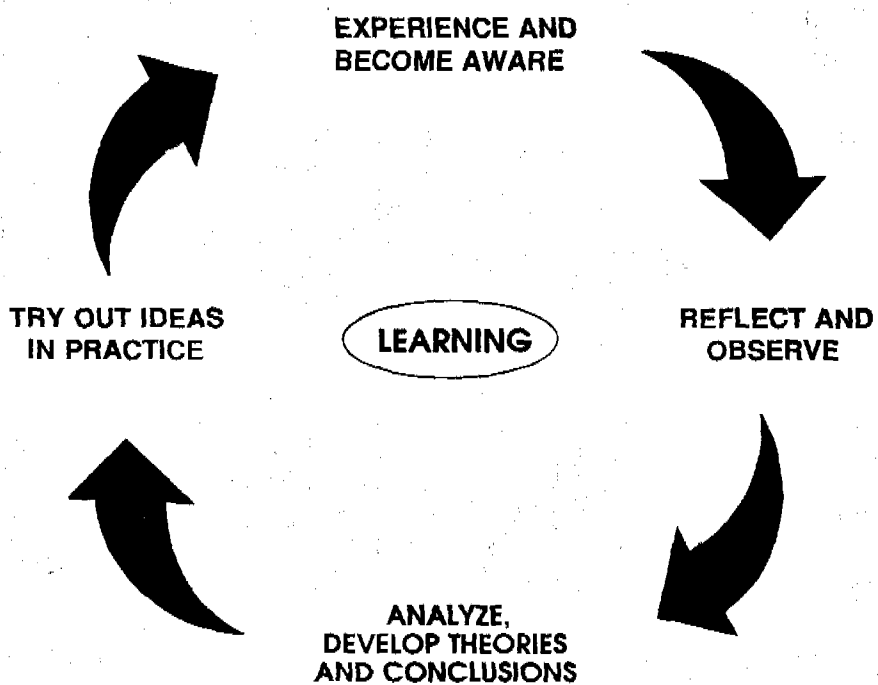




Action-Learning

Building on Experience



INTERNATIONAL WATER AND SANITATION CENTRE
FOR WATER SUPPLY AND SANITATION

IRC INTERNATIONAL WATER AND SANITATION CENTRE

IRC is an independent, non-profit organization. It is supported by and linked with the Netherlands Government, UNDP, UNICEF, the World Bank and WHO. For the latter it acts as a Collaborating Centre for Community Water Supply and Sanitation.

The centre facilitate the availability and use of appropriate knowledge and information in the water, sanitation and related environment sector in developing countries.

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

Emphasis in programme activities is on community-based approaches including rural and low-income urban water supply and sanitation systems, community participation and hygiene education, gender issues, sustainable systems, rehabilitation and environmental management.

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

For further information:

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

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

Action-Learning

Building on Experience

Norah Espejo

Occasional Paper 21

**IRC International Water and Sanitation Centre
The Hague, The Netherlands**

November 1993

ISBN 11307

204.0 93 AC

"Learning is not concept-based; it is an extra-linguistic process rather. Clearing the bush for a 'chitemene' garden, threshing with oxen, riding a camel and preparing millet for beer brewing, are not learned from situations specifically designed to transfer information orally to children, but through the process of observation and participation" (Fuglesang, 1982)

Copyright © IRC International Water and Sanitation Centre 1993

IRC enjoys copyright under Protocol 2 of the Universal Copyright Convention. Nevertheless, permission is hereby granted for reproduction of this material, in whole or part, for educational, scientific, or development related purposes except those involving commercial sale, provided that (a) full citation of the source is given and (b) notification is given in writing to IRC, P.O. Box 93190, 2509 AD The Hague, The Netherlands.

Table of Contents

Preface	v
1. Introduction	1
2. Action-Learning : Basic Concepts	3
2.1 The people's learning process	3
2.2 Learning, an atmosphere and an attitude	4
2.3 Learning skills at group level	4
3. Action-Learning Procedures	6
3.1 Problem-solving process	7
3.2 Community monitoring and evaluation	11
3.3 Participatory learning meetings	14
3.4 Pooling resources	16
3.5 Participatory demonstrations	19
3.6 Community self-training	21
4. Implementing Action-Learning in Water and Sanitation Projects	24
4.1 A supportive atmosphere	24
4.2 An action-learning facilitator	24
4.3 Phases in the implementation of action-learning	25
4.4 Expected results	26
References	27

List of Tables

1. An Opportunity Identification Matrix prepared by a transect team in Kral region of Madargadh village in Surendranagar, Pakistan
2. Mapping community resources in water and sanitation projects
3. Basic guidelines for a participatory demonstration
4. Community resources to be used in community self training

List of Boxes

Self-Motivated Problem Solving in Pakistan
Community monitoring of latrine use in Honduras
Evolving better book-keeping in Tonga
Pooling of resources among agencies in Central America
A participatory demonstration of problem-solving techniques in Guatemala
Planning a community self-training activity

Preface

This paper has evolved from the need to develop training material for project staff for community development and action learning in the Piped Supplies for Small Communities Project in Malawi and Zambia. Before developing training material people first have to be aware of the importance to develop and use the learning approach at individual and project level.

Everyone in the water supply and sanitation sector talks about the changing role of agencies from provider to promoter of services and increasing involvement of communities. Motivating communities, identifying and mobilizing communities. Motivating communities, identifying and mobilizing community resources takes time. Community development needs to be supported through the development of a learning process which reinforced the partnership between agencies and communities by acknowledging everyone as both a learner and a teacher, and also by encouraging the development of learning relationships within and between communities.

Learning is a two-way process. Staff assisting communities to develop awareness and management skills will themselves acquire new knowledge and find it necessary to adjust their advice and support accordingly.

This brochure aims to make more water sector staff aware of the value of using learning in a systematic and analytical way. It provides the basic concepts of action-learning as main tool for capacity building. Action-learning procedures are presented and explained with examples and illustrations. The final chapter contains some guidelines for implementation of action-learning in water and sanitation projects.

1. Introduction

From "knowing" projects to "learning" projects

Capacity building is generally acknowledged to be at the core of sustainable development strategies for the 1990s and beyond. Agencies and communities alike have to enhance their capabilities, both in themselves and in relationship with one another. This document presents an approach which should help to understand the core of the capacity building process of agencies and communities and prepare them both in the implementation and upkeep of sustainable water supply and sanitation systems.

The approach is called Action-Learning. It uses human learning capacity as the main tool for capacity building. The term "action-learning" is rooted in organizational development theories (Kolb, 1971; Schein, 1971) as the term suggests, learning is not seen simply as an intellectual process, but is primarily associated with action and experience. Action-Learning approach seeks transformation of project activities into learning experiences.

As used in this document, "action-learning" approach means promoting and structuring the human learning capacity to enable agencies and communities to build up their own organizational and institutional capacities to achieve project objectives. In doing so, it extends the widely held concept of capacity building beyond training courses. Potential settings for action-learning can be meetings, problem-solving activities, group decision-making processes, reporting, or any other working events. The key conditions are that learning goals should be explicit for the people involved, and hence the events should be supported by learning atmospheres and methodologies.

During the International Drinking Water Supply and Sanitation Decade (1981-90), a lot of good information and material were produced and disseminated on participatory methodologies (e.g. Crone, 1980; Keehn, 1982; Ellis, 1983; Kindervatter, 1983; Feuerstein, 1986; Srinivasan, 1990; Pretty, 1990). This valuable effort was mainly directed at improving the "human process" side of the projects without which sustainability in water and sanitation programmes can not be achieved.

Many projects achieved success in ensuring that these ideas did not just remain on paper, but were adapted and implemented, contributing to enhanced prospects for sustainability (Guibbert, 1987; World Bank, 1989; Mc Common et al., 1990; WHO and PROWESS/UNDP, 1988). Valuable as these efforts were, they have not yet been enough. Genuine participation is still the exception rather than the rule (Oakley, 1991). More often, technical priorities remain dominant; top-down agency-led approaches prevail; information is passed from agencies to communities in a one-way flow; community initiatives are disregarded; community participation is seen as primarily the provision of free labour; and communities themselves are seen as beneficiaries rather than managers and decision makers. Training activities are still either technically oriented or message oriented, with little emphasis on problem-solving and decision-making processes.

If sustainable development is to be achieved, a broader view of capacity building is required. It must be seen as a process which does much more than increase knowledge and skills among the members of a given community and implement a limited number of training activities. Action-learning focuses on building people's capacity to learn through processes of adapting and re-adapting ideas, perceptions, information, knowledge and experience, to deal with reality and, ultimately, to bring about change.

Learning-based approaches in water projects are not new. Nor are attempts to use learning as a tool for capacity building. The "learning-process" approach has been advocated by Korten (1980), and the SARAR (Self-esteem Associative Strength, Resourcefulness, Action Planning, Responsibility) methodology adapted by the UNDP/PROWESS programme acknowledges learning as a centrally important factor. Therkildsen (1988) recognizes learning components as very important parts of his "adaptive approach" to more sustainable sector development, and Uphoff gained interesting insights into organizational dynamics by introducing Korten's learning approach in the Gal Oya irrigation project in Sri Lanka (Uphoff, 1989).

Building on these and other experiences, this document aims to integrate concepts, techniques and ideas into a practical framework to support capacity building in water and sanitation projects. An action-learning strategy takes capacity building as a learning challenge for both agencies and communities. From this perspective, it builds on present experiences and available resources to develop improved approaches and working procedures and to establish a problem-solving capability for tackling future problems.

"Those involved with the problem sat round a table, and a model of a horse and cart was placed in the centre. The cart was loaded up with small rocks, representing all the factors contributing to the problem situation. They were so heavy that they clearly prevented the horse from pulling the cart to its destination. As each factor was mentioned and a discussion held on how it affected the problem, so the rocks were lifted out amid much laughter and animated debate. When all the rocks had been removed, the group spontaneously began to draw up actions which they could take to overcome the problem."

The above abstract comes from an example of participatory demonstration techniques in Guatemala. The full context of the horse-and-cart technique is described on page 20.

2. Action-Learning: Basic Concepts

2.1 The people's learning process

Learning is commonly associated with classrooms, teachers and books. Classrooms are seen as places where we learn, books as sources of knowledge, and teachers as the experts from whom we learn. Similarly, in development projects, training events are often considered to be the sole settings for learning. The inadequacy of this view is clear when it is recognized that traditional, often complex, techniques and solutions have been developed by non-literate people. They learned from experience and experimenting many of their techniques, like, for example, the complex agriculture and irrigation methods developed by the Inca civilization in Peru, proved to be both appropriate and sustainable over a long period (Ore, 1988).

A more practical consideration of human learning processes associates them with everyday life settings, with people learning from their own and each other's experiences. This has been already described as "experiential learning" (Kolb, 1971), hence learning becomes an adapting-process to reality. It is not a linear process of an input-output type. The nature of this process is one of awareness, of analyzing and discovery of uncertainties and relations. Flexibility and a commitment to search are of the utmost importance. This discussion paper takes learning as a process, whatever the content would be. Whether the content deals with hygiene education or accounting, the process of learning will evolve through phases. Experiential learning or just learning process has been represented as evolving through the following phases:

- a) the person experiences, identifies and becomes aware of a situation, a problem, an issue. (Awareness);
- b) this leads to reflection, retrieval of similar experiences, observation of different aspects of the situation, and collection of data; all this provides "background material" (Observation, getting informed);
- c) the material is analyzed, abstracted, digested, which leads to drawing conclusions, finding "new" ideas, discovering things never seen before. (Analysis and abstracting);
- d) Conclusions and findings are tried out into the learner's reality. When they have proved beneficial, the learner will absorb them and change accordingly. (Trying out and changes).

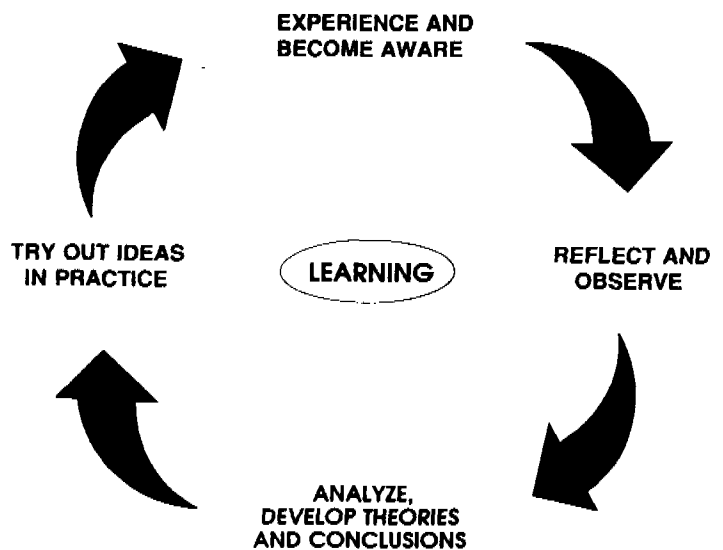


Figure 1: Experiential learning process

Becoming aware, observing, conceptualizing, and experimenting represent the phases of an experiential learning process. Starting from our own and each other's experience, we generate knowledge (in the most widest sense) which has to be tried out in our own reality before becoming adopted. In this way, knowledge comes from experience and goes to it. This is the sense in which action-learning portrays the concepts of learning and uses it as a key tool for developing capacity building programmes.

2.2 Learning, an atmosphere and an attitude

Generally speaking, the learning process is likely to take place in settings where people feel trusted and supported. Threats, lack of commitment, lack of clarity of the learning matter, etc., are factors which make the process of learning difficult. A learning atmosphere is supportive when it has the characteristics indicated below (adapted from: Paul Mico: Developing Community Based Organizations):

- people are encouraged to be active, to experiment with things and to grasp ideas in a personal way;
- differences of opinion, even confrontations, are encouraged; people have the right to make mistakes; and ambiguities are tolerated;
- people evaluate together and learn lessons both as a group and as individuals;
- there is an atmosphere of mutual trust in which people feel accepted and respected.

The above mentioned characteristics are linked to learning attitudes denoted by a state of alertness and a desire to review or revise "definitive" statements and "unchangeable" truths. This state of alertness makes it easier to identify needs, to discover new things, and to develop new ideas for improvements. As important as creating a learning atmosphere, is the development of learning attitudes which go in the line with fosters communication among the people involved, respecting differences, promoting feedback and learning from mistakes.

2.3 Learning skills at group level

The same learning process also takes place in groups and organizations. By creating a learning atmosphere, and working with appropriate techniques, groups and organizations can develop their capacity to learn and so adapt themselves to new situations, respond to challenges and improve existing performance. Theories of organizational development and change in the last three decades (Bion, 1962; Argyris, 1964; Bateson, 1973; Goodman, 1984) have shown the importance of learning as an incentive for development and change. Working in an environment which promotes learning, at both personal and group level, strengthens commitment, increases satisfaction, motivates change, and, in general, encourages more flexibility in trying out and adapting new models of development.

Building the learning capacity among all those (agencies and communities) involved in water and sanitation projects involves enhancing skills related to:

- a) identifying needs, pinpointing problems and to single out experiences at agency and community level;**
- b) collecting proper information and monitoring experience;**
- c) analyzing personal, community/local/national experience;**
- d) developing appropriate and available resources;**
- e) experimenting with potential solutions and improvements;**
- f) exchanging and disseminating information and experience.**

Each of these skills relates to a phase of the learning process and they are of an analytical organizational, experimental kind. This is important because whatever topic is to be learned, it will require learning skills in order to fully grasp and understand the content.

Therefore, if capacity-building programmes has to promote learning-people and not just knowing-people, content and process of learning should be cared for and developed.

3. *Action-Learning Procedures*

The learning capacity at project level can be divided by activities and procedures which may even exist and run. A few procedures have been identified and selected, having in mind the following criteria: to be of a participatory nature and, to deal with project experience in order to make people more aware of, to reflect or to analyze and try out in practice.

Problem-solving

This is a step-by-step process to solve problems in a systematic way. Problems are identified, causes and alternative solutions discussed, feasible solutions pinpointed and action plans defined. This systematic analysis, enables the people involved to look at the problem from different points of view, widen their perspective and increase their skills in how to deal with problems from their reality.

Monitoring and evaluation procedures

These procedures are tools to capture experience in a planned and systematic way, transforming it into data which makes it easier to analyze and change. Participatory monitoring and evaluation help people to recognize the way that water supply and sanitation projects influence, and are influenced by, their own activities.

Participatory learning meetings

The structure of these meetings aims to create a learning atmosphere, awareness of the subject matter of discussion, reflection and observation of related group experience, analysis and planning of future events. Participatory learning meetings encourage participants to learn from group experience and show the potential in individuals and groups for change.

Pooling resources

Often prompted by a desire to make better use of local and available resources, pooling resources leads to communities exchanging experiences and learning from each other. Pooling resources and exchanging visits creates networks of individuals and organizations at community and agency levels. Newly opened channels of information and resources enable and empower people to achieve more.

Participatory demonstrations

These encourage people to learn and understand the functioning and implementation of particular procedures and techniques. Participatory demonstrations are especially important when potential solutions and improvements have to be tried out and developed in real situations.

Community self-training activities

The community actively seeks to improve skills and knowledge using its own initiatives and making use of community/local resources. In other words, the community controls and conducts its own learning process. These activities have a tremendous potential to empower people to lead and feel responsible for their own development.

The various learning procedures need to be undertaken in a coherent way and adapted to the specific situation. There is not an exact sequence or a predetermined step-by-step strategy. The idea is that each procedure should increase the learning benefits, and all together should build capacity within the project to adapt better to reality and obtain sustainable results. More important than the sequence is the openness and flexibility to adapt the procedures, and the capacity to include discoveries and initiatives which may result from learning together. The remainder of this chapter presents a more detailed explanation of each procedure.

3.1 Problem-solving process

Description

Problem solving is a step-by-step process to develop solutions in a systematic way: problems are identified, causes and alternative solutions discussed, feasible solutions pinpointed and action plans defined. The steps of the problem-solving process correspond with the ones of the learning process, as is shown in the diagram which has been called the "problem solving learning cycle" (adapted from Flanagan, 1988). This systematic analysis, enables people involved to look at the problem from different points of view, to widen their perspective and to increase their skills in how-to-deal with problems.



Application

Problem solving may be applicable at any stage of project implementation when problems arise, at either agency or community level. It is also a helpful process in training sessions or during visits to solve a specific problem sensed by the agency, the community or both.

Implementation

Implementing a problem-solving process has to be both systematic and participatory and should lead to action. It encompasses an analytical phase: identifying problems, collecting data, generating possible course of actions, analyzing different solutions, choosing solutions; and an action-oriented phase: planning, implementing and evaluating solutions.

Accurate problem identification activities will set in motion a proper problem-solving process which as far as possible should involve all people affected by identified problems. These should then be solved one at a time, as trying to deal with all problems together causes confusion. As problems are identified, a generous discussion about them will generate information to suggest alternative solutions. This first analytical phase can be facilitated by the creative use of appropriate participatory and learning techniques. A trained facilitator, usually not directly involved with the problem itself, is a great help in supporting this process.

During the action-oriented phase, preferred solutions are tried out. This phase can sometimes benefit from being carried out through a pilot scheme, as that allows experimentation on a small scale and provides quick information for a broad dissemination of the results.

Resources Required

People: A skilful group leader or facilitator able to orient and guide the group through the problem-solving process.

Tools: Many group techniques can be used to facilitate problem solving. Among those which have proved relatively easy to use both at agency and at community level are force-field analysis, cards in panels, case studies, dramatizations, and the problems-solutions matrix (see table 1).

Setting: A meeting place, preferably at the site of the problem, where solutions will be implemented.

Table 1: An Opportunity Identification Matrix prepared by a transect team in Kral region of Madargadh village in Surendranagar, Pakistan

NATURAL RESOURCE IN ZONE	EXISTING STATUS OF RESOURCES - PROBLEMS	LOCAL SOLUTIONS TRIED OUT	SOLUTIONS SUGGESTED
VILLAGE PERCOLATION TANK	<ol style="list-style-type: none"> 1. Breached earthen embankment 2. Water weir poorly designed 3. Flow is not channelled into tank 4. No provisions for overflow 	<ol style="list-style-type: none"> 1. Petitioned to government for repair. Not repaired for last 6 years 	<ol style="list-style-type: none"> 1. Renovation of percolation tank 2. Redesign and construction of waste weir 3. Repair of all gutters leading to tank 4. Desilting as part of renovation 5. Lift-irrigation from tank
WATER COURSE	<ol style="list-style-type: none"> 1. Run off flow being wasted to Jasapar dam 2. Poor percolation of wells in area 3. Number of wells becoming dysfunctional is increasing 	<ol style="list-style-type: none"> 1. Earthen recharge structure 	<ol style="list-style-type: none"> 1. Earthen embankment with stone spillways near to well so as to enable recharge
WELL (25)	<ol style="list-style-type: none"> 1. 16 wells are functional, 9 are dysfunctional 2. Water table 35-55 feet 3. Wells not recharged from Jasapar dam reservoir due to difference in elevation 	<ol style="list-style-type: none"> 1. Earthen recharge structure 	<ol style="list-style-type: none"> 1. Groundwater recharge structures (from pond, stone or masonry dams) 2. Deepening of save wells to enable higher discharge + recharge
COMMUNITY WELLS	<ol style="list-style-type: none"> 1. Too little depth leading to poor discharge + being dysfunctional 		<ol style="list-style-type: none"> 1. Deepening and construction of bore well (well capable of irrigating 80 areas)
RUN OFF RAIN WATER	<ol style="list-style-type: none"> 1. More than 80% of run off lost to Jasapar dam 	<ol style="list-style-type: none"> 1. Small earthen structure (but do not last long) 	<ol style="list-style-type: none"> 1. Develop a grid of conservation structures across all water courses to ensure all run off percolates to ground

Spource: Mascarenhas, J. et al (eds.) (1991).

Self-Motivated Problem Solving in Pakistan

The Aga Khan Rural Support Programme (AKRSP) has developed an approach which enables rural people to have a say in what they want for themselves, and to develop their latent capacity to analyze and evolve their own plan. As part of the approach, so-called transect teams from the village carry out transect walks, observing such things as soil and water characteristics, cropping patterns, and land use. A number of small thematic maps are then sketched (e.g. a water resources map, a local land use classification map, a resource utilization map, a cropping pattern map, an aquifer map). These are generally an extension of an initial ground map and are a very useful way of stimulating understanding of local resources and the problems related to their productive management and utilisation.

Each map is produced by a group of 5 to 6 people during the transect exercise. It is not uncommon to find a source of local expertise on a thematic issue, like a water diviner or a local soil expert who is able to contribute towards inventoring resources and identifying critical areas requiring intervention. Illiterate people can participate if they are encouraged to draw symbols to illustrate various aspects of the diversity, characteristics, problems and solutions. They can usually draw well and most of them are creative in drawing diagrams. It is always helpful if people can describe the resources, process, status and problem in terms of symbols and colours (e.g. symbol of a crop, deforested trees (by black), colour of the soil (by different colours) and numbers by number of grains).

During the transect walk, observations are made leading to identification of problems. Mapping is done to facilitate analysis of the problems and helps to provide a focus during the subsequent discussions. This is followed by an intensive discussion with the transect team on the site itself to take advantage of the visual clarity for the persons asking the questions and those answering them. Great care is taken in this kind of exercise not to ask leading questions. Questions like "What else?" should be asked again and again. It is important to ask people to suggest solutions which they have tried before, identifying those which have worked and those which have not worked, and why. It may also be useful to ask why some solutions have not been tried, to ensure that their feasibility is appraised by both local people and outsiders.

The end product of these analytical discussions is a transect diagram which is prepared by the local people in the form of Opportunity Identification Matrixes. The matrices show all natural resources, local land use classifications, existing state of resources, constraints/problems in productive development of these resources, local solutions tried out by the people and options identified by the people for solving the problems and development of each resource (Table 1 is an example).

Source: Mascarenhas, J. et al. (eds.) (1991).

3.2 Community monitoring and evaluation

Description

A community monitoring and evaluation system is a means of which experiences can be captured in a systematic way and transformed into data from which lessons can be learned and actions initiated. Data is collected regularly, using the same established indicators. Monitoring is generally carried out using standard forms, charts, or questionnaires, and recorded in a way which highlights trends or variations from the norm.

The system is not just confined to data collection and record keeping. It is primarily a feedback system which serves to raise consciousness about what is being done, and how. Information is only of value if it is analyzed and used as a basis for further action. In this sense, monitoring and evaluation provide a vehicle for action and change.

The best monitoring and evaluation of water supply systems are a joint responsibility of the agency and the community's water committee. While the agency is monitoring and evaluating the larger results of a programme as a whole, the water committee is concerned with the daily functioning of the system and the process by which community actions are taking place.

Application

During the planning and implementation phases, monitoring and evaluation help to record and review, such things as:

- the community's desire for, and satisfaction with, the proposed water system;
- technical aspects associated with the water source and the construction itself;
- community habits regarding water use, hygiene, and waste disposal;
- the quality and effectiveness of community participation.

During operation and maintenance, regular monitoring and evaluation provide checks on:

- functioning of the system;
- the effective use of the water;
- the work carried out by the water committee;
- the impact/changes that the drinking water system has brought to the community;
- community participation in managing and taking care of the system;
- community habits regarding water use, hygiene, and waste disposal.

Implementation

A community monitoring system should preferably be established from the beginning of a project. This enables the community to monitor its own inputs into system construction, for example, and to keep systematic records of labour and materials contributions and cash collections. Development of the community monitoring system should itself be participatory, so that the group responsible for monitoring can be actively involved in the planning and the follow-up of the system.

Community monitoring of latrine use in Honduras

A vital element of latrine projects is the promotion of hygienic use of facilities. Although community behaviour change can be facilitated by the agency, it is the community itself which has a decisive and leading role as far as behaviour change is concerned. Preferably, information on both technical aspects of latrines and use by households has to be accessible and managed by the community itself. Carrying out their own monitoring, checking latrine use visually, discussing, convincing and agreeing on any improvements, are all tasks for which community members have to be responsible.

In Honduras, the government water and sanitation agency, SANAA, has initiated an experiment with simple monitoring systems carried out by community inspectors, most of them women. The following paragraphs describe a community monitoring system for latrine use implemented in a small village of about 80 families.

The community monitoring system established the following objectives:

- . to analyze and improve the use and maintenance of latrines;
- . to promote proper disposal of children's faeces;
- . to involve community members in promotion and monitoring of latrine use.

The process is being implemented as follows:

1. Promoters meet community groups and organizations and ask for support; objectives are explained, work and issues discussed.
2. A group of latrine inspectors is selected from the community and trained by promoters in the same community. During the training programme simple monitoring forms are elaborated and tested in the community and a clear plan of action is agreed.
3. Visits are made to every house by trained inspectors. Whenever misuses are found, they explain simple technicalities of the latrine and its proper use.
4. Promoters monitor the confidence of the community in the latrine.
5. At the next visit, the promoter discusses the findings with the inspectors; major risks are identified and practical improvements planned.
6. A community assembly is convened to discuss findings and potential action to be implemented. Communal action and campaigns can be organized.
7. After two months repeat house visits are made for which inspectors have to be refreshed in the card use.
8. After implementation, results of the second monitoring will be compared with the first and a community assembly convened if necessary.

After the first monitoring of all houses in the community, the inspectors, having obtained, analyzed and shared information with the community for behavioural improvements, were very enthusiastic to continue with the system. Although this system has not been tested for long, and it may need further adjustments, there are encouraging signs that helping the implementation of community monitoring systems also becomes a learning experience for both the inspectors and the community. It thereby encourages the community to assume responsibility for changing behaviour.

Source: Visscher, J.T. (1990).

The main activities involved in implementing a community monitoring and evaluation system are:

Planning Phase

- selection of issues to be monitored;
- identification of related indicators;
- allocation of responsibilities;
- preparation and validation of monitoring instruments.

Implementation Phase

- collection and recording of data according to selected indicators;
- participatory meetings for analysis of the data;
- dissemination of information and conclusions drawn (feedback);
- implementation of improvements or adjustments.

Review Phase

- review of the effectiveness of the indicators, the monitoring instruments, and the satisfaction of people involved in the process of implementing the system.

Community monitoring systems deal with information based wholly on reality. Simplicity, creativity and visibility are important virtues. In general, the number of indicators should be kept to the minimum needed to yield practical information. Those selected should be visible and easy-to record. Graphic symbols, or any other visual aids, help to make the data readable and easy to use.

Implementation of a community monitoring system will provide information regarding problems of use and functioning of the water and sanitation systems. Monitoring should be seen simply as a "fault-finding" exercise but as a positive way of learning from those problems. This is a particularly important point in case of monitoring latrine use and hygiene behaviour. People may feel threatened by monitoring activities and so be unwilling to give accurate responses to questions. When monitoring leads to the identification of problems, the information obtained should be used in problem-solving meetings.

Resources required

- People:** Community members are key participants in monitoring teams and project support should include resources to enable and encourage both men and women to take part in system monitoring. Women's formal and informal networks can be very important as resources to develop community monitoring systems.
- Tools:** Forms and instruments have to be selected by members of the monitoring team. Drawings, traditional symbols and other visual aids will help to make data readable and easy to collect and use. Data and information should be both quantitative and qualitative. Guidance on tools for monitoring can be found in Feuerstein, M.Y. (1986), *Partners for Evaluation* ; Petty, J. (1990), *Rapid Catchment Analysis for Extension Agents* ; and Mascarenhas J. et al (1991). *Participatory Rural Appraisal*,
- Setting:** All places affected by the water and sanitation systems, such as water source area, pipeline route, water points, households, schools, etc. constitute settings for monitoring activities. Additionally, an appropriate meeting place is necessary for analysis of collected data and feedback to communities.

3.3 Participatory learning meetings

Description

A meeting is participatory when group members are able actively to present their ideas and opinions, and everyone feels that they have taken a full part in the discussions, or that their views have been fully represented. When, as a result of sharing these individual contributions, the group feels that it has collectively gained experience and knowledge and concrete conclusions and lessons are obtained, we can describe it as a participatory learning meeting.

Application

Participatory learning meetings are appropriate at any stage of project development, at both agency and community level. They can be used for planning, coordinating, and reaching agreements, or in training programmes for open discussion about critical issues.

Implementation

These meetings can be run among agency and community people every time a working discussion has to take place. Whenever the size of the group is more than 10 or 12, it is desirable to split into small groups for discussions and for group evaluation.

A participatory learning meeting evolves through different stages such as:

1. Creating and maintaining a learning atmosphere.
2. Identifying the tasks of the participants and the results to be obtained from the meeting.
3. Group discussion with active participation of all members. Personal experiences, knowledge, opinions are expressed, discussed and taken into consideration in final conclusions.
4. Drawing group conclusions or making group decisions by consensus, ensuring that all members accept them.
5. Planning future activities and events (optional).
6. Evaluating the meeting. The group and the individuals mention what they have learned from the experience as far as themes discussed and meeting methodology are concerned.

In reality, these stages are not rigid or exclusive; they flow according to needs, conditions and resources. For example one meeting may need a stronger and longer stage to create and maintain a learning atmosphere. When a meeting aims to promote participation and learning, a major responsibility lies with the chairperson. S/he should be aware of, and deal through the whole process with, three important components: the task itself, the relationships among the group members, and the working methodologies for learning.

Evolving better book-keeping in Tonga

In a water supply project in Tonga, village water committees were finding the accounting system they were using too complex and cumbersome. A new simpler system was devised, in a two-day course where the supporting agency took care to incorporate group experience in the learning of new accounting techniques.

"A course was organized to teach the new accounting method to participants from 33 villages, divided into five groups...The participants were provided with free receipt books, registers, and balance books. They were asked to provide actual data from their own villages for the exercises. Redefining the roles of the treasurer and secretary took most of the first day of the two-day course. Those who were not good at arithmetic were persuaded to get help from students in the village. An additional feature was the emphasis on auditing by villagers other than the committee members. On follow-up three months later all villages were still using the system. Some villages had changed their treasurers but the water superintendent and the immediate past treasurer were able to teach the system to the new treasurer."

Source: Finau, S., and Finau, S.A. (1983).

A key to the success of this approach was the use of group experience and actual data from the villagers themselves, allowing participants to be actively involved in the acquisition of the new techniques and see the obvious and immediate value for them.

The task itself

1. The theme and the tasks have to be clear to all group members.
2. Whatever a meeting is about, the most common tasks to be accomplished by the participants will be: sharing information from personal experience, promoting ideas, exchanging ideas, making decisions, or solving problems.
3. Participants' roles which help task accomplishment are: providing information; using the provided information; initiating discussions (suggesting, questioning); reviewing and evaluating progress; and evaluating at the end, drawing conclusions and lessons learned.

Relationship among the group members

4. The kinds of relationships among the group members (power games, hidden agendas, misunderstandings, etc.) all play a role and set the background that supports the group work and its learning achievements.
5. The discussion should remain practical and clear, where participants have the opportunity to express their opinion and their experience.
6. Participation and communication is related as much to speaking out as to listening. Both aspects have to be promoted and reinforced.
7. Individuals' feelings and opinions are as important as those of the group. In participatory learning meetings majorities and minorities have equal rights and obligations.

Methodology

9. Maintain a relaxed learning atmosphere where differences are accepted and respected.
10. The use of aids, exercises, graphic presentations, games, etc., is very valuable to stimulate interaction among group members.
11. Promoting participants' evaluation of the meeting, covering task accomplishment, lessons learned, and feelings and suggestions about the content, raises awareness about how learning develops in the process and in the content.

Resources Required

People: A skilled facilitator to guide group dynamics according to prevailing cultural patterns.

Tools: Aids such as a blackboard, a flipchart, big sheets of paper, markers, crayons and chalks, and any other materials that help to convey messages and views.

Setting: Ensure that everyone can understand and participate at all times.

3.4 Pooling resources

Description

Pooling resources refers to the process by which resources are united around a common activity; available skills, knowledge, expertise, and materials. It may involve individuals, organizations, communities and agencies in any combination. Pooling resources requires cooperation, exchange and learning from each other, hence friendship, good relationships, collaboration, charismatic people, all contribute to its effectiveness.

Application

Pooling resources can be initiated at any stage of project implementation, when commitment and support is needed for communal action. It can also be an effective way to mobilize skills and knowledge for the holding of local training activities, whether for agency staff or community members.

Implementation

At village level, management by water committees benefits considerably from the constant pooling of local resources and "networking". Especially in areas having few economic and organizational resources, networking is an effective way of strengthening community management capacity. It also enhances village water committees' own legitimacy, by actively linking their activities with those of other local organizations and mobilizing the support of key individuals.

At agency level, pooling resources and networking may go beyond local borders and join regional forces to learn lessons and find more sustainable responses to water and sanitation project problems. Although pooling resources and networking can be spontaneously done, a more systematic approach may evolve through the following steps:

1. Initiators identify their needs for and benefits from pooling resources.
2. Preliminary mapping of resources (individuals, organizations, groups) and an inventory of possible contributions. Table 2 is an example of the mapping of community resources of importance to water programmes.
3. Identification and planning a collective activity with all people involved. Special attention should be given to those benefits people want to obtain from this activity.
4. Implementation: developing collaborative links, building and reinforcing interpersonal relationships, use of participatory learning meetings and problem solving approaches, may all be of great help in increasing learning opportunities.
5. Group evaluation, once the activity has been completed. Reflection on the process of working together: lessons learned, problems and solutions encountered, derived benefits, and further strengthening of working relationships.
6. If necessary, discuss and plan the next collective activity.

Table 2: Mapping community resources in water and sanitation projects

<i>Areas of activity</i>	<i>Potential Resources</i>
Organizing users for change	women's groups, local leaders, teachers, old people, health workers, churches
Communications and education materials	teachers/schools, health workers, local story tellers, radio station
Local knowledge and technology	village authorities, influential people, women, churches, handicraft groups
Financing	wealthier people, bank offices, credit unions, cooperatives, churches, neighbouring village water committees
Technical aspects of water supply and sanitation	skilled workers, technical schools, craft workshops, spare parts retailers
Management and work organization	small enterprises, teachers, local organizations

Resources Required

People: Individuals must themselves perceive the benefits of working together. Charismatic coordination, and efficient communication are very important.

Tools: An inventory of local resources, individuals and organizations. Participatory learning meetings and problem solving approaches will make working and exchanging experience together more easy.

Pooling of resources among agencies in Central America

When representatives from the six Central American countries (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama) and the Dominican Republic met in 1979, operation and maintenance of existing water systems was poor. No real effort had ever been made to keep up the quality of services.

Being small and having little money, the countries realized that they would profit from working together. By integrating their training activities and cooperating, they would benefit from each other's experience and save money. Strengthened by one another, they would also be able to formulate proposals and attract foreign money to pay for most of the training.

The regional cooperation committee which was subsequently set up works under the name CAPRE - the *Comite de Agua Potable y Saneamiento para Centro America Panama y Republica Dominicana*. A first step in setting up CAPRE was to identify the water institutions it would be appropriate to include in this regional cooperation. The first problem it decided to tackle was operation and maintenance of existing systems and a training project was launched with this focus. It took place with financial assistance and technical support from the German government (GTZ) and the World Health Organization (WHO).

The countries agreed that training of staff should be the starting point for coming to terms with deficiencies. National coordinators, coordinators for new training units and technical groups, instructors, supervisors and technical staff were trained to tackle problems of operation and maintenance during the project period 1985-1987. In total, about 1,000 people in the seven participating countries were trained to undertake tasks which will, in the long term, improve water supply services.

The courses for coordinators, instructors and supervisors included to a large extent the same topics. They all learned the basics of analyzing the tasks of different job categories and methods for problem solving and planning. At this level, trainees from participating countries were brought together. Operation and maintenance workers, on the other hand, were trained in their home regions. Panama, Costa Rica and Nicaragua formed one group, and El Salvador, Honduras, Guatemala and the Dominican Republic the other. Bringing together the coordinators meant being able to take advantage of economies of scale. It also laid a foundation for future contacts and cooperation. At the end of the course, the coordinators had to develop a year-long training plan for their institutions. So far, agencies actively working together under CAPRE have learned the following lessons:

- . Working together makes everybody stronger.
- . Training must be tailored to actual needs.
- . Communication is an important ingredient for development.
- . Improvement requires an honest will for change.
- . Individuals must themselves recognize the value of undergoing training.
- . Support from the top level is crucial for sustainable development.
- . Adequate preparation leads to motivation and responsibility.
- . Follow up brings success.
- . Starting on a small scale is better than not at all.
- . Success brings more success.
- . Confidence building is important.

Source: WHO (1989).

3.5 Participatory demonstrations

Description

A participatory demonstration is a planned event, which allows participants to see in a practical way how a piece of equipment or a certain tool works, or how a particular procedure or technique is carried out. Table 3 indicates some basic guidelines for the successful planning and execution of a participatory demonstration.

Table 3: Basic guidelines for a participatory demonstration

<i>Preparation</i>	a. The demonstrator should practice the demonstration in advance, and carefully prepare it step-by-step. Make sure you can perform all the steps correctly yourself!
	b. Before the demonstration begins, make sure all the necessary equipment and tools are available.
<i>Demonstration</i>	c. Make sure that all participants can see and hear every step of the demonstration.
	d. Clearly explain exactly what you are doing while you are doing it. Underline important points. Let participants ask questions as the demonstration proceeds.
	e. Explain the meaning of technical terms as simply and directly as possible, even when addressing a "sophisticated" audience.
	f. Point out possible dangers and necessary safety precautions.
	g. Ask participants questions to ensure that the demonstration is being properly communicated to the audience.
	h. Whenever possible, do the demonstration a second time. Let the participants decide the order in which to do the steps before you do them. Go through this process, and then do it a second time, step-by-step.
<i>Practice</i>	i. Before finishing the demonstration let each participant try out and practice the demonstrated steps. If the group is large, split into smaller groups to practice.
<i>Evaluation</i>	j. Evaluate and summarize with the group what has been demonstrated and learned.

Adapted from: Flanagan D. (1987).

During the demonstration, participants should both see how something works and have a chance to try it for themselves and judge its effectiveness and usefulness. This motivates people to adopt new methods and techniques by seeing how they can be used in practice. An important element is a final evaluation by the observers themselves, to discover what they feel they have got from it, and how they might be able to use what they have learned.

A participatory demonstration of problem-solving techniques in Guatemala

A training programme for promoters in Guatemala aimed at internalizing participatory approaches and incorporating more participatory methods in the working relationship between promoters and communities. UNEPAR, the state agency responsible for water supply and sanitation provision in rural areas was building new supply systems and reactivating old ones, with village water committees acting as the official counterparts.

As part of the training programme, promoters had to prepare communication materials and group exercises, adjusted to community situations. A set of selected group techniques was "demonstrated" in a village meeting attended by 25 members of 5 water committees from the local area. The reasons for choosing that specific group were twofold: access to a relatively large group of water committees members; and current problems of collaboration and cooperation among them concerning the construction of the water systems.

Before the demonstration, the training facilitator and promoters discussed and agreed step-by-step procedures for implementing group techniques and the issues to observe and identify in the demonstration, as well as the roles of each promoter during the meetings (leading implementation of the techniques, observing participants, promoting group participation, facilitating graphic materials, etc.). The facilitator's role was to support the promoters and to accomplish the following agenda:

1. Clarification of meeting objectives for all participants.
2. Personal introduction of all participants.
3. Mapping of village problems as far as health, water and development is concerned.
4. Community identification of one concrete problem to be solved.
5. Analysis of the problem.
6. Open discussion of what to do together in order to solve the problem.
7. Written agreements about solutions.

The meeting took place in the communal centre with enough open space and light to work in small groups; the floor and walls were used as working spaces. The dynamics of the demonstration were very lively. Those involved with the problem sat round a table, and a model of a horse and cart was placed in the centre. The cart was loaded up with small rocks, representing all the factors contributing to the problem situation. They were so heavy that they clearly prevented the horse from pulling the cart to its destination. As each factor was mentioned and a discussion held on how it affected the problem, so the rocks were lifted out amid much laughter and animated debate. When all the rocks had been removed, the group spontaneously began to draw up actions which they could take to overcome the problem.

Back at the office, the following day, the promoters evaluated the demonstration of the techniques, using their notes and personal observations. They agreed that participatory approaches to problem solving were likely to achieve more results than top-down approaches; and how the techniques (mapping, stones and carts, groups discussions) could be adapted for better results with communities.

Source: Espejo N. (1990).

Application

Participatory demonstrations are useful at any stage of project implementation at both agency and community level. They are especially useful in promoting and teaching. A common application is a part of a training programme for water committees, agency staff, or community extension workers, to illustrate and show the value of a particular technique or method which they may then wish to use themselves.

Implementation

The main steps involved in a participatory demonstration are: preparation; the demonstration itself; practice by participants; and group evaluation.

Resources Required

People: A skilful demonstrator who knows exactly what s/he is doing.

Tools: All necessary devices, parts, accessories etc., of the technique, equipment or procedure demonstrated.

Setting: A place where all participants can see and hear every step of the demonstration.

3.6 Community self-training

Description

Community self-training is a group activity by which community members actively seek to improve their skills and knowledge through their own efforts, and initiative. Even when agency help is provided, the main responsibility for organizing and conducting these activities lies with the community, which makes use of its own members as resource persons to provide information and experience.

Self-training differs from participating in a training programme, in that its trainees organize and decide for themselves what are they going to learn and how. It thus reduces reliance on training courses supported from the outside.

Community self-training activities include: seeking advice from knowledgeable individuals or groups; organizing a meeting to pool experiences; getting together to read books or other instructional materials; calling in a resource person to provide inputs to skills-development lessons; etc.

Application

Community self-training is appropriate whenever a water committee or a community group wants to develop skills and knowledge for a specific purpose, without depending on initiatives from the support agency.

Implementation

Like any other training, a self-training activity has to be planned, organized, implemented and evaluated. In the planning stage, groups of learners clarify and agree the tasks and related skills they need to learn about. Tasks analysis and simple planning techniques are important tools, and pooling of community resources and networking are useful mechanisms for finding human and material resources to carry out self-training. Final evaluation is of the utmost importance, to find out what has been learned and which lessons can be drawn from the group experience.

Resources Required

People: A formal or an informal leader (can be the school teacher, or health post staff) with some ideas and knowledge of education, to assist in the organization and in the conducting of the self-training activity.

As far as possible teaching should be the responsibility of local resource persons knowledgeable in the topics to be learned.

Tools: Traditional educative techniques, rituals, stories and local customs. Table 4 shows some resources available at community which can facilitate self-training activities.

Setting: The timetable has to be carefully chosen, to allow all relevant participants to be present. The place, if possible, should be quiet, where people can feel at ease.














Table 4: Community resources to be used in community self training

<i>Techniques</i>	<i>Uses</i>
<i>Dramatized</i>	
Role playing Folk theatre, rituals Demonstrations Puppet shows	These techniques can be used as warming up devices, to stimulate discussion and debate, in training and self-education activities. They also provide means of visualizing a problem.
<i>Written</i>	
Pictures and articles from local newspapers Bulletins Leaflets	Useful background materials for discussion dissemination of information, and advocacy.
<i>Verbal</i>	
Story telling Tape recordings Radio broadcasts Listeners' groups Talking with experienced people and groups	Ways of presenting information to stimulate discussion and debate.
<i>Graphic</i>	
Posters Wall paintings Photographs Flip charts Flannel boards Blackboard Models Exhibitions	In general, graphics are helpful in clarifying messages, and in presenting facts.

Planning a community self-training activity

A useful tool for self-training activities is a simple planning guide which sets out the goals to be achieved, the knowledge and skills to be developed, and the actions needed to achieve the goals. The planning phase for self-training may include scholastic activities such as lectures, lessons and homework. It may also involve discussions with experienced people, group readings from books accompanied by discussions, talks about traditions and behaviour, even visits to the market to assess the availability of local materials. The aim should be to develop a structured training plan like the one below, which was part of a programme to introduce latrines into a community.



Stages of Task Actions (A) Decisions (D) Communications (C)	Knowledge and Skills needed ↓	Ways to Learn ↓
1. Find out community interest. (C) 	ability to explain and listen 	talk with experienced health workers; role plays; group dialogue
2. Decide if latrine project is possible at this time. (D)	understanding of people and customs 	community dynamics; discussions about traditions & behavior
3. Help people learn importance of latrines to health. (C) 	knowledge of how disease spreads; teaching skills 	from observation, books and discussions; practice teaching 
4. Decide where latrines will be built. (D)	knowledge of safety factors 	books and discussions; thinking it through with local people
5. Get materials needed. (A) 	what local materials can be used; what else is needed; where to buy at low cost, etc.	talk with local mason; trip to market 
6. Help people build the latrines. (A) 	dimensions of pit and platform; how to mix, cast, reinforce, and cure cement; how to build outhouse & lid	have students take part in actually making latrines 
7. Encourage people to use latrines and to keep them covered and clean. (C)	home visits; art of giving suggestions in a friendly way 	practice, role plays, and discussion 

Source GTZ (1990).

The tasks analysis provided the basic information needed to carry out the self-training activities, as follows:

- Objectives (left hand column), divided into actions, decisions, and communications;
- Knowledge and skills needed (central column);
- Learning activities (right hand column), including the techniques and resources needed.

4. Implementing Action-Learning in Water and Sanitation Projects

A primary objective of any action-learning programme is to enhance the learning capacity of all those involved in the project. In operational terms, that will mean first evaluating the different learning situations and then developing plans for improving the learning procedures both at project and at country level. As action-learning is by its very nature a participatory process, the strategy will seek to maximize the involvement of all groups in planning, implementation and evaluation activities.

The procedures in section 3 provide the elements of an action-learning programme. To implement that programme for a new or ongoing water and sanitation project, project staff need to have support from planners and decision-makers in the implementing agency for the flexible programming and resource inputs they will require. So much depends on local circumstances that it is not possible to give prescriptive guidance on the best action-learning improvement programme for any situation. The principles set out in this chapter are therefore intended only to steer implementors towards approaches which will facilitate action-learning, not to establish a rigid framework.

4.1 A supportive atmosphere

Action-Learning needs to be initiated by people who are sympathetic to the process itself and whose aim is to stimulate enthusiasm among community members for achieving their own objectives. It is through that motivation that action-learning evolves into a powerful capacity-building process.

As it progresses, action-learning develops and enhances individual and group capacities for efficiency, flexibility and sustainability. Initially, the focus has to be on the methodological aspects of the work. The way that people work is what matters, and usually this is a sensitive area. Implementing action-learning involves issues of social change, and it needs a constant and supportive learning atmosphere.

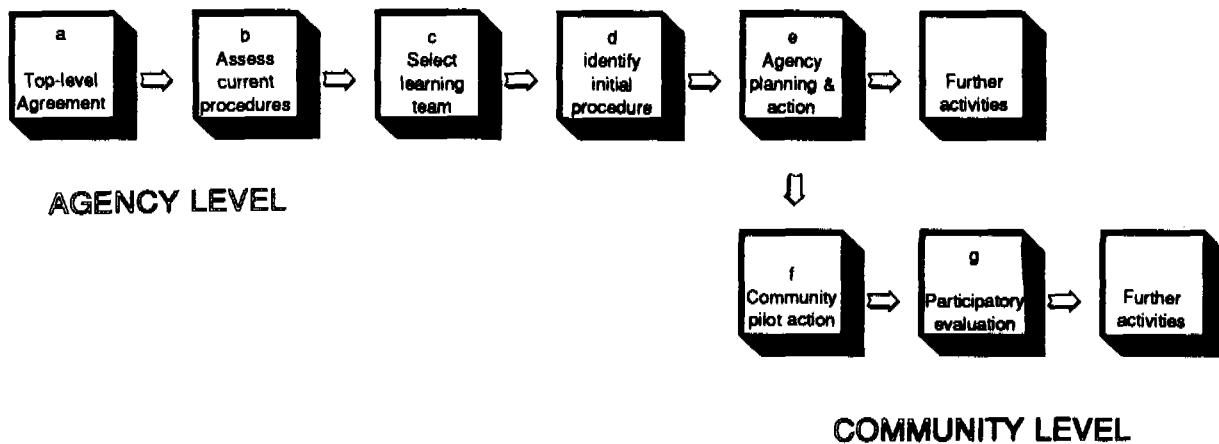
4.2 An action-learning facilitator

Once the commitment to implement an action-learning programme has been established, appointment of a facilitator can help to ensure that appropriate social and learning activities are incorporated in each water and sanitation project. It is best if the facilitator is an outsider. The facilitator's tasks and responsibilities include:

- Advising and supporting agency staff in evaluating the current learning situation;
- Supporting project staff in activities to initiate an action-learning strategy;
- Providing information on different learning processes and their applicability in projects;
- Facilitating workshops and seminars on learning activities;
- Advising and supporting project staff in strategic planning;
- Supporting the whole process of implementing learning processes within the agency and at community level.

4.3 Phases in the implementation of action-learning

Implementing an action-learning programme in a water supply and sanitation project will involve a number of steps:



- a. **Agreement from the top management.** Decision makers and policy makers within the project formally recognize the potential of action-learning.
- b. **Assessment of learning needs and procedures at project level.** With the full participation of project staff, an assessment is carried out of current learning needs and procedures (Which learning procedures exist at project level? How can they be improved?). This assessment will also indicate the project staff support for developing action-learning procedures. As part of the assessment a plan of action is drafted.
- c. **Selection of a "learning team".** A learning team should be formed to implement the plan of action. It is best if group members reflect all the different decision-making levels of the project.
- d. **Focussing on one learning procedure.** Based on the assessed needs the team should focus on improving one learning procedure. A problem-solving procedure may be a practical learning procedure to start with. Its improvements may show benefits in the short-term which will serve as motivation for further implementation of other learning procedures.
- e. **Participatory planning and implementation at agency level.** In planning how to implement the selected learning procedure, again maximum participation of the intended implementors is important. Bear in mind at this point that agency staff will later have to introduce other learning procedures themselves on different projects.

- f. **Pilot action at community level.** Based on the experience gained in the agency exercise, improving learning procedures at community level (water committee members, health workers, community leaders etc.) should start with a pilot scheme, it allows experimentation on a small scale and provides information for broader dissemination. Planning and implementation is a participatory process.
- g. **Participatory evaluation.** People participating in the pilot scheme will evaluate the experience, which will result in lessons learned about practical learning procedures to disseminate on a broader level. A plan of action will be a logical output of this step.
- h. **Further learning procedures at community level.** Action-learning is a continuous process of planning, implementing and evaluating learning procedures. According to needs and interests of the community group involved, this process will go on.

4.4 Expected results

A gradual dissemination of the action-learning approach, starting in the agency and progressively being extended to the community, can result in:

- Less of the top-down (I teach, you learn) approach.
- Development of an open atmosphere for discussing issues from a personal perspective, in which people feel supported and respected.
- Improved problem-solving procedures within the project, leading to more efficient and quicker problem identification, and implementation of sustainable solutions.
- People more informed and aware about project problems.
- People (agency and community) learning how to change and adjust to the circumstances.
- All these results combine to enhance people's capacity to implement improved working procedures, which ultimately lead to efficiency and sustainability.

References

- Argyris, C. (1964). *Integrating the individual and the organization*. New York, NY, USA, John Wiley
- Bateson (1973). *Steps to an ecology of mind*. St Albans, UK, Paladin Granada
- Bion (1962). *Learning from experience*. London, UK, Heineman
- Crone, C. D. and St John Hunter, C. (1980). *From the field : tested participatory activities for trainers*. New York, NY, USA, World Education
- Ellis, P. (1983). *Getting community into the act : 72 participatory activities for field workers and trainers*. Bridgetown, Barbados, Women and Development Unit, University of West Indies
- Espejo, N. (1990). *Informe de mision al programa UNEPAR-KfW en Quetzaltenango, Guatemala*. The Hague, The Netherlands, IRC International Water and Sanitation Centre. Unpublished
- Flanagan, D. (1987). *Training skills for supervisors*. (Training Series ; no. 4). The Hague, The Netherlands, IRC International Water and Sanitation Centre
- Flanagan, D. (1988). *Human resources development in water and sanitation programmes : case studies from : Togo, Sri Lanka, Philippines, Zaire and Thailand*. The Hague, The Netherlands, IRC International Water and Sanitation Centre
- Feuerstein, M.T. (1986). *Partners in evaluation : evaluating development and community programmes with participants*. London, UK, MacMillan
- Finau, S. and Finau, S.A. (1983). 'Better accounting improves water supply'. In: *World Health Forum*, vol. 4, no. 2
- Goodman et al. (1984). *Change in organizations*. 2nd ed. San Francisco, USA, Jossey Bass. Publishers
- Guibert, J. (1988). *Saneamiento alternativo o alternativas al saneamiento : actas del 1er Seminario Latinoamericano sobre Saneamiento Alternativo Medellin, Colombia, Julio 24-29*. (Documentos Tercer Mundo ; no. 52, 53, 54). Bogota, Colombia, ENDA America Latina
- GTZ (1990). *Tools for integrating CPHE into water and sanitation projects* (CPHE Series No. 3). Eschborn, Germany, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ)

- Hertzberg, F., Mausner G. and Sneyderman, B. (1959). *The motivation to work*. New York, NY, USA, John Wiley
- Kindervatter, S. (1983). *Women working together for personal, economic and community development : a handbook for women's learning and action groups*. Washington, DC, USA, Overseas Education Fund International Publications
- Kolb, D. A. et al. (1971). *On management and the learning process in organizational psychology : a book of readings*. Englewood Cliffs, NY, USA, Prentice-Hall Inc.
- Korten, D.C. (1980). *Community organization and rural development : a learning process approach*. New York, NY, USA, Ford Foundation
- Mascarenhas, J. et al. (1991). *Participatory rural appraisal : proceeding of the February 1991 Bangalore PRA Trainers Workshop*. (RRA Notes ; no. 3). London, UK, International Institute for Environment and Development (IIED)
- McCommon, C., Warner, D. and Yohalem, D. (1990). *Community management of rural water supply and sanitation services*. (Water and sanitation discussion paper series ; no.4) (Wash Technical Report ; no. 67). Washington, DC, USA, World Bank
- Mico, Paul (1981). *Developing community based organizations*. London, UK, Third Party Publishing
- Oakley, Peter (1991). *Projects with people : the practice of participation in rural development*. Geneva, Switzerland, International Labour Organization
- Oré, T. (1988). "The organization of small-scale irrigation in Peru". In: *Waterlines*, vol. 7, no. 2, p. 2-5
- Parmesh, Shah, Bharadwaj, Girish and Ambastha, Ranjit (1991). 'Participatory rural appraisal planning (PRAP) : the experience of Agha Khan Rural Support Programme (AKRSP)'. In: *Participatory rural appraisal : proceeding of the February 1991 Bangalore PRA Trainers Workshop*. (RRA Notes ; no. 3). London, UK, International Institute for Environment and Development (IIED)
- Pretty, Jules N. (1990). *Rapid catchment analysis for extension agents : notes on the 1990 KERICHO training Workshop for the Ministry of Agriculture, Kenya*. London, UK, International Institute for Environment and Development (IIED)
- Rogers, C. R. (1969). *Freedom to learn*. S.I., Merril Publishing Company.
- Schein, E. H. (1971). *Psicología de la organización*. Englewood Cliffs, NY, USA, Prentice Hall Inc.

Srinivasan, L. (1990). *Tools for community participation : a manual for training trainers in participatory techniques*. (Technical Series involving women in water and sanitation : lessons strategies tools). New York, NY, USA, PROWWESS/UNDP

Therkildsen, O. (1988). *Watering white elephants? : lessons from donor funded planning and implementation of rural water supplies in Tanzania*. Uppsala, Sweden, Scandinavian Institute of African Studies

Uphoff, N. (1989). 'Drawing on social energy in project implementation : the results of a learning process approach to improving irrigation management in Sri Lanka'. In : *Sri Lanka Journal of Development Administration*, no. 62.

Visscher J.T. (1990). *Informe sobre mision al programa de saneamiento, Choluteca-Valle Honduras*, The Hague, The Netherlands, IRC International Water and Sanitation Centre. Unpublished

World Bank (1989). *Information and training for low-cost water supply and sanitation. Part 6: case studies*. Washington, DC, USA, World Bank

WHO and PROWWESS/UNDP (1988). *Four research reports, Indonesia, Nepal, Sri Lanka, Thailand*. Washington, DC, USA

WHO (1989). *Pooling resources beyond border : how seven small countries in Central America improved operation and maintenance of their water supply sectors by joining forces*. (A human resources development case study ; no. 7). Geneva, Switzerland, Community Water Supply and Sanitation (CWS/EHE), World Health Organization