatory Action Development process in Nkouondja is described by the same authors in a second article in this issue.

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11

Experimenting to solve water management problems: Lele community in Nepal

Raju Khadka, Laxmi Paudyal and Hari Subba

• Introduction

Lele Mahadev Khola village is one of the four communities in Nepal involved in the Participatory Action Research (PAR) project: Lele, Gajedi, Rangapur, and Yampaphant. Lele is a one-hour drive from the capital city, Kathmandu. Since 1995, the local NGO Nepal Water for Health (NEWAH) has been working together with the people of Lele ward No. 4 in the Participatory Action Research process. The process has helped to transform a disorganised water system characterised by lack of maintenance, to a better functioning water system with a regular maintenance fund.

Initial contact between the PAR team and the community in Lele was established through UNICEF Nepal and the government District Water Supply Office. This office is changing from implementing community water management to facilitating it. In a first exploratory visit in early 1995 the PAR team listened to the water history from Lele told by the water technician from a neighbouring village. During a village walk which included members from the existing Water Users Committee they observed the water source at Panighat, the public taps and distribution lines from the break pressure tank.

The PAR team's objective was to provide the community in Lele with a 'fishing technique' rather than 'giving the community a fish'; that is to help the community sustainably manage their water supply system. Therefore a series of activities was carried out in order to make the community capable of management,

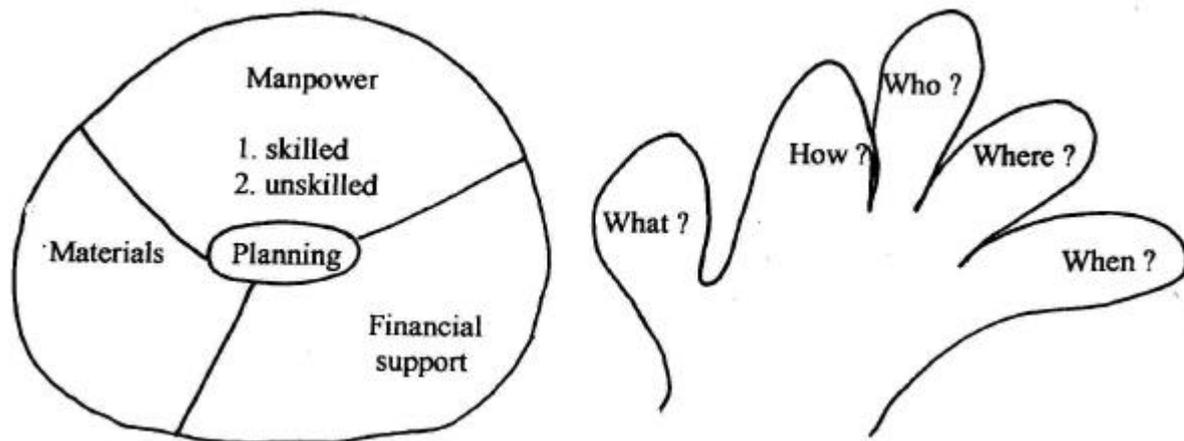
maintaining and sustaining their water supply by themselves. These included:

- training of six PAR volunteers, some of whom were also Water User Committee member;
- involvement of the community in problem identification and analysis, leading to action such as a fining system by the WUC for anybody who cuts the water pipeline;
- PAR volunteers organising community workshops and assisting in training of other WUC members on leadership, communication, group management, financial management and proposal writing. The impact of this training was noticeable when the WUC secretary introduced a payment and receipts system in the community;
- exposure, exchange and observation visits contributing to capacity building of the PAR volunteers and water committee members; and,
- experiences in Lele were also shared with the national water planning and implementing agencies which were guiding the PAR process.

• Developing a community-based approach to paying water tariffs

Mr. Rajendra was the secretary of the existing Water Users Committee. At the first meeting he informed the PAR team that the DWSO in Lalitpur had written a letter to the Lele WUC asking them to collect Rupees 1,000 per tap to be deposited in the bank as maintenance fund. Through a mass meeting it was agreed that each of the 68 households would pay 10

Figure 1. Division and planning of work developed in the training of the PAR volunteers in the villages



Rupees per month. They also appointed a caretaker and decided to pay him 500 Rupees per month. The remaining 180 would be deposited in the maintenance fund at the bank.

However, this approach did not work. One fifth of the people paid irregularly, and another fifth refused to pay at all, because they thought the government provided the water supply system free of cost.

Another community workshop was held to discuss the problem, and a new approach was suggested. This time, the community decided to collect *Pani Pathi*, a community contribution for water of four kilograms of corn per year from each household. This approach was based on a traditional practice whereby villagers make an offering of *Lam Pathi* (4 k.g corn/year/household) to a Lama, a Buddhist priest. However, despite being a traditionally-based approach, it did not work either. The reason seems to be that each family has a different appropriate time to use their stored corn. The time set by the committee did not match all the families' appropriate times.

The committee members realised that this decision was not as practical as they thought. In the next meeting they decided to collect Rs.1,000 per tap, which would be deposited in the bank for initial maintenance, and the interest would be used for minor repairs of the system. They introduced this new system, and now they have more than RS 14,000 in the

bank. Most of this money will be used to repair broken down public taps.

Building capacity to solve problems

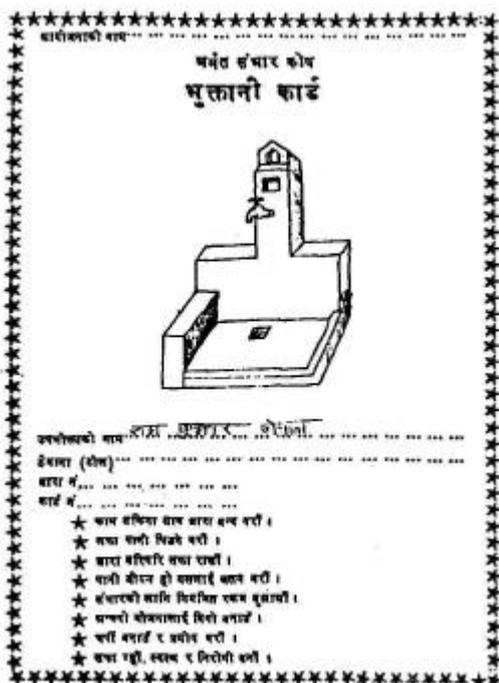
One of the impacts of the PAR approach was to build the capacity of community members to solve their own problems by trial and error. The above account of developing an approach to collecting a water tariff is one example of how they have been experimenting with one problem solving strategy after another. The success of this activity encouraged the Water Users' Committee to go further. Since they realised that financial independence is one of the most important factors in maintaining and sustaining their water supply system. So in February 1998, in a community workshop, they decided to collect Rs.5/month for regular maintenance. The PAR team provided each household with a user card on which payments of the monthly charges are recorded by the treasurer (see Figure 2).

'Oh! This is the one that we wanted, it will be very useful to keep records up to date', Rajendra, the committee chairman explained.

To maintain the regularity of contributions, the committee also enforced a discount and fine system. If someone pays his/her tariff within 1 to 7 days of every month then 50 Paisa will be discounted. If the payments come later, then 25 Paisa per day must be paid as a fine. This

system has been adopted to encourage users to pay the water tariff on time. This system, and the transparency of the process, made people enthusiastic. Anyone can see these things from their records. Now they have trained Mr. Kuber Silwal with the help of NEWAH and appointed him as a caretaker.

Figure 2. A user card



• **Main achievements of the PAR approach**

Maintaining community interest in the PAR process was one of the achievements in all the communities involved in Nepal (see Box 1).

In Lele the Water Users Committee now organises every year a mass meeting for financial transparency and to inform and discuss with the villagers the problems, issues and progress. They helped the neighbouring village to get financial support and to buy pipes to improve their defunct water supply.

Training has become another important component in the process, resulting in villagers developing new skills, such as book keeping (see Box 2).

BOX 1
PAR VOLUNTEERS IN NEPAL IN ACTION

In Gajedi, the PAR volunteers realised 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 realised 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 interest in improving management of their water supply.

BOX 2
ACHIEVEMENT OF TRAINING

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 Gajedi a woman was selected as treasurer, because 'women are more loyal and honest than men', according to Mr Paudel.

The water committee is selling part of the spring water to the nearby mineral water company. This is one new solution the community is trying obtain funds to keep their water supply going. Another achievement is the fact that PAR volunteers are getting more and more involved in other community activities. For example, the one female PAR volunteer and WUC member is now president of the women's group, which has been implementing subsidised latrines, a smokeless stove programme and income generating activities. Therefore it is clear that the PAR approach has achieved much in the communities it has been involved with.

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Sparkling ideas in Campoalegre, Colombia: managing the watershed to sustain the water supply

Cecilia Gomez B. and Alfonso Rojas P.

• Introduction

Community participation is an essential process for the development of public property as ‘it has an educational function, it develops a neighbourhood civic consciousness, it strengthens the ties of solidarity and makes the ideas of general interest, more understandable and acceptable’ (Borda, 1986).

If the community, by means of its participation, understands the problems facing it and the causes of these problems, this may help to support the administration of the water system. From the role of simple users or clients, they become co-managers of the water system. Their involvement includes:

- collaborating in the planning and construction of the projects;
- being more receptive to the educational programmes designed to stimulate the good use of water in the home;
- caring for system installations, reporting breakdowns in the different parts of the system; and,
- being involved in the administration of the water supply.

This thinking was central to the work done by the PAR team from CINARA (Centro Inter-Regional de Abastecimiento y Remocion de Agua) in the village of Campoalegre, Colombia to address serious problems with the water supply system. The village of Campoalegre, is situated in land that once belonged to the Chavez and Guerrero families. It was founded in the 1950s, when these families divided up the property and sold off some plots. The village population has grown

substantially, because of migration, recent catastrophes on the Pacific Coast, and the agrarian crisis. In 1988, when the existing water system was built, there were 120 users registered from the community and in 1996 there were 336 users, with a population of 1,344 inhabitants. This means that in eight years, the user population has almost tripled, but there have not been any improvements to, or major extensions of, the water system.

A system in crisis

The water in this area comes from the river ‘La Quebrada El Chocho’ and is pumped up to a storage tank. This has resulted in the continuous development of new settlements near Campoalegre and thus great social pressure on water access. This, in turn, has led to unauthorised connections to the water system. In Campoalegre, there are 150 illegal connections which supply water to families in neighbouring Golondrinas, Las Palmas, Piamonte, Limones, and La Paz.

Innovative solutions

The PAR team held discussions with the community about these problems, and what could be done to solve them (see Box 1). Various proposals emerged and were tried. One of the more holistic solutions to the problem was the proposal of the President of the Campoalegre’s Water System Administration Board, Juan Carlos González, to create an Association of Users of the river ‘Quebrada El Chocho’. He suggested that this association should buy the land around the water basin area, reforest it and preserve it in an integrated manner.

BOX 1

COMMUNITY MEMBERS IDENTIFY THE PROBLEMS AND REVIEW THE PROCESS

'It was in February 1996 when we all met up, the leaders of Campoalegre, the CINARA Group and the other institutions of Departmental Health and Public Works (EMCALI) in Mr Juan Carlos Gonzalez' house. He was the president of the water system and we began by playing a game called Tingo Tango where we all introduced ourselves, laughing and showing interest. Then, we concentrated on the water problem, since then we have advanced a lot.' Edgar Guevara, community leader of Campoalegre.

This is how Mr Arnulfo Morera, a local researcher, described the problems of the Campoalegre water supply to the rest of the community. This happened in a participatory workshop, after the community research team had assisted the community to examine the whole water system, during the diagnostic phase of the PAR project: *'We are here in 'Quebrada los Ataudes'. We went behind Mr Carlos' house and noticed a problem in the water tank, which has no cover. There is also a problem in one of the pipes, which has lost its supports. From here we went on to Tranquilandia where we found another problem, because they take out an inch and a half of water, which they use for a swimming pool and we haven't been able to get them to return the water. Then, there is a piece which goes up which we call a viaduct... then we come to the mines. We have had to strengthen the aqueduct water pipes. In any case, we still have a problem when this breaks down. We will come to disturb these people whenever it breaks down. We went on to Montebello and found another problem, as there were a lot of leaks. So the water is not getting through as it used to do. What we call leaks are really unauthorised connections, from Piamonte to Tranquilandia people steal a lot of water from the system.'*

'Within the village there is the problem that people get connected without registering, or other people get water. They sell land and with the same registration they transfer water', Nivis Hernandez, a local Village Health Official added.

'The lack of control of the water sources is a serious problem. Before we had water 24 hours a day and there were seven water sources in the high part of the stream. At the moment we only have water for two hours a day and there are three or four sources in the private property of Mr. Alcides Salamanca, who is not interested in reforesting. Recently, we had a reforestation day in 'La Quebrada El Chochó' and the next day, they cut down all the trees. The man wants to develop the property, not reforest it' Juan Carol González complained.

To contribute to the conservation of the water resource, the Community Researchers Team of the PAR project suggested developing a communal nursery as the start of a reforestation programme. Although this led to the participation of the community, the problem continued, because the water basin was in private property.

'The problem is not only a problem for Campoalegre, it involves seven other

communities that get water from 'El Chochó' and together we can negotiate', says Juan Carlos González. Juan is responsible for the management and development of the water resource. He contributed to the establishment of a Managing Group, which set out to get the Users Association legalised and to have access to institutional support. In addition, the aim was to come to an agreement with the property owners about a programme that guarantees water production for human consumption. Currently, the Association is entitled to financial support from State institutions and NGOs for programmes to improve the water basin. Following a problem-cause analysis facilitated by the Community Researchers Team, Mr. Edgar Guevara, a traditional community leader, actively organised outside support for improvement of the water system in Campoalegre. He helped construct a water treatment plant, and is one of those responsible for this project

Table 1. Experimentation agenda of La Sirena

Problems	Possible solutions	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 CRT 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 organisations	Democratisation: number of participants in the entire process. Efficiency: time required approving by-laws.	3 months	JAA
F) Organisation 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 Campoalegre the legal status of the administration was an important issue, so the community formulated rules and regulations, and mobilised community support to experiment with solutions. La Sirena is one of the other communities that participated in the PAR project. Table 1 shows the problems this

community prioritised with the help of the local Community Research Team, the solutions, the indicators, the time span and who would be responsible for the items.

1 EIC: Equipo de Investigacion Comunitaria, the Community Research Team (CRT).

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

• Broadening participation community

The PAR process in Campoalegre has inspired Fernando Rios, one of the new leaders and member of the CRT, as well as being both teacher and actor, to promote other areas of community work and to ensure that social participation runs through programmes such as reforestation using community nurseries; the promotion of education through a programme of night-time study; the carrying out of sports activities with young people and children; and the organisation of groups for senior citizens. He got the children involved in specific activities within the water project.

‘The water problem cannot be limited to the Water Board or to the leaders; it has to be opened up to everyone and children can develop a civic consciousness more easily than adults. We could say that community participation is the umbrella which covers other manifestations of participation,’ Fernando Rios said when he was adapting a workshop on ‘Water-culture’ for children.

The workshops with children were organised with the Secretariat of Municipal Health, which had the necessary experience and facilities to carry them out. Children and adolescents painted and made drawings of water uses, storage, where the water comes from, how to take care of it and its characteristics (see Figure 1). Then they went out to talk to the people in their houses, who were very surprised and grateful for their visits.

Another strategy developed during the community management project was to decentralise community meetings. These used to be held regularly in the Community Room in the upper part of the locality. However, people from the lower areas of the community found it difficult to get there. For this reason, it was agreed to have community management project meetings in each area, either in a house or in a shop, so that everyone would have the opportunity to know about it and to participate.

• Evaluation

During the workshop on community exchange in which three community research teams evaluated the community management project process, Fernando Rios stated:

‘Apart from the importance of the research, this participative project has been useful to establish that there are other forms of water management. The participation of everyone during the diagnostic process in the establishing of problems and needs has made the group conscious of the need to change the ways of intervention which are out of date. We have also seen other ways of prioritising problems and of finding alternative solutions. The workshops telling the rest of the community about the progress of the research projects were successful, because they provided different ways of meeting up. Finally, with the training we noticed that there are other ways to establish contact and to get into contact with other people, both within the community, as well as with the water sector officials and with other communities who are developing similar experiences’.

During the last two years the community in Campoalegre has been able to prioritise its problems in a participative democratic way. The solutions developed have been of great benefit to the whole community.

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13

What stimulating and committed leadership can achieve: Nkouondja, Cameroon

Andrew Tayong and Christine Poubom

• Introduction

Nkouondja, a village in the West Province of the Republic of Cameroon, is well known in the Foubot District for its improvements in the management of its water supply system in the area. Principally, the community was convinced to pay for its water, (see Tayong and Poubom this issue). One of the secrets behind this improved management is the fact that the village has a number of strong and committed leaders, such as the Chief, the President of the Village Development Committee (VDC) and the President of the Water Management Committee (WMC). This is an important factor since if the leadership of a community is committed and receptive to change, the Participatory Action Development process is likely to proceed smoothly. However, if the local leaders are too dominant and want to pull all the strings of community life, they can also be counterproductive. In this case, the success of the PAR process in Nkouondja was made possible because the leaders are strong, rather than authoritarian, and are respected by their communities.

The village is also well-organised, with small groups of villagers which are supportive to local development. These groups exist both inside and outside the village. They often work co-operatively for activities like farming and selling of farm produce, and are ready to assist the village collectively.

As government policy, the department of Community Development (CD) gives support to community initiatives. The people of Nkouondja are beneficiaries of such policy. In this article we highlight the role which some of these leaders played in the process of developing the water supply system, and the

importance of their commitment to the process.

• The chief: a symbol of respect

The chief of Nkouondja is generally seen by all the villagers as a symbol of respect and order. His presence during any occasion in the village gives an atmosphere of peace. He was always present at the PAR village meetings, which took place at his residence, where he sat in a corner listening to all discussions. The PAR team members had the honour of sitting next to him, along with the notables and neighbourhood leaders, because of their rapport with him and the respect the team has in the village. However, his presence does not prevent villagers from speaking their minds.

The chief only offers his opinions and ideas once the PAR meeting or exercise in the village has ended. For example, after a session on the evaluation of the standpipes, which revealed that almost 80% of them were dirty he asked:

'We like the work you are doing here. The result you have about our sanitary situation and the cleanliness of the village are shameful. It is however good that you let us know about this, but what are you going to do with this type of information? We hope that you are not going to portray this type of picture of the village to outsiders'.

The slow and gentle nature of this chief can be very misleading to an outsider. The PAR team doubted his authority over the people until one incident occurred. The villagers were no longer participating fully in the supply of local materials for the construction of a new catchment that was to increase the flow in the

system to serve the increasing demand for water by the community. In his calm, gentle style, the chief requested papers to assemble all the neighbourhood leaders to discuss the issue. This was done and all these people were assembled the following day. He met with them to find out why the work was not progressing. Various reasons were mentioned. Rather than being authoritative, he showed his previous experience in problem-cause analysis, as used in one of the PAR workshops. He asked the PAR team to help the people identify the root cause of the problem. Collectively with women, who happened to be meeting at the chief's house that day, the causes and consequences were identified. The main causes were discouragement by recalcitrant members, lack of sanctions on these members, and weakness in monitoring by the neighbourhood leaders. The major consequences of this included damages to cement in storage, and the partially constructed wall in the catchment collapsing. The core solution was identified as increased commitment from neighbourhood leaders and immediate resumption of work the following day.

Picture of problem - cause analysis

Everybody was happy and determined to resume work, but the problem was how to inform the entire community that night. The neighbourhood leaders immediately accepted the responsibility of doing this and set up a system to keep track of who participated. The president of the women's group volunteered to supervise all the women and promised to remind them very early in the morning.

Feeling satisfied about the job and the result, the chief made the following closing remarks to the meeting with the research team:

'Since you have been coming here, you talked to us about the importance of involving women but we never could imagine the difference we now see. We wish that you continued to train them as much as possible. I will like to see them drive a car, like the woman I saw in Fombot town. You are now our light and we are ready to follow. It will be our pleasure to provide you with land and a wife from Nkouondja so that you become one of us.'

The chief is just one of the key persons in this village who have been very instrumental in the PAR project in Nkouondja. Let us look at a few others.

- **The president of the village development committee**

Mr. Isiaka oversees all the development initiatives in Nkouondja. Such a person needs to be receptive and dynamic and he possesses these qualities. For example, a student from the University of Buea reading Women Studies, consulted the PAR team to identify a community with which to research gender issues regarding water supply management and was advised to choose Nkouondja. Mr. Isiaka gave her a very warm welcome and guided her through the whole research process. As she puts it *'Mr. Isiaka seems to know so many things. I was surprised to find a man in a village with so much knowledge. He was telling me many things I did not even know, like the seasonal calendar, village map and others I cannot remember. I was really embarrassed'*.

It was due to his effort that the women eventually came fully into the management stream of Nkouondja water supply system. In the first PAR meetings in this Muslim village, the women used to peep from the outside through the window. Gradually they participated in the PAR process, through exchange visits with women from other PAR villages and through presenting the problems identified by the women to the men. During the visit of an IRC International Water and Sanitation Co-ordinator in April 1998, the women came out in full to welcome him, and to talk about what they had learned. Aminato, the dynamic president of the women's group, said in her speech that the PAR process is changing their lives. This time, both men and women were present in the public meeting.

Mr. Isiaka reported that the PAD approach had been applied in resolving problems between parents and the headmaster of a primary school in the village. The problems had made the school almost non functional, but today everything is back to normal. Now Mr. Isiaka is requesting the Pan-African Institute of Development, West Africa (PAID-WA) to

sponsor him to disseminate his experiences to other villages.

- **The president of the water management committee**

It is impossible to write about Nkouondja water supply system without mentioning Mr. Moussah. Though he was elected without the participation of women, they all are very pleased with him. This man would sacrifice his personal time for the management of the system.

At this moment the village is constructing a new catchment to increase the flow in the system. The success of such projects depends highly on the right management. Although not his duty, Mr. Moussah will walk the whole village from door to door just to make sure everybody is aware of work the following day. Sometimes the PAR team offered him a lift, but he would not accept, because there are places he wants to visit which are inaccessible by vehicle..

During a diagnostic session with the women, the research team attempted to bring up management issues involving his president, but all the women collectively said that he is very good. As one lady put it: *'This project has come at the time we are very busy in the farm, but the way the president will take to talk to you is such that you would not hesitate to participate'*.

However, some of the other Water Management Committee (WMC) members are not very active. During a visit to the village Mr. Isiaka asked Mr Moussah why he was doing so much work alone. The WMC president said that when he feels things are not going well he does not sleep. Mr. Isiaka then said to him *'you are killing yourself very much. Hold as many meetings as possible so that others can help you.'* Mr. Moussah clapped his hands and said *'It is true. I walk too much and the village is too large. In fact if the women president would not have helped, it could have been even more difficult. I think I should be holding more meetings and distributing the tasks.'*

Mr. Moussah is hardworking and learned the hard way. His experiences in the PAR project

as a local researcher has added to the qualities and values he has now.

- **Small groups in the village**

Nkouondja village is well organised, to such extent that you will find farming groups, youth groups and marketing associations. When there is a development project, all villagers are levied to contribute a certain amount. In the PAR process, some groups made group contributions to the water programme in addition to their individual contribution. At an assembly meeting to welcome the IRC Co-ordinator, a small group of about six people contributed 15,000 CFA France (US\$50). This motivated the visiting PAR team to support them with contributions in cash. Cement was immediately bought that day for the catchment construction project to continue. The spirit and qualities of the leaders of the Nkouondja water supply system gives hope that the system will be sustainable. The PAR approach is a strong instrument in changing attitudes and providing skills to community members and their leaders to better manage themselves.

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Pakora in Pakistan: moving towards democratic management

Tameez Ahmad and Haider Raza

• Introduction

Pakora is situated in the Ghizer District of Northern Pakistan, 36 km from the district headquarters. The village's water supply was given to the community by the Local Bodies and Rural Development Department (LB&RDD) for political reasons. One of the community members, Aman Ali, was elected as a member of the Union Council. After he had won the elections, he arranged for his village to receive a water supply scheme from the LB&RDD. However, the community did not accept the donated water supply. This was because they did not want to provide free land and labour for the water scheme, and as Hakeem Alishah, one of Community Research Team (CRT) members explained: *'At that time, water was not a big problem for us, so we didn't accept the water supply'*.

However, the District Council Chairman, through regular visits, eventually persuaded 20 people to start the scheme on a piece of land for the water supply tank from one of the villagers. In return he was to be appointed as the caretaker of the system from the LB&RDD. The chairman also arranged for Rs.40,000 (US\$ 1200) to be provided from the Northern Area Administration, in addition to the pipes and cement provided by the LB&RDD. The Rs.40,000 were used on the labour for the construction of the water tank. The community demanded household connections instead of the planned public standposts. Their demand was accepted by the LB&RDD and the community took part in the installation of the pipelines.

Apart from this, the participation of the community in this 'one-man show' was totally negligible. The site for the water tank was on the property of one of the villagers who was asking money for it. The channel down hill was built through a steep sliding place, which regularly collapsed. Not all the households were connected. Mistakes in construction and failure to introduce a payment system for maintenance resulted in a disfunctioning water system for most of the time since it was completed.

This was the conclusion of the community in Pakora, when the PAR team stepped in at the start of the research project to analyse what had gone wrong and what, and how, improvements could be achieved.

An improved committee

The PAR team had approached the community through the *Numberdar*, a local leader, and also solicited the help of the political leaders. They explained the purpose and scope of the project. Having discussed organisational issues and the status of the water supply system, the community indicated that it wanted to have a co-ordinating body, which represented all interest groups. So they selected the 9 male and 4 female members of a 13 member Community Research Team (CRT) (see Box 1). The PAR team took this idea of CRT membership to other villages where the PAR team was also working. The idea was applied in each of the other PAR villages; Hasis, Hoto and Ghaziabad. These Committees have been useful in the villages.

BOX 1

AN ANGRY MAN BECOMES PRESIDENT

In the early stage of the research process in Pakora, a town meeting was going on near the Jamat Khana. The PAR team noticed a man sitting on his roof and looking at the gathering. In the middle of the meeting the man appeared in the gathering and started shouting, 'What are you doing? You are having this meeting near my house. I am also interested to come, but as I am very poor that is why you are ignoring me. I am not informed about the village meeting, why? As I am the poorest'.

Some of the community tried to stop him but the PAR team let him speak out his anger to see the reason behind the shouting. Later on, the PAR team learnt that he was a retired army man and was very disappointed that he had not been informed about the meeting. He ended up attending the meeting and the community selected him to be a member of the CRT. He worked as a member for some time and was very active in the committee. By seeing his interest and good performance as a member, he was selected as the president for the CRT. Although he gave up the presidency of the CRT in 1997, he is still a very important social activist in the community. He has even represented his community during the regional exchange visit to the other PAR communities in Nepal.

Previously in the village there was a Falahi committee, a general village development committee, which managed village issues, but when the CRT was formed, the villagers found this to be more effective than the old committee, because it focuses exclusively on water supply. The members of the Falahi committee tried to transfer all their responsibilities to the CRT members, but the CRT members explained that the purpose of forming the CRT was not to resolve all the other outstanding issues in the community. Following an exchange visit to Ghaziabad, one of the other PAR villages, the community started to organise other committees, such as a Natural Resource Committee and Health Committee and even a Wedding Committee.

Mechanisms like these reflect a more communal way of thinking about solving problems in the village. The CRT members,

the CRT supporters, the local *Numberdars*, the Union Councillors and Mr. Syed Muhammad Shah, the member of the District Council all share the following sentiment: '*before, we were not able to discuss problems and solve our problems. Now we sit together and discuss these things.*'

Transparency and record keeping

'We did not know how much money was given to the Union Council member in the name of the village', Akeem, the secretary of the CRT said when there was a discussion about the past water supply scheme. The PAR team helped set up a transparent management system with the community, who were involved in each step of the research phase. They also participated in the budget planning of the scheme.

To improve accountability, the secretary of the CRT was taught how to keep records of meetings and the money. Any money that comes into the community is recorded and annually accounted for in a presentation to the community. Whilst the CRT secretary is very sharp and the most qualified (educated) individual in the village, he is very busy and is often away. Due to his frequent absences, he was not properly documenting the progress of the CRT. The solution for this was to have the CRT women document the progress and the decisions taken. The female CRT members are also responsible for keeping records of the CRT meetings, tariffs and the collection of fines. Record keeping has helped the committee members in answering the complaints of the community.

A system of fines has also been introduced on water usage. Those households who keep their taps open are fined and the female CRT members in their *mohallahs* (wards) check the taps. The CRT also has a clear and transparent relationship with the community. Before making decisions, a community level meeting is called to inform the whole community and to hear their opinion (see Figure 1).

Figure 1. A community research team meeting (Photo: A. Hussain)

- **Improvements to the water supply**

The physical rehabilitation of the scheme was very important for the community and the PAR team in Pakora. The improved management and problem-solving capacity of the community has meant that the rehabilitation has now been completed, and most of the community are now able to receive water piped directly to their homes for 11 months of the year. The remaining month the pipe between the inlet chamber and the storage tank is frozen.

A work plan was made with the help of the CRT that suited the community, and the seasons were also considered while planning the construction work.

The PAR project was responsible for the provision of cement and other construction materials that are not available in the community, while the labour and all the local construction materials e.g. sand and stone, were provided by the community. The CRT supervised the construction work. The water storage tank was repaired and the tank was connected with the inlet chamber. The wall

was repaired, the over flow and the feeding pipe were changed and the tank was covered with Galvanised Iron sheet.

Sustaining the process

The completion of the water supply scheme, however necessary, did not mean that all of the water-related problems would cease. The Community Research Team realised that they needed mechanisms in place to enable them to cope with continuous and future problems. This is an on-going process, which requires the committee members to be flexible and to listen to the concerns of all community members in order to achieve a sustainable water system. Three major problems have been left for the CRT to tackle.

- Ten households still do not have access to the new water supply, because there was not enough distribution pipe to cover their area. These families first realised the severity of this problem during the winter months after the scheme was implemented, when they found themselves totally cut off from any safe and reliable water supply.
- In another of the *mohallahs*, the main water supply pipe is a smaller diameter

than the branch lines. This creates a pressure problem in the *mohallah*.

- The inlet chamber was not constructed in the proper place, as there were no other alternatives for the engineers. But the community people think differently. *'The engineers were wrong, they have designed the scheme improperly'*, the president of the CRT says. He thinks that the best solution is to connect the reservoir tank to the spring, which is almost 300 feet away from the tank. The amount of water has also been found to be insufficient for the number of people in the community. However, the CRT members believe that the solution lies in connecting the tank with the spring.

All these construction problems have resulted in management problems in the community. The households without the water connection are obviously not co-operating with the other community members and conflicts arise. For example, the residents of the *mohallah* with the improper pipe diameter are not ready to pay the tariff (Rs.50 per year), as they are facing the problem concerning the water pressure.

In addition to this problem the committee members identified the need for an operation and maintenance fund, which could be used to cover additional expenses for repairs. But how can an Operation and Maintenance (O&M) Fund be started in this village, when people are so poor? The female CRT members are doing a lot to help. They have started collecting five rupees every month and are depositing this in a separate account.

'We get the money from the women of the house, the men are never ready to give money', they explain. The women get this money by selling eggs. The female CRT members also use the Women Organisation (WO) for the collection of the O&M fund.

'We are also members of the WO so we talk about the importance of the O&M fund and about the importance of closing taps after use. The women are always ready to pay as they think that five rupees is nothing as compared to the maintenance of the system', Bibi Nargis, a young and enthusiastic CRT member says.

Some construction problems are due to harsh climatic and geological conditions and are difficult to solve without financial investments. However, better management could solve other problems.

• Conclusion

Thus although the community continues to face considerable problems in the improvement and on-going maintenance of the water supply, their capacity to resolve many of these problems is clearly growing, leading to a much more sustainable system than existed in the past.

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Participatory evaluation of a community water project in Tanzania

Kate Forrester Kibuga, Simon Bibby and Alfred Sakafu

• Introduction

Projects which have been taking a participatory approach are beginning to see that participation does not have to come to an abrupt halt when the time arrives to evaluate the project's activities. Thus, in recent years participatory evaluations have been coming into vogue. This is an account of the process of a participatory evaluation carried out in Tabora in central Tanzania for WaterAid.

WaterAid is a UK-based NGO which supports local organisations in Africa and Asia to help poor communities improve their drinking water supply, sanitation and hygiene.

WaterAid Tabora aims to follow a participatory approach in its work both at district and at village level. At district level, it works in close partnership with local government and with three local NGOs, in order to ensure sustainability once WaterAid itself departs.

At village level, it follows the policy advocated by the Tanzanian government of a community-based approach to rural water supply, transferring responsibility for the operation and management of the water supply from the government to the villages. It has involved the community in project planning and implementation and is supporting them in preparing for long-term operation and maintenance, by assisting them to establish and strengthen water and sanitation committees and to devise a system of collecting water funds to pay for the costs of their water supply. All this has been done through a participatory process.

WaterAid staff have accompanied district teams on their field visits to help them develop their communication skills and make effective use of participatory techniques. When it came to the time to do an evaluation, it was only natural that WaterAid would choose to try a participatory evaluation, to link in with the whole participatory process already in place.

Preparing for the evaluation

WaterAid planned a three day workshop in preparation for the participatory evaluation. On day one of the preparatory workshop, we (the three consultants brought in from outside) found ourselves faced with 30 people, our team for the evaluation. The thought did cross our minds that it might perhaps be easier just to do it ourselves..... but we bravely went along with WaterAid's convictions that this was the way that it should be done, and in retrospect they were, of course, quite right.

These 30 participants were WaterAid staff, partner organisation staff (from TAHEA (Tanzania Home Economics Association), the Anglican and Moravian churches), members of several departments of regional and district government, and representatives from the water and sanitation committees from the villages which WaterAid wanted to evaluate. They were all to a varying extent familiar with participatory skills, some having had extensive training from WaterAid and others from practical experience in the field.

Building up the methodology

We built up our evaluation methodology over three days with our vast team. We, the consultants, contributed ideas and experience of evaluations, they contributed a thorough knowledge of the project and the villages. We went step-by-step through the process of an evaluation, each step building on the step which had come before, in an unhurried, unthreatening atmosphere, gradually increasing the confidence of the participants. Most of the work was done in small groups, initially with people who knew each other, giving them an opportunity to air their opinions in an unthreatening situation. At the end of a task, there were feedback sessions as each group presented the results of their discussions.

The steps were as follows.

We began by defining and discussing the concept of participation and the reasons for doing an evaluation in a participatory way. As well as sorting out our thoughts from the beginning, it also ensured that we built a consensus round the objectives and the purpose of doing this evaluation.

We divided the participants into groups according to their institution (i.e. WaterAid staff, NGO staff, government staff, and village representatives) then the groups brainstormed all the possible issues connected with the project and its work which could be considered during our evaluation. Each group wrote each issue on a separate card. A huge range of issues came up (e.g. pumps, their maintenance, water committees, latrines, water borne diseases, women's workload, soap, extension, village government, water quality, etc.). We then came together and clustered all the issues, which fell into four main categories - gender issues, community development (including stakeholders rich and poor, institutions), technology (concerned with water and sanitation), and extension (concerned with the spread of hygiene and sanitation knowledge).

We explained the process of an evaluation, leading into the concept of indicators, with plenty of examples to illustrate it.

In the next task, the large group was divided into 'village' groups, based on the villages which we were going to evaluate. People joined a village group according to the village either that they came from, or worked in. Each group was given a task consisting of three questions:

- what was the situation in the village at the beginning of the project?
- what is the situation now?
- what indicators could we use to measure the results, changes, successes, failures of the activities carried out by the project?

We felt that the idea of indicators might be difficult to conceptualise so we carefully monitored the groups, but in fact through the examples given previously, and then through doing the exercise themselves, they seemed to grasp it very well, and feel happy about it.

The next group task was in 'topic' groups, i.e. the four topics into which we had clustered the original issues (gender, community development, technology, extension). In each village group, about two people were assigned to each of the four topic groups, according to their interests. In their new groups, they analysed the components of that topic, established indicators and compiled a basic checklist of questions to fulfil those indicators.

We came together into our large group for the next step, which was to brainstorm the methods the participants knew which were suitable for generating discussion and the sort of information which we needed. The range of methods they came up with included mapping, daily routines, timelines, 3-pile sorting, wealth ranking, pocket chart, transect walk, posters, chapati diagram, seasonal calendar, problem ranking, etc.

Back in their topic groups, the participants looked at the variety of methods and decided which they would use to achieve their aims, e.g. mapping to discuss the location of the traditional wells and the new ones, the distances involved, who uses which well and the criteria involved in choosing the site of the new well; chapati diagrams to examine the institutions at village level; social mapping combined with wealth ranking to see if there was any correlation between wealth and

sanitation practices, or wealth and the siting of the new wells.

Pilot field work was carried out in one of the project villages for one day to familiarise ourselves with the process and iron out any hitches.

The final step before the evaluation proper started was to have a feedback session in order to assess the methods we had used during the pilot field work, to finalise the checklists and to do the logistical planning; quite an exercise with so many people!

The fieldwork

The fieldwork was done over a total of seven days in four villages of Tabora Rural district where WaterAid projects have been established. The large group was divided into five small groups, who were also divided between different subvillages within each village.

These five groups each had a different activity:

- Group 1 talked to women;
- Group 2 talked to men;
- Group 3 talked to various leaders (e.g. village government, water committees, hygiene promoters);
- Group 4 went to see the pumps installed by WaterAid and talked to people they met around them. (These four groups followed rough checklists worked out during the workshop); and,
- Group 5 walked around the village visiting houses randomly and talking to the occupants about hygiene and sanitation practices, following a structured observation schedule.

We worked in each village for two days, and at the end of each session of research, we held a meeting for all those in the village who had participated, to share the feedback of our discussions with them and invite comments, objections, opinions, etc..

At the end of the field work, the workshop participants came together again for a further two days to compile the findings. We sat in our topic groups and pooled all the information and impressions we had gathered, then made a

summary of the important points to come out of the evaluation on our topic. Each group also drew up recommendations based on their information. This all fed directly into the evaluation report. All the workshop participants then contributed to a SWOT analysis (strengths, weaknesses, opportunities and threats) of all the institutions involved in the project. The final activity was the invitation of a range of representatives from the district government to a presentation by each group of their summary findings, opinions and recommendations, followed by a discussion.

• Comments and lessons learnt

Using 30 people to evaluate a project might seem to be unnecessarily cumbersome and even a recipe for chaos, but in fact in the end, it turned out to be extremely effective. The workshop where we devised the methodology step by step, with everyone given an opportunity to contribute their ideas, was, we feel, a valuable exercise in building the capacity of the local staff and villagers, and the evaluation itself gave them a deeper insight into the workings of the project in which they had been involved and an opportunity to analyse it, question its direction and make recommendations based on the evaluation and their own experiences. None of this would have happened if the three of us from outside had gone out alone to do the evaluation. We felt by the end that there was a real sense of ownership of the evaluation process amongst the participants.

However, at the same time, the act of doing a participatory evaluation highlighted the flaws in the actual participatory process which had been followed by the implementing teams. Although all the right tools had been used, and much discussion had been held with villagers, helping to define the direction of the project, the implementers had not involved all the villagers, and in particular, they had failed to involve the women, who after all, would be the main recipients of water, hygiene and sanitation activities. They tended to use village meetings as the medium for involving the community, but in a culture where women often do not attend village meetings, and if they do, are not expected to talk in front of

men, women's views and comments generally went unheard.

This had many ramifications, from understanding the crucial importance and difficulties of the water supply in the area, to setting up water committees with 50% women members, to the design of the new water pumps. All this had implications when we were trying to evaluate women's participation in the project - we found that women either were hopeless and resigned about the chances of them having any part in running the activities, or they were defensive, even hostile, when questioned about how much they had participated in the project, because they hadn't been involved, or at least, the right circumstances hadn't been facilitated to allow them to be involved.

Thus trying to do a genuinely participatory evaluation before the whole participatory process is in place is like jumping ahead, missing out steps in this process. In this case, rather than the villagers evaluating their own project, as with a truly participatory evaluation, we were evaluating our project in their villages. But participation is a slow process, and takes much time to become firmly established, and under the circumstances this evaluation was as participatory as it could be, and far more participatory than if we had done it ourselves as external consultants. The implementing institutions all realise the importance of participation and are enthusiastic to continue with it. Doing this evaluation in this way will have reinforced the value of participation, highlighted the flaws in the process so far, and pointed out the right direction in which to proceed.

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PAR outcomes Nyakerato in Kenya

Isaack Oenga and Pauline Ikumi

- **Introduction**

The Nyakerato River has a source on Ibencho Hill, and the river stretches as far as the eye can see. The Abatabori clan lives west of this river and has to walk up the hill to fetch water, a burden that caused them to initiate the Nyakerato gravity scheme. A small group of families requested a cover to protect their existing spring. The engineers suggested adding an underground pipeline with public taps down hill to increase the number of water users .

The Nyakerato community has water from springs, a shallow well (broken down long ago), a protected spring and the gravity scheme. Many people wish to get service from the piped gravity scheme, even when they live on higher ground that can not be reached by the gravity pipelines. This issue has not been addressed sufficiently and people are not properly educated about its implications. Hence you find people living higher than the

water source, contributing money and time to the management of the water system in the vain hope that one day they too will be considered to be connected. They do not realise that water will never flow up hill. It is interesting to note that whereas these people living on higher ground gave money and time to the gravity scheme, they neglected a shallow well that had been built on their plateau to give them some source of water.

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.

Figure 1. The magic of the Nyakerato meeting in Kenya (Photo: M. Lammerink)



- **The ‘magic’ of the Nyakerato meeting**

Women in colourful dresses sit behind the men of their clans, some 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 an air of anxiety.

‘How can the ‘Abatabori’ clan take all our water?’ burst the ‘Abakione’ clan, who live on the high ground, where the Nyakerato spring, the source of the gravity scheme, starts. The government has tried to pacify the ‘Abakione’ clan by providing a shallow well, but this has proved ineffective in quenching 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: ‘They ask us to dig trenches for a gravity scheme, why didn’t the engineers tell us that gravity will never serve us as we live higher than the source?’, one of the villagers asked. The bitterness of the people of Ibencho hill is deep. 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 District Officer 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

victimised, 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 District Officers, District Water Engineer, 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 District Officers, District Water Engineer, BKH, (Bongaerts, Kuyper and Huisward Adviesbureau - the Dutch engineering consultancy firm active in this region) 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 water committees, each representing their own area, and one central water committee. The District Officer then suggests how the elections for the members of the committees will be conducted, but the PAR team says that the community itself should decide. The PAR team then facilitates the elections.

The Nyakerato community was the slowest in perceiving the need for looking into management issues in the PAR project. Like in

the other PAR communities, men took the lead. Physical improvements were easily accepted, while leaders were manipulating everything to their own advantage. The earlier water committee was more inclined to be accountable to the donor agency than to the community. Focus group discussions and semi-structured interviews were extensively used during general community meetings. Village walks, observation and village maps were used to identify and understand the community context within which the system operated. Membership was mainly by clans and not by the ability to benefit from the improved water system. Transects were used to map out the gravity pipelines, while the exchange visit between the four communities participating in the PAR project: Nyakerato, Sigomere, Kiveetyo and Yanthooko provided impetus and motivation for the whole community to get involved in the PAR project (see Box 1). The local administration of Nyakerato was stimulated when they realised that in Sigomere, their counterparts played a significant role in the management of the water

system without interfering. The other actors, especially the government departments, are now interested in advising and guiding community management in Nyakerato. In the past, the chairman took all the time trying to convince people on why it was important to get involved, yet he gave them no opportunity to contribute ideas on how to improve the management. Currently, he spends most time in meetings allowing and obtaining views rather than instructing people. This has increased motivation, mutual respect and commitment of the community. Ownership is taking root, operation and maintenance is receiving funds by way of monthly water tariffs. Now the people have a view to what the functions of the committee and each of the offices are, both the roles, obligations and skills and attributes required. The local Research Assistants ('Bell Ringers') in Nyakerato undertook a door to door campaign educating the community on the role and responsibilities of the community and the water committee.

BOX 1

RESULT OF THE EXCHANGE VISITS BETWEEN VILLAGES INVOLVED IN PAR

The Kenyan 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 finalise 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.

Figure 2. Participatory diagnosis around a public standpost (Photo: M. Lammerink)

They stressed that the communities should pay for the proper running of the water supply. The committee should regularly show how the money was used.

In the past, when the small gravity water scheme was constructed, the agency asked the communities involved to elect a 'water committee consisting of a chairman, secretary and treasurer'. However, most of those people elected to fulfill these positions were not very clear on their own roles and functions or that of the water committee. The same situation happened in all communities involved in PAR. During the participatory diagnosis, it became clear that this was one of the main management problems of the water committees. Then the PAR team facilitated training sessions, one for all chairmen, one for all secretaries and one for all treasurers. They also organised a workshop with the water committee officials from all four communities. The treasurers received their training in Nyakerato, to which the local research team and the Area Assistant Chief were also invited. This practical training was most revealing to the Nyakerato (A) treasurer. He had insisted on being treasurer, despite his inability to read or write. The community had elected a new treasurer, yet the old treasurer refused to hand over. Both attended this treasurers' meeting, at the end of which the illiterate treasurer agreed to hand over to the new treasurer. The PAR team acted merely as a catalyst in this process.

- **PAR outcomes**

Attitude change/recognition of roles. The exchange visits helped reflection of the Nyakerato community. Comparing their situation with that of the other communities, the women in Nyakerato are now getting more involved. The community has opened up, is much more co-operative, reflective and assertive, and they are trying a new management strategy. Ownership is greatly enhanced, fighting for recognition reduced, while the roles of the water office are starting to be understood.

Improved leadership skills. Conflict and fighting is reduced, and people are starting to see the 'common' good. The chairman is taking up challenges in his office, while the illiterate treasurer has allowed another one to take over office after a protracted resistance. The secretary had to accept that he is not equal to the community, a view he had tenaciously held on to.

Improved communication. The attendance in meetings of the combined areas of Nyakerato has improved significantly, as well as in the respective zones (A, B, C). People come to meetings on time and the agenda is sufficiently focused. This aspect has been enhanced due to increased information sharing, especially feedback from those who have gone for

training. The selection of trainees has been done at the general meetings, thus the community is enabled to demand feedback and accountability from their trainees. Meetings are called by way of invitation by letter and announcements in schools and other strategic places like shopping centres, health clinics, churches or other public gatherings. Information is sufficiently tailored, e.g. for a meeting of zone A, B or C, or a combination of the subcommittees, and is made specific to members attending.

Information sharing between the committee and the community in way of well-written minutes and books of accounts are regularly made available to the members through general meetings. The local chief, especially the one of Kiaware sub-location, is actively involved in the running of the water scheme by way of support, advice and sometimes arbitration in the water supply. Whereas in the past, leaders kept information to themselves, they now share this with their respective communities, and this has greatly enhanced honesty and reduced lies significantly. The number of community members who are ignorant of the needs and operations of the water supply in the three zones has reduced significantly. However, Nyakerato C has still more work to do to improve accountability and transparency. The current chairman needs to appreciate more the need for making informed choices by the community and not just by a handful of supporters.

Better record keeping. Minutes of meetings are kept and agreed in subsequent meetings. This is enhancing consistency, transparency and an increased level of knowledge and information in the community. At the same time, financial accounting is made more systematic (see Box 2). Attempts have been made to do annual budgets. Auditing of books of accounts is now seen as normal and acceptable.

BOX 2

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.

Diminishing dependency. Implicit obedience and complacency is rapidly diminishing in Nyakerato. People have realised that project funds and assistance are not provided as a favour from government extension staff, but as a voted and budgeted right. They have and demand a right to be informed of what the project is expected to accomplish, materials given to the project as well as their obligations. They now realise that it is not only digging trenches that is their role, but they also own the project. Nyakerato A has endeavoured to contribute Kshs. 300 (US\$ 5) per member to contribute to the amount of required capital for extension of the water system. Nyakerato (combined) is the only of the four communities in which the PAR team has been working that is trying out a management organisation that has autonomous committees, one each for Nyakerato A, B, C and a central committee. The community is now demanding that the committees account for what was given to them. Misdeeds, especially misappropriation of materials, has been cited and dealt with. Those responsible have been identified and cautioned against such future misdemeanors.

Reorganisation of management structures. Nyakerato has been reorganised into three distinct zones: Nyakerato A, B and C. Nyakerato is a gravity serving the eastern slopes of Ibencho, Nyakerato B is a shallow well serving those above the gravity scheme, while Nyakerato C is the second gravity line serving the eastern slopes of Ibencho hill. Each of these has now a separate management committee. A central committee to cover the gravity source up to the first tank was also formed, in order to co-ordinate the affairs of the gravity that are not specific to each of the lines.

Each of these committees is in the process of developing rules, regulations and their respective constitutions. The Nyakerato A, B and C committees each have a bank account. In its training, the PAR project laid emphasis in clearly defining and understanding by all community members of the need, the role, the responsibilities and obligations of the water committee, each of the office bearers, and the whole community as a means of demanding and providing accountability.

- **Reflections on limitations of community management**

It is disheartening to note that the agencies in the past constructed improved water systems in total disregard of any existing traditional sources and indigenous management systems. This causes conflict and puts the improved water system at variance with established community water management regimes.

Furthermore, the concept of membership, users and ownership were vaguely determined. Thus, in Nyakerato, community persons who live on top of the hill were elected to the management committee of the gravity scheme, although it did not reach them. Their main

agenda was to propagate for a share of the gravity scheme, which was technically impossible. In that situation, the interest and functioning of the committee is half hearted. Also, where the gravity system is possible, people that were elected for the management committee were way out of the area to be served in the near future. Therefore each delegate in the committee had, as his first priority, not the management of the water scheme, but the soliciting for extension to cover his area, without any regard to the physical limitation of the system.

Nyakerato and certain organisations, including NETWAS and the Regional Drinking Water Supply and Sanitation project (RDWSSP), have reached a common understanding on clearly delineating roles of each of the actors involved: agencies, the community water committee and the community. The District Water Engineer, South Kisii, is in support of the community efforts in Nyakerato. The National Reference Group, which guided the PAR project, also learned from it and has provided support. In a recent visit they gave valuable advice. It must be stated that the water committee has to address the physical limitations of the system and extend the system to serve the needy cases. For this, the PAR team needs to address itself and see how together with the community the donors can be convinced to help get new locally managed systems into Nyakerato.

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