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Project

Promising Water Resources Management Approaches in the Drinking Water Supply and Sanitation Sector

Preparatory Workshop
20 - 29 November 1996
The Hague, The Netherlands

Workshop Report

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IRC International Water and Sanitation Centre

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Promising Water Resources Management Approaches in the Drinking Water Supply and Sanitation Sector

Preparatory Workshop 20-29 November, The Hague, The Netherlands

Workshop Report

Table of contents

Introduction

1. Project background

2. Workshop outline
   - 2.1 Workshop objectives
   - 2.2 Methodology
   - 2.3 Programme
   - 2.4 Expectations and fears

3. The poster presentations

4. The framework for the assessment

5. Assessment methodologies
   - 5.1 The stakeholder analysis
   - 5.2 Participatory tools
   - 5.3 Tools & tips for reporting and documenting

6. Agreements made for the coming months

7. Workshop evaluation and recommendations

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Annexes

1. Names and addresses of Advisory Group, participants and IRC staff
2. Workshop programme
3. Overview of participating projects and programmes
4. Expectations and fears expressed at the beginning of the workshop
5. How to prepare a poster
6. Framework for the assessment of WRM approaches in the DWSS sector
7. Assessment of experiences made with WRM
8. Guidelines for a stakeholder analysis and outcome of exercise
9. Participatory assessment techniques applicable for WRM and exercises
10. Styles of reporting
11. Tips for documenting information
12. Agreed case study report structure
13. IRC letter to support the implementation of the assessment
14. EvaluationPreparatory Workshop

Introduction

From November 20 until 29, 1996, IRC organised the Preparatory Workshop for the project "Promising Water Resources Management Approaches in the Drinking Water Supply and Sanitation Sector", in The Hague, The Netherlands.

For that event, 15 participants and three Advisory Group members from Zambia, South Africa, Ghana, Guatemala, Colombia, Cambodia, Nepal, India and Sweden came to Scheveningen and faced the harsh weather to successfully work out the first part of the project. Annex 1 provides an overview of all participants, including the Advisory Group members.

This workshop report is the first documented result of the project. It briefly outlines the background of the project (Chapter 1) and the outline of the workshop (Chapter 2). Chapter 3 elaborates on the poster presentations that were prepared by the participants. Furthermore, main emphasis was laid on the finalised version of the framework that will be used for the assessment (Chapter 4 and Annex 6), and the methodologies discussed and practised to carry out the assessment (Chapter 5). Chapter 6 summarises the appointments and other agreements that were made for the further course of the project, including a time frame, a date for the Synthesis Workshop, and a draft table of contents of the case study reports. The last chapter (Chapter 7) reflects on the workshop evaluation and recommendations made regarding the Synthesis Workshop and the dissemination of the project results.

The workshop and this report could not have materialised without the support and enthusiasm of the project participants and the Advisory Group members. We hereby would like to thank them all and wish them success in the coming months of the assessment. Of course their inputs could not have been possible without the financial support of their sponsors, to whom we are very grateful. Furthermore we would like to thank all IRC staff members who shared their knowledge and experience through facilitating workshop sessions. Last but definitely not least we would like to thank Janine and Loekie for their marvellous support in logistics and all the other matters that came up during, before and after the workshop.

The project is made possible with the financial support of the Dutch Ministry of Foreign Affairs (DGIS), the Dutch Ministry of Housing, Spatial Planning and Environment (VROM), UNDP, the Swedish International Development Agency (Sida) and the Swiss Development Cooperation (SDC).

For further information or additional copies of this report please get in touch with your project contact person at IRC (addresses in Annex 1).

The Hague, December 1996

Peter Bury
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1. Project background

Since the early 80's a lot has been done world wide on the improvement of drinking water supply facilities; also sanitation and health education have received increased attention. However, a growing world population, rapid urbanisation, increasing agricultural and industrial production, coupled with erratic changes in weather and climate patterns have led to the awareness that water is not an unlimited resource. We start to realise that we do not treat the resource water very carefully. Examples of inefficient water use (large scale irrigation, leakage in piped systems), wasteful water use (irrigation, industry, household water use), pollution of ground and surface water (non point source pollution by fertiliser application, untreated industrial and sewage discharges), conflicts about water (tensions in the Middle East, agriculture versus hydropower versus drinking water) abound. In the past drinking water supply and sanitation projects (DWSS sector) have given little if any attention to these kinds of problems. Many issues related to improved water resources management (WRM) need to be tackled urgently. Experiences in this field are still limited.

In response to these developments, the IRC International Water and Sanitation Centre, together with the United Nations Development Programme (UNDP), initiated the project 'Promising Water Resources Management Approaches in the Drinking Water Supply and Sanitation Sector'. This project is set out to assess, document and disseminate project experiences with the principles agreed in Dublin related to water resources management. The underlying aim of this project is to contribute to improve WRM practise. Participating projects come from different parts of the world. All have a focus on WSS but are working at various levels of intervention (national, regional, local). The Preparatory Workshop has been organised to initiate the actual implementation of the project on field level.

2. Workshop outline

The Preparatory Workshop, which was held in The Netherlands from 20 to 29 November 1996, is one of the main activities from the first phase of the project. The main aim of the workshop was to jointly agree upon a framework for the assessment of practical experiences with WRM in the DWSS sector, and to share and practise tools to conduct and report the assessment as much as possible in a participatory way.

2.1 Workshop objectives

Specific workshop objectives were:

1. To know each other and each other's work and experiences;
2. To jointly formulate a framework for the assessment, including main WRM principles, leading questions and indicators;
3. To discuss and practise participatory assessment tools;
4. To discuss and practise reporting and documenting techniques;
5. To agree upon roles and timetable for the implementation of the assessment.

2.2 Methodology

The workshop methodology was discovery learning oriented. Participants' own experiences and working context were taken as a starting point. Exchange and reflection on one's own experiences with other participants contributed to insight and knowledge. A strong emphasis was put on visualisation and active involvement of all participants in conducting the workshop and documenting its outputs.

The workshop was facilitated by different IRC staff members (see also Annex 1). They facilitated reflection, diagnosis, analysis and discussion by all participants. The staff contributed specific knowledge, experience and tools, but also stimulated other participants in sharing theirs.

The members of the Advisory Group were present during the first three days of the workshop, were they played an important role in the explanation, discussion and formulation of the principles, leading questions and indicators.

2.3 Programme

In total the workshop covered eight working days, starting at Wednesday until the Friday one and a half weeks later. A detailed workshop programme can be found in Annex 2. During the first block (three days), participants and Advisory Group members became familiar with each other and each other's work through introductions and poster presentations on their projects (highlighting project context, objectives, main activities). The projects were categorised according to country, administrative level of operation, main activities, sector(s), and urban/rural context (Annex 3).

Furthermore, consensus was reached on the framework of analysis. Several plenary and small group discussions led to a final set of WRM principles, key questions and indicators (see Chapter 4 and Annex 6).

During the second block of the workshop (two and a half days), the focus was on how to actually conduct the assessment. Various methods were discussed and practised, such as a stakeholder analysis, participatory tools to assess the indicators, and documenting techniques.

The last part of the workshop (two and a half days) was used to prepare individual workplans on how to carry out the assessment. Each participant identified methods and resources needed to address the leading questions and indicators relevant in their project context. Furthermore, planning of the different activities was done, as well as an estimation of possible limitations regarding specific resources. Back in their offices, the participants will discuss their workplans with colleagues involved, and final versions will be send to IRC by mid January 1997 at the latest. Finally some agreements were made concerning the timing of the Synthesis Workshop and related deadlines for submitting the draft reports and receiving comments from the Advisory Group and IRC.

At the end of the programme the workshop was briefly evaluated, and all participants received a Certificate of Attendance.

2.4 Expectations and fears

At the beginning of the workshop, all participants were asked to express their expectations of the workshop, and add anything that they wished that would *not* happen during the workshop. Both expectations and fears were grouped, and those that were beyond the scope of the workshop were identified. A complete overview of expectations and fears can be found in Annex 4.

Expectations mainly emphasized on the focus of the project; several participants wanted to discuss WRM in its broad context while some wanted to narrow down the discussion to the DWSS sector. Clarity on definitions and key issues was also expected by quite a number of participants. The third big group of expectations concerned sharing of and learning from each other's experiences, including mistakes.

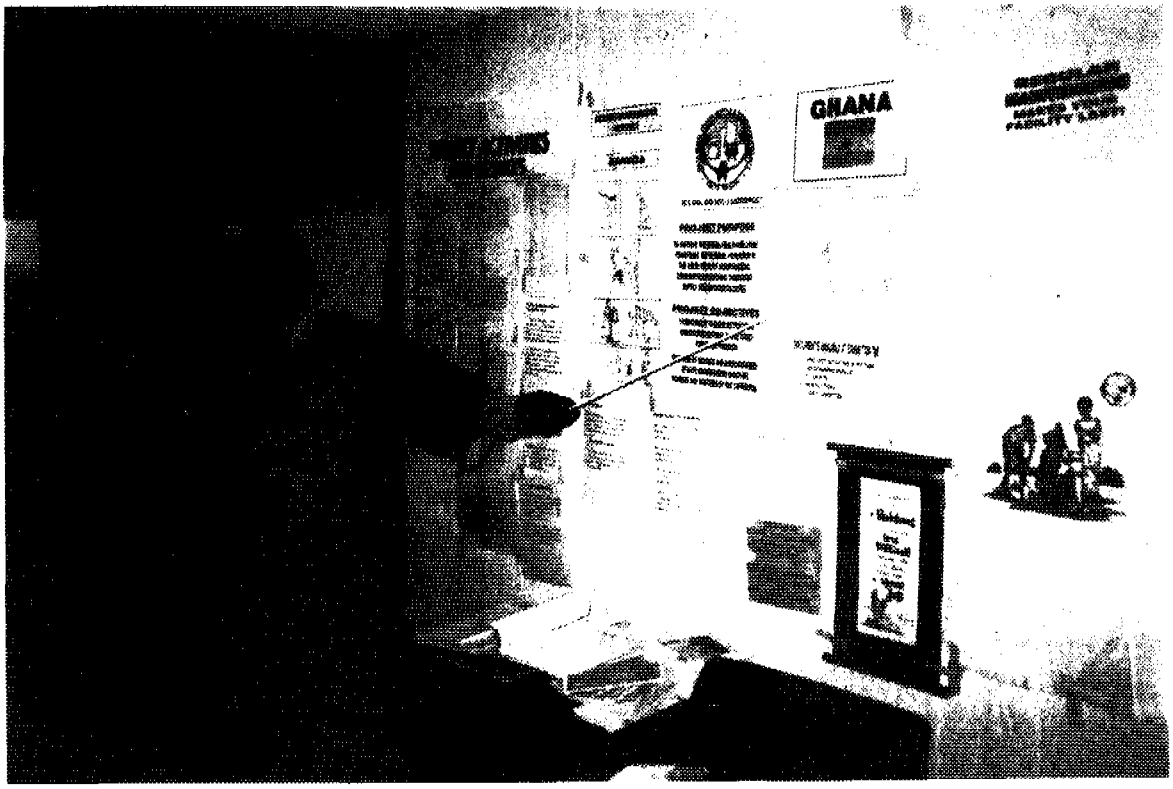
The so called fears focused a lot on getting lost in definitions, misunderstanding and too wide discussions. Difficulty of application and fear that people may hide experiences or failures were also mentioned.

3. The poster presentations

The first one and a half day of the workshop was used for everybody to become familiar with each other, and to share information about each other's experiences and work. Participants were asked to prepare a poster on their project's activities, in order to avoid at times long speeches. Prior to the workshop, the participants were asked to prepare the materials for such a poster, based on some guidelines (see Annex 5).

The posters were attached to the walls in the training room, and an exhibition was organised enabling each participant to present the information displayed on his or her poster. Jumping from one country to the other, it became clear that although most projects are operating in the drinking water supply and sanitation sector, a wide variety of objectives, activities and levels of implementation were represented. This is also reflected in the table presented in Annex 3, which was drawn up during the poster presentation.

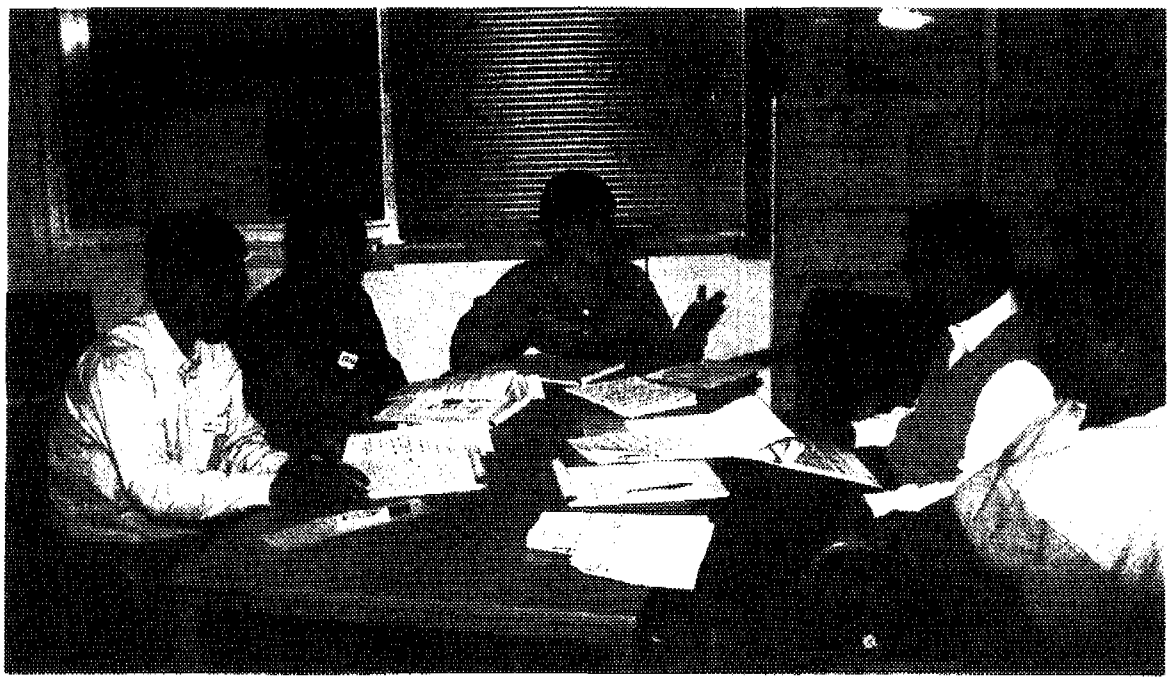
After the plenary session, the posters were transported to a central corridor, together with project documents and other information that was put on tables for display, where it was visible for all IRC staff and visitors to IRC during the remaining workshop period.



4. The framework for the assessment

Prior to the workshop, IRC with assistance from the Advisory Group has developed a draft framework to specify the focus of the assessment, based on the outcome of particularly the 1992 Dublin meeting and the 1994 Ministerial Conference in Noordwijk dealing with water resources management and drinking water supply and sanitation. The principles established in these meetings form the basis of the framework, which were complemented with a brief description and examples of leading questions and possible indicators related to these questions. A revised version of the framework including reformulated questions and indicators can be found in Annex 6. Based on the outcomes of the assessment, further amendments may be made to the framework during the synthesis workshop.

Introducting the framework, the three members of the Advisory Group gave brief presentations and explanations on the different principles mentioned in the framework paper. This was followed by a series of plenary and small group discussions, where the principles and leading questions were discussed and finalised. The following day was used to come up with satisfying indicators for most of the leading questions (see revised framework paper in Annex 6).



As a result of various plenary and small group discussions, the principles, leading questions and indicators were defined and agreed upon to be used for the assessment. It was further agreed during the workshop that some indicators may need to be changed to be suitable in the participants' specific project context, but only to that extent that results are comparable with those in the framework paper. No indicators were formulated for the questions of a more descriptive nature. Moreover, since in most cases a process of change will be described, the time span covered by the assessment will have to be specified as well and will be depend on available data series.

5. Assessment methodologies

After the finalisation of the focus of the assessment in the first three days of the workshop, the programme continued with explaining, discussing and practising methodologies on how to carry out the assessment.

First of all, the aim of the assessment was further clarified. Common understanding resulted in the formulation that the aim of the assessment is "to document the practical experiences made with water resources management to lead to improved water resources management practises."

Main components of the assessment were identified as being:
1. Get answers to the question "to what extent are the eight formulated principles adhered to?"
2. Overview of trends taking place with regard to WRM
3. Overview of lessons learned
4. Documenting of how the assessment was conducted.

For further details on assessment aim, components and activities see Annex 7.

During different sessions spread over two and a half days, the following methodologies were dealt with:
- Stakeholder analysis (5.1)
- Participatory tools (5.2)
- Tools and tips for reporting and documenting (5.3)

5.1 The stakeholder analysis

One of the principles reads 'involvement of all stakeholders is required'. The workshop agreed that the assessment of experiences should be conducted in a participatory way, as much as possible involving key stakeholders at all levels. Therefore a session was spend on how to identify them. A method was presented and discussed (Annex 8). An exercise was then conducted, in which 3 working groups identified key stakeholders at national, regional and local level. For each of them it was specified: (1) their role or interest in WRM; (2) their problems with regard to WRM or playing their roles adequately and (3) how these stakeholders should be involved in the assessment exercise (Annex 8). This stakeholder analysis will need to be further specified for each case study.

5.2 Participatory tools

One and a half days of the workshop focused on participatory tools that can be used on both community and regional or national level. Common understanding was sought on what we mean by participation, which led to the following key words:

Involvement, inter active, sharing, two ways, accepting responsibilities, collective, feeling of ownership, transparency, ability to make decisions, feeling of being consulted, awareness, people become a resource, democratisation, satisfying needs.

Different dimensions and levels of participation were illustrated through the analysis and categorisation of examples of participatory activities that participants used from their projects. The following categories were used, with an increasing level of (community) participation:

- community acceptation
- community demand
- contribution in labour and/or materials
- sharing cost
- community education
- shared problem identification and analysis
- key decision making by men and women
- participatory community management
- sharing of benefits

After several participants shared their experiences with participatory tools, a whole day was used to practise a number of tools. For each tool, the participants were split up in two groups. One group was asked to practise the tool imagining working at a regional level, the other group worked with the tool at community level. For each tool and in each group, one or two facilitators were appointed to guide the process. After the tool was practised in the two groups, the results were presented in plenary, and the usefulness of the tool was discussed. It should be noted that all tools can be used in a flexible way, with the possibility to focus on many different types of information. For further details on the tools and procedures Annex 9 can be consulted.

Consequently, the following tools were practised and discussed:

- Mapping
- Venn or Chapati diagramm
- Matrix with ranking
- Pocket chart

Mapping

The purpose of the practised mapping exercise is to increase awareness and insight among participants regarding the different uses of land and water in a catchment area, and the impact of the various land and water use activities on the water resource(s).

The groups were asked to draw a geographic area on a large piece of paper, and indicate the various water uses in that area. With different colour stickers, the group identified for each water use whether it has an impact on the water quality, quantity, or both. The regional group wrote all water uses down on small cards and stuck them to the large paper, while the community group made drawings of the water uses (Annex 9).

The mapping technique was found to be very effective to visualise existing knowledge and inter-relatedness of issues and sectors, providing a very holistic view. It therefore can help to bring different sectors together. It is a good tool for awareness raising on the need for integrated water resources planning and management. Quantifying problems however is more difficult, although for example complementary photographs can facilitate a quantitative problem analysis. Furthermore if possible historic mapping, showing the situation 5-10 years ago may be very helpful.

Venn or Chapati diagramm

The purpose of the Chapati or Venn diagramm is to identify different stakeholders with an interest in a specific water source/system, and indicate their level of involvement in the management of that source.

The two groups were asked to write down on circular cards the different water users and other stakeholders identified during the mapping exercise. They were then asked to position each stakeholder on a large sheet of paper, which had one circle in the middle saying "management of the water source". The distance of each stakeholder to the central circle should represent the level of involvement of that stakeholder in the management of the water source (Annex 9).

From the exercise it appeared valuable to make the following categories for grouping the various stakeholders: industrial, irrigation, drinking water, and others. Furthermore a remark was made that circular cards of different sizes can reflect different types of quantitative information, e.g. the number of people or the size of the budgets involved.

Upon discussing the tool it was found that the tool is useful to identify even more stakeholders. It is a tool were there is not one correct answer. The results are very subjective, it's more the process that counts. When needed, it might be more difficult to explain the results of a Venn diagramm to people that have been represented (but not personally participated). For more accurate results it should be clearly defined what exactly is meant by "management of the water source".

Matrix ranking

The purpose of matrix ranking is to increase awareness and insight among participants regarding differences among stakeholders in access or use of the water source(s), and managing or controlling it.

The participants were divided in new groups, and were asked to write down all the water uses identified during the mapping exercise on different rectangular cards, and place these in a vertical row in the left side on a large piece of paper. Identified stakeholders were written down on similar cards and placed in a horizontal row on the upper side of the paper, in such a way that a matrix was formed. Using small stickers with two different colours, participants were then asked to indicate which stakeholder(s) are accessing or using the identified water sources/uses (one colour),

and which stakeholder(s) are involved in decision making and managing the water source for each of the water uses (another colour).

The matrix results gave insights in the balance or imbalance between the amounts of users and managers, and gave and indication whether or not management was performed at the lowest appropriate levels. And it once again showed the large amount of stakeholders that is involved on the regional level.

Table: identifying all stakeholders for different water uses on regional level, indicating whether they use and/or control the water used (matrix, WRM workshop November 1996).

IRRIGATION	DOMESTIC USE	INDUSTRIAL USE	FISHING	RECREATION	OTHER
farmers (commercial)	**water supply dept.**	*mining*	*fishermen*	*boating clubs*	*hotel industries*
co-operatives and unions	**dept. of health**	*power generation*	*fishing companies*	**tourism dept.**	*City parks and gardens*
irrigation dept.	**water supply care takers**	*heavy industry*	**Dept. of environment and conservation**	*tourism industries*	*environment*
agriculture dept.	*Private sector*	*small and medium enterprises*	**Dept. of fisheries**	*local residents*	
financial institutions *	**Dept. of environment**	**Dept. of industry**	*fish farming*		
central and regional government	**regional and local government**	**Dept. of water resources**			
	urban residents				
	rural residents				

Bold Controller
Italic User
* Facilitator

Table: identifying stakeholders for different water uses on community level, indicating whether they use and/or control the water used (matrix approach, WRM workshop November 1996).

	water/ district author-ity	village water com-mittee	men	children	women	big farmers	village head-man	locally elected author-ity	small farmers	cattle owners
Drinking (inc. bathing)	**	*	#	#	# **		**	**		
Cooking	**	*			# **			**		
Irriga-tion	**	*	# **			# **	**	**	# *	
Cattle	**	*	# **				**	**		# **
Wash-ing clothes	**	*			# **		**	**		
Garde-ning	**	*			# **			**		
Small industry	**	*			# **			**		

** Managing, deciding
# Using

Pocket chart

The pocket chart was used to clarify preferences for the different participatory tools used through responding to different questions by voting.

A matrix was prepared by the facilitators on a large piece of paper, on the horizontal upper row showing the different tools, and the left vertical column showing three questions on the relevance of the tool, its feasibility, and if the participants are planning to use the tool. A big envelope was attached in the column underneath each tool, and one by one the participants were asked to answer the first question by voting on whether or not they found the tool relevant. Male and female participants got different coloured small cards (male pink; female blue). They were asked to put a card in the envelope corresponding with a specific tool if their answer to the question was positive, without the other participants being able to see their vote. After everybody answered the question, the votes were counted and registered. In such manner, all three questions were answered. After discussing the pocket chart tool, the participants were asked to answer the same questions in one go by voting (in case of a positive anser) with cards that were marked with an R (relevance), F (feasibility) and P (planned use). Below the results of the pocket chart are shown.

Table: Outcome of gender specific pocket chart analysis on use of various tools

	Mapping	Venn diagramm	Matrix	Pocket chart
Relevance	m 9 f 4	m 6 f 2	m 8 f 4	m 10 f 4
Feasibility	m 10 f 4	m 7 f 4	m 7 f 2	m 8 f 2
Planned use	m 9 f 4	m 4 f 1	m 6* f 2	m 8 f 2

Total: 4 women
11 men
* 10 men

During the exercise several participants shared their experiences in using the tool. One advantage is that one can collect the possibly different views of men and women in a not embarrassing way (since the voting is done without anybody seeing it). For example for the identification of needs, it is important to collect gender specific data. One participant commented that it might be difficult to avoid getting socially correct or accepted answers, upon which someone else commented that doing this exercise with children may be one way of overcoming this problem.

General remarks on the tools and on facilitating

The tools were found useful to very useful, but in general they were felt of limited applicability on regional or national level (although one participant shared that the same methods are used for people and institutions at different levels). To

a large extent this also depends on the skills of the facilitator, which were found to be of crucial importance for using the tools properly. Most probably a neutral facilitator from outside, having at least an equal status as the participants (e.g. in terms of seniority), is an important key to success. The right atmosphere, venue location and sufficient time were also found to be important elements to be taken into account.

5.3 Tools & tips for reporting and documenting

Both during the second block of the workshop as well as continuously throughout the programme, attention was given to styles and techniques of reporting and documenting.

Reporting

In the workshop context, with reporting is meant any form of directly giving information to others, in a written, oral or visual way. Each day, two or three participants were asked to give a report of the events of the previous day in any form they preferred, as long as the style was different from previous styles of reporting presented in earlier sessions.

An interesting variety of reporting styles was presented throughout the workshop, including overhead sheets with key words and drawings, a radio news report, a role play, and an oral recounting. Annex 10 gives examples of reporting styles.

Documenting

With documenting is meant any form of recording information, most often on paper but also in other ways such as on video. A brainstorm session was held on suggestions for meaningful documenting. Remarks were made on ensuring a clear structure and order of chapters, headings and paragraphs. Care should be taken, especially when using figures, tables, numbers and percentages. More elaborate suggestions and tips can be found in Annex 11.

6. Agreements made for the coming months

As one of the last activities of the workshop, a number of agreements for the coming months were made.

1. A provisional table of content for the case study reports was defined jointly. The structure provides for an executive summary, preface, introduction, background, overall assessment method, a chapter on the WRM principles addressed, and conclusions. For each principle, a description is given of the background, methodology used for the assessment, results, and lessons learned (including successes, mistakes and weaknesses, and open issues). For a complete overview of the proposed structure see Annex 12.

2. A letter of support for supervisors and sponsors was prepared by IRC (see Annex 13), and given to all participants to facilitate their work. If needed, IRC will do its best to optimise support the participants need to carry out the assessments.

3. It was decided that the Synthesis workshop would be held during the 4th week of June or the first week of July 1997. Related to this, the following deadlines were identified:

   - Before Christmas workshop report finished and distributed by IRC;
   - Half of January final versions of the individual workplans send to IRC;
   - Mid April all final drafts of the case study reports send to IRC;
   - Mid April, IRC sends case study reports to Advisory Group members;
   - Late May, IRC and Advisory Group send comments to participants.

4. To optimise communications, it was agreed which participants would be in direct contact with which IRC staff member:
   David Saunders: Mrs. Malini Shankar, Mr. Henry Muselpete, Mr. Cosmas Chizongo, Mr. Sam An Cheap, Mr. Khung Ngeth, Mr. John Howard.
   Peter Bury: Ms. Mariella Garcia, Mr. Stan Shisala, Mr. Manoj Jhalani, Mr. Ramesh Chandra Bohara.
   Esther de Lange: Mr. Cecil Chibi, Mr. E.T. Nayvor, Ms. Martha Maria Bianchi, Ms. Reema Nanavaty and Mr. Patel.

5. Finally, it was agreed that it will be decided in consultation in January/February which Advisory Group member will comment on which draft case study report.

7. Workshop evaluation and recommendations

The progress of the workshop was evaluated twice: once briefly at the end of the first three days, and once at the end of the workshop.

After the first three days, participants were asked to reflect on the progress of the workshop until then, and write their comments and impressions regarding content, methodology and atmosphere on small cards. In general the content was regarded good. Two persons commented that the content stimulated discussion and is thought provoking. Two other persons found the project purpose unclear at the outset, and the content a bit broad to apply at country level. The methodology of the workshop was appreciated and found very participatory, transparent and efficient. The atmosphere felt to has been very good, enjoyable, warm, and easy to socialise with participants and IRC staff.

At the end of the workshop, people were asked to fill out a questionnaire. A complete overview of the responses is given in Annex 14.

The overall project objectives were found very relevant. In the beginning there was some confusion on the expected end results and benefits. The information that was sent prior to the workshop was found clear and useful. The content and objectives of the

workshop were appreciated as well, found very good and useful. Fortunately, the fears regarding getting lost in endless discussions and unclarities had not become reality. Facilitation of the sessions was regarded good. However some had doubts on the applicability of participatory tools at regional and national levels, this issue was addressed clearly by the resource person.

Organisational and logistical arrangements were found to be very good. One person reported the hotel to be too expensive. The logistical support was highly appreciated.

Everybody feels that the workshop has prepared her or him sufficiently to carry out and document the assessment. The fact that everybody was involved in the formulation of the leading questions and indicators, the hand outs given, and the making of the work plans all contributed to this.
Regarding the Synthesis Workshop, all participants suggested one week as sufficient time for this event. Planning of the sessions should be done a bit less tight, and enough time should be given to presentations and feedback.

Ideas on how to disseminate the results of this project focused on the one hand on channels (international agencies, embassies, key stakeholders at national levels, throughout the WEDC conference), and on the other hand on different types of information products (videos, articles in newsletters, workshops).

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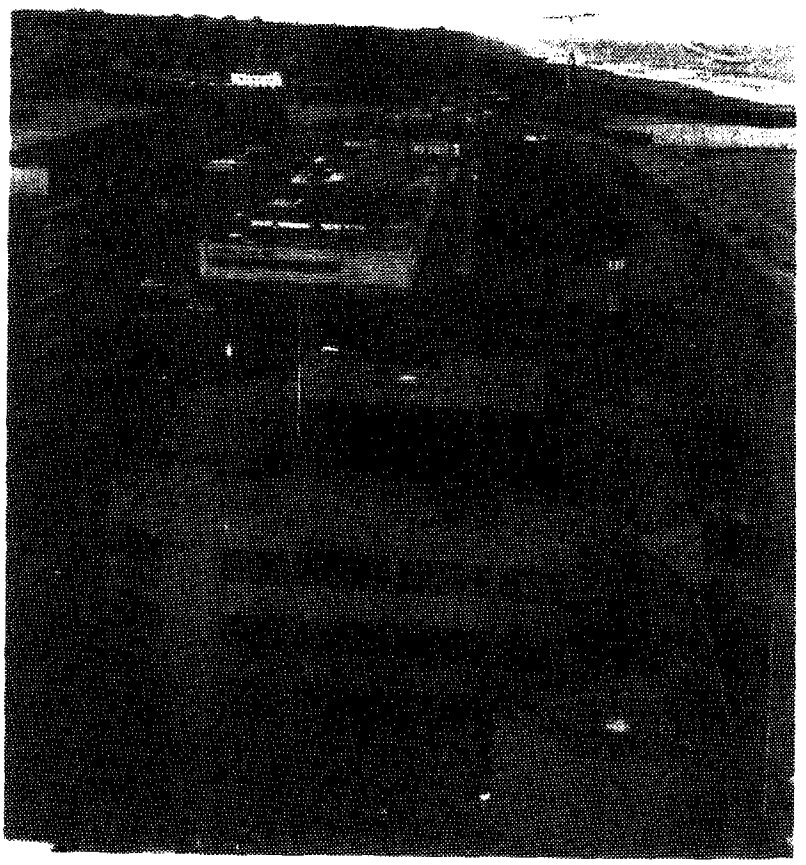


Workshop programme **Annex 2**

Day / date	coffee available at 0830hrs	0900	1030 1100	1230 1330	1500 1530 1700
Day 0; 19.11.96		• Arrival of participants in the Hague, registry at hotel & with IRC			• Welcome & dinner with IRC workshop staff in evening.
Day 1; 20.11.96 Wednesday		• Opening by project manager. • Introduction of participants. • Introduction to IRC, from Director. • Expectations	• Workshop objectives. • Review of workshop programme & methodology. • Daily reporting techniques	• Brief introduction to poster visualisation tools. • Prepare posters • Parallel session with AGroup	• Prepare project posters (continued) • A Group meeting
Day 2; 21.11.96 Thursday		• Day 1 report back., by project team. • Presentation of Posters	• Reflection on projects by advisory group. • Introduction of framework & issues by Advisory Group.	• Reach concensus on main issues and principles.	• Introduction to library **Drinks with IRC Staff, after work.**
Day 3; 22.11.96 Friday		• Day 2 report back. • technique on involving all participants. • Groupwork on leading questions for framework issues (ROUND 1)	• Plenary session on leading questions.	• Groupwork on identifying leading questions for framework issues (ROUND 2)	• Plenary agreement on 'final' list of leading questions. • Short evaluation
Saturday 23.11.96		"Free time" - participants will be free to go shopping, or see the sites in and near Den Haag. IRC will provide tourist information.			
Sunday 24.11.96		Excursion to the delta works and southern Holland.			
Day 4; 25.11.96 Monday		• Day 3 report back. • How to carry out assessment. • Participation analysis and exercise	• Why participation and participation methodologies • Exercise	• The use of indicators and means of verification, an introduction • Exercise on indicators for leading questions	• Exercise on indicators continued. • Presentation of indicators in plenary
Day 5; 26.11.96 Tuesday		• Day 4 report back. • Introduction and exercise with particpatory assessment tool 1	• Introduction and exercise with participatory assessment tool 2	• Introduction and exercise with participatory assessment tool 3	• Introduction and exercise with tool 4
Day 6; 27.11.96 Wednesday		• Day 5 report back. • Introduction and exercise with participatory assessment tool 5.	• Recap on tools practised, discussion • Recap on process from leading question to tool.	• Introduction and discussion on documentation techniques • Introduction and discussion on individual assignments	"Free time" - mid week break. to use library - go shopping etc...
Day 7; 28.11.96 Thursday		• Day 6 report back. • Individual assignments: selection of project relevant issues and questions.	• Individual assignments (cont.): objectives of assessment	• Individual assignments: draft anotated outline of assessment report	• Presentation of good sample assessment plans
Day 8; 29.11.96 Friday		• Individual assignment (cont.) • Preliminary formulation of project relevant indicators, MOV's • Finalise assessment plan (5 months)	• Short presentations of project assessment plans in plenary	• Communication between participants and IRC during assessment • Wrap up workshop • Short workshop evaluation	"Free time" - participants free to use library, or leave depending on individuals schedules.

Overview of participating projects and programmes

Annex 3

PROJECT/ PROGRAMME	CONTINENT COUNTRY	ADMIN. LEVEL	MAIN ACTIVITIES	SECTOR(S)	RURAL/ URBAN
Northern Province Development Programme	Africa Zambia	regional local	Hygiene education, provision of had dug wells and pit latrines	water and sanitation	rural
Drought Intervention East & South Provinces	Africa Zambia	national district local	water, sanitation, community mobilisation	water and sanitation	rural
Rural Water Supply & Sanitation Project	Africa Ghana	national regional local	water, sanitation, hygiene education	water and sanitation	rural
Tonga Water Supply Project	Africa South Africa	regional local	capacity building, provision of water supply, hygiene education	water supply	peri urban
Umgeni Management Catchment Plan	Africa South Africa	national regional local	integrated water management, solving problems related to water quality and quantity, health and ecological, providing sound framework for future planning and development	water resources management (river basin), industry, agriculture	rural, urban and peri urban
Water, Source of Peace	South America Guatemala	national regional local	water, sanitation, hygiene and environmental education	water and sanitation	rural and peri urban
Rural Water Supply & Sanitation Project	Asia India	state district	water supply, sanitation, health education, community development	water supply & sanitation	rural
Rural Water Supply in Gujarat	Asia India, State of Gujarat	regional local	DWS & sanitation	water supply and sewerage	rural
Integrated Watershed Development in District Jhabua/MP	Asia India	district	integrated water shed development, optimal dev'ment & utilisation of nat. resources, capacity building of community to plan, implement manage & maintain watershed activities	natural resources management	rural
Rural Water Supply & Sanitation Project Lumbini Zone	Asia Nepal	regional local	capacity development (institutional/HR) of partner organisations, provision of water supply and sanitation	water and sanitation	rural
Promotion of WATSAN Project	Asia Cambodia	all levels	water, sanitation, health education through VDC	water & sanitation related to integrated water development programme	rural and peri urban

Expectations and fears expressed at the beginning of the workshop

Annex 4

Expectations

- Narrow down discussion on WRM to DWSS
- Focus DWSS sector

- Discuss WRM in broader context of natural resources management
- Synergy of various stakeholders; deal with WRM including other sectors
- Connect WRM issues to natural context

- Close the gap between water and sanitation

- Understand why we are promising

- Share experiences
- Also learn from mistakes
- Learning from others
- Learn from each other's experiences

- Understand what WRM is
- Define common denominators
- Define terms used
- Common understanding of key issues
- Clarity about what will be assessed

- Acquire participatory skills

(To be dealt with in the next workshop:)
- Learn about promising experiences made
- Learn from successful approaches
- Reach concrete recommendations
- Formulation of promising approaches

Fears

- Will not be looking at other sector issues
- During assessment we will miss issues in the water sector
- WRM must cross sectors

- People may hide experiences or failures

- We may get lost in definitions
- Misunderstanding when definitions are not simple
- Different definitions may lead to misunderstanding
- To go into a more endless tunnel
- Get lost in a too wide discussion
- Not narrowing down discussion
- Unclear objectives

- Cultural differences may make assessment methodology difficult to apply
- Approaches may not be practical

(distributed to participants prior to workshop)

Why posters

Around twelve projects with experiences in water resources management related activities will participate in the November 1996 workshop at IRC. The participants are requested to present their projects. In order to avoid lengthy and at times boring verbal presentations of project description papers, we propose that each project prepares a POSTER presentation. The project poster(s) will not replace the project description papers, which are a very useful reference and tool to exchange information and experiences among participants and course staff.
The posters will be displayed in an exhibition area where other relevant project information (like reports, manuals, project related literature, etc.) can be displayed as well.

The presentation on (a) poster(s) has following advantages:

- Posters can be exhibited and seen throughout the workshop, project information is easily accessible to anybody interested;
- Posters allow a more lively, visualised and interactive presentation by project representatives to other participants while walking from one poster to the next;
- Overall the presentation of all 12 (or more) participants will take a shorter time and will be more interesting than traditional verbal presentations.

How to prepare posters

- Use large flip chart or ZOPP/VIPP brown paper sheets (not more than two per project);
- Make sure you fix your information well on the sheets (glue, tape);
- Write or type clear headings for each type of information (use markers or large size fonts on a word processor);
- Use various ways to visualise your project (brief summary text, graphs, charts, maps, drawings, photo's, etc.);
- Don't over burden the sheets with information. Use key words and avoid long sentences (you can always refer to project description papers);
- Refer to documentation and other material you may have brought along for display;
- Use your imagination, making a poster is not difficult!

When to prepare the poster

You may either prepare the poster(s) (not more than two of size up to 120 cm x 180 cm) before coming to The Netherlands, or bring all 'ingredients' and finalise your poster(s) at the end of the first day of the workshop.

Content of the poster

The main purpose is to get a quick overview on your project, its objectives, main activities, main outcomes, involved parties and linkages, geographical location, overview of experiences with water resources management issues:

- present project, objectives, activities, partners, target groups, etc.
- present activities related to WRM, strengths and weaknesses.

To make the posters attractive and to better illustrate things you may use maps, charts, drawings, photos, etc.

Presentation of posters: the exhibition

The first day's afternoon will be spend on producing the posters and preparing the exhibition. The exhibition includes the posters and any other interesting material you may have brought along to show others. Once the exhibition is ready, the whole group will make a guided tour through the exhibition. At each poster the author of the poster will give a brief explanation on the content. Group members are allowed to ask questions of understanding only, lengthy explanations and discussions should be deferred to later occasions. Each poster visit should not take longer than 10 minutes.

IRC
International Water and Sanitation Centre

PROJECT "WATER RESOURCES MANAGEMENT APPROACHES IN THE DRINKING WATER SUPPLY AND SANITATION SECTOR"

The Proposed Framework
December 1996

1. Introduction

Mismanagement of water and land resources is putting human health and sustainable social and economical development at risk. Explosive growth of urban centres, unsustainable exploitation of natural resources, uncontrolled industrialisation, increasing water demand for food production, and expanding populations lacking proper environmental sanitation have led to progressive depletion and degradation of freshwater resources. Many of the problems in the drinking water supply and sanitation sector (DWSS Sector) are related to the improper management of water resources. To safeguard the sustainable supply of safe drinking water and entire watersheds, concerted action is needed on all fronts, including agriculture, forestry, industry, transport, urban and spatial planning, population planning, and electricity generation. To prevent further depletion and degradation of freshwater resources, a more holistic approach is being promoted, which is known as integrated water resources management (WRM).

Back in Mar del Plata, 1977, water resources management was globally discussed for the first time, but it was not until the early nineties that it was really put on the international agenda. A number of significant meetings was held, such as the 1990, New Delhi meeting, the 1991 Nordic Freshwater Initiative in Copenhagen, the 1992 Dublin meeting and the 1992 UNCED meeting in Rio de Janeiro, the 1994 Ministerial Conference in Noordwijk and the 1994 OECD/DAC Meeting in Paris. These meetings challenged existing sector-oriented management practices of water resources as being unsustainable from an economic and environmental perspective, and have set out a number of principles and recommendations for integrated water resources management.

In an attempt to give guidelines for the implementation of Chapter 18 from Agenda 21 (the action programme of the Rio de Janeiro Conference), the Noordwijk Ministerial Conference summarises key issues in integrated WRM on which international agreement has been reached, and gives an overview of the main WRM principles for the DWSS sector. The meeting among others concluded that "access to adequate water and sanitation is a basic need and the long-term objective in the DWSS sector therefore continues to be 'safe drinking water supply and sanitation for all'. However, access to water needs to be accompanied by an obligation to use water efficiently and to dispose wastes in an environmentally sound manner for the benefit of future generations. This is a precondition for substantial progress towards the common targets of health for all, poverty alleviation, environmental conservation and economic and human development. To achieve these goals, water and environmental sanitation programmes need to be tailored to the ability of the local environmental to support them, to the local socio-economic and cultural conditions and needs of men, women and children, and to the availability of resources." (Ministerial Conference on Drinking Water and Environmental Sanitation, 1994)

2. Objective and definition of integrated WRM

The objective of integrated water resources development and management as defined in Box 1, is to ensure optimal and sustainable use of water resources for economic and social development, while protecting and improving the ecological value of the environment to the maximum possible extent (revised from DANIDA, 1991). Sustainability has been added because not only current interests should be taken into account, but also those of future generations.

Integrated water resources management is necessary to combat increasing water scarcity and pollution. This includes water conservation and reuse, water harvesting, and waste management. An appropriate mix of legislation, pricing policies and enforcement measures is essential to optimise water conservation and protection. (UNDP, 1991).

Definition of Integrated Water Resources Development and Management

Water resources means water in the broad sense as available for use and susceptible to human interventions. *Water* can be surface or groundwater, and is characterised by both quantity and quality.

Development and management cover all phases of resources planning, development, use and protection, i.e. assessment, planning, implementation, operation & maintenance, and monitoring & control. It includes both *combined resource and supply management* and *demand management.*

Integrated means development and management of water resources as regards both their use and protection, and considering all sectors and institutions which use and affect water resources (cross-sectoral integration).

Nordic Freshwater Initiative (DANIDA,1991).

3. Project purpose and approach

The aim of the UNDP/IRC project on promising WRM approaches is to clarify how internationally recognised WRM principles and recommendations can be implemented in the DWSS sector. This will be done by reviewing and documenting how DWSS projects have been able to integrate and apply these WRM principles, and what pitfalls they have had to overcome or changes they have had to make to them. Eight principles have been selected for the IRC/UNDP project on the basis of common thinking as reflected in important international meetings.

To achieve the objective, staff of 12 to 15 projects with a WSS focus will assess through a participatory approach the way in which they apply part or all of the selected key WRM principles in their project. In this review staff may also involve external facilitors and perhaps even persons to do the reporting.

Subsequently a joint review of the 12 to 15 project reports will be made in a meeting of the participants from the different projects in The Hague. This meeting will help to draw general conclusions about the applicability of these principles, will bring out important problem areas and bottlenecks, and will enable the identification of the most promising practices and experiences.

4. WRM principles selected for review

In the following sections the WRM principles which have emerged at the international level are presented. The basic idea is that staff of each of the participating projects will review their project's experience on each of the principles concerned. In this sense these principles together form the framework of analysis for the IRC/UNDP project. Some of the principles have been narrowed somewhat to facilitate comparison. For each principle guiding questions (numbered) to focus the review, and indicators (marked with *) have been listed as formulated during the Preparatory Workshop. In describing and reviewing the experiences it is very important to focus on the process, the pitfalls encountered and the keys to success. Projects may not have applied all principles, which is very interesting as this may imply that they did not consider them important, or did not have the resources and the conditions to implement them. It may also imply that not all principles are required at the same time or may not be equally valid.

During the assessment of experiences made, projects may address related principles and questions that are only partially or not covered in this framework. Based on the assessment of experiences made a final review of the framework will be done during the Synthesis Workshop.

Principle 1: Water source and catchment conservation and protection are essential

Environmental degradation of water resources may have an immediate and severe impact on the water supply situation of the users. It may result in inadequate performance of water supply systems because of pollution and siltage problems, or systems being abandonned because water sources drying up. This may have an effect on the health of the users but also may involve considerable economic losses. In Poland, for example, three-quarters of the river water is too contaminated even for industrial use. Agricultural output and productivity also decline because of environmental degradation resulting from poor drainage and irrigation practices. On the other hand there are people with marginal livelihoods who have very little option beyond 'unstainable' practises. Water source and catchment conservation and protection includes amongst others, soil and water conservation strategies, pollution control measures, and sound land use practises.

Guiding questions and example indicators for the review

1. Has water source and catchment protection been identified as a need presently or in the longer term? (Why? By whom? When? How?).

2. Are catchment areas negatively influenced by any activities?
   * *Is there a marked reduction in flow volume water level over the last five to ten years (do users have to walk longer distances)?*
   * *Are floods occurring more frequently?*
   * *Is there a marked deterioration of water quality over the last five to ten years (turbidity level, chemical quality, taste appearance, increase in cost for water treatment)?*

3. What are the threats to water source and catchment area protection (water quality, water quantity, environmental degradation)?

4. What protection activities are being undertaken (livestock control, reforestation, land management), and by whom?

    * *Is the percentage of degraded land increasing over the last five to ten years?*
    * *percentage increase of livestock over 5 years*
    * *percentage increase in irrigation licenses / irrigated area*
    * *population growth in catchment area*

Principle 2: Adequate water allocation needs to be agreed upon between stakeholders within a national framework

Water management is fragmented among sectors and institutions, with little regard to conflicts or complementary needs and benefits among social, economic and environmental objectives. There are multiple agencies for different water uses, for example irrigation, municipal water supply, rural water supply, energy production and transportation. Interactions between these different 'sectors' and water uses, although all forming part of the same system, are usually ignored. Furthermore in many countries where individual states and provinces have jurisdiction over water in their territory, the same water source will be developed without considering the impact on other states. Integrated WRM calls for holistic management of fresh water and integration of sectoral water plans and programmes within the framework of national economic and social policy (Serageldin, 1995b).

Domestic, industrial and agricultural supplies are often already competing for the same water resources and this tendency will increase in future. Thus better mechanisms are needed for an adequate and equitable allocation of water, taking into account economic as well as social concerns.

Guiding questions and example indicators for the review

1. Is sufficient water of required quality available to meet the demands of all water users?
    * *percentage of estimated water use by different sectors*
    * *estimated water use per sector /allocation per sector*
    * *level of satisfaction of stakeholders with allocated volumes (no. of registered complaints, percentage of dissatisfied stakeholders)*

2. What water allocation mechanisms exist, who is consulted and who makes decisions?
    * *percentage of stakeholders represented in decision making (elected stakeholder representation, percentage of stakeholders who feel their voice is heard)*
    * *availability of water resource data*
    * *accessibility of information to all stakeholders (percentage of stakeholders who feel they do not have good access to information)*

3. What legal framework and traditional practices for water resource allocation exists? Is it effective?

4. Is there equity in water distribution? are existing distribution mechanisms effective? (do sectors/users get what has been agreed? How is this measured?)
   * *percentage of people with equal access to water supply (distance to source, number of supply hours)*
   * *percentage of people with equal access to irrigation water*

Principle 3: Efficient water use is essential and often an important water source

Domestic water supply and irrigation systems often face major water losses. Leakage percentages may be over 50 percent in community water supply and over 70 percent in irrigation. Efficiency of water use should be optimal, minimising water losses during transport, storage and use. Reducing water loss involves aspects related to design, construction and operation and maintenance of systems, as well as users behaviour such as leaving taps open or not repairing them. Enhancing efficient water use may also include reuse and water saving measures such as growing of less water demanding crops, use of fees and charges to curb wasteful water use, and the use of cross-subsidies. Efficient water use can be regarded at system level but also at catchment level.

Guiding questions and example indicators for the review

1. Is inefficiency in water use identified as a problem? If yes, who perceives it as a problem, and why?
   * *percentage of persons in user groups identifying inefficient use as a problem (users, operators, agency staff, farmers)*

2. What inefficiencies have been identified?
   * *percentage of leakage in supply system*
   * *percentage of leaking open taps*
   * *percentage of households using drinking water for cattle*
   * *percentage of traditional irrigated area*
   * *percentage of irrigated area with crops with high water requirement*
   * *percentage of persons in users groups adopting water saving measures (reuse in the households, repair leakage, reuse waste minimisation in industry)*

3. What measures are undertaken for the effective & efficient use of water? Who is involved and who decides?

4. Are there measures which have been considered but not implemented? if not why not?

Principle 4: Management needs to be taken care of at at the lowest appropriate levels

In many countries there is a heavy dependence on centralised administration to develop, operate and maintain water systems. However, centralised (top down) approaches to water resources development and management have often proved inadequate to address local water management problems. While recognising the need for a central mechanism capable of protecting national economic and social interests, the role of central governments needs to change, to enable users, local

institutions and the formal and informal private sectors to play a more direct role. The government needs to become a facilitator instead of a provider. The current trend towards decentralisation in many countries, although with a wide range of meanings, proves promising in this respect and may help to bring management of water resources to a lower level.

The most appropriate level of water resources management may range from the household level to the level of international river basin committees, depending on the issue at hand. The important point is that consultation, planning, decisions and actions concerning water resources management should be taken as close to the root of the problem as possible, i.e. at the lowest appropriate level, and that higher levels primarily should provide an enabling environment for decentralised and integrated management (DANIDA, 1991).

Guiding questions and example indicators for the review

1. Who manages water supply systems? How long have they managed systems?
   * *percentage of systems with functioning monitoring system*
   * *average and range of years of experience of management committees*

2. Who manages different water resources?
   - operational (day to day management of surface and groundwater)
   - strategic (policy, legal, planning)
   * *percentage of systems with functioning monitoring system*
   * *average and range of years of experience of management committees*

3. Is management currently taking place at the lowest appropriate /possible level? If yes, describe constraints in having management at one step lower level. If not, why not?
   * *percentage of management committees with clear task assignment*
   * *percentage of problems referred to higher level authorities (frequency and level of back-up support)*
   * *percentage of users/stakeholders satisfied with the management*

4. Does existing legislation facilitate this principle? Is legislation effective? If not what other appropriate arrangements exist?

5. What are the changes taking place regarding the levels at which water resources are being managed? What are the constraints if any?

Principle 5: Involvement of all stakeholders is required

To ensure that water resources are developed and managed properly, it is important to involve all stakeholders as much as possible and desired, being the parties with a vested interest. This involves coordination and collaboration between different users groups (eg. the domestic users, the irrigation farmers, industry, recreationists, and persons who represent the environment which cannot speak for its own). These stakeholders should have a platform for decision making were they can voice their concerns and ideas, and can discuss and vote about measures to be taken and activities to be developed to manage the resource. The above implies that it is important that stakeholders have access to information and can play a true role in decision making, and if required are helped to make

their case. In the WSS sector we see already a positive trend in which the idea of community participation, often still implying provision of physical labour, food and shelter, is changing towards community management, empowering communities to take things in hand and claim their role in decision making.

Guiding questions and example indicators for the review

3. Who are the stakeholders? Do they perceive themselves as stakeholders and as being actively involved?
   * *percentage of stakeholders perceiving themselves as being involved*

4. Do stakeholders wish to be actively involved in WRM?
   * *percentage of stakeholders requesting information*
   * *percentage of stakeholders who wish to be more actively involved (interesting to explore in what way they feel they can be involved)*

3. Who owns the water resources/ sources (at various levels)?
   * *percentage of stakeholders/stakeholder groups owning sources/water rights (some sources may directly infer ownership, such as spring capture, or wells, others may have local bylaws or customary rights attached)*
   * *no. of systems being constructed / no. handed to community/farmer cooperative*

4. What platforms/forums exist for decision making? Do they work effectively? Who takes the decisions?
   * *percentage of problems acted upon (for each forum)*
   * *percentage of decisions acted upon (for each forum)*
   * *percentage of stakeholders represented on one or more coordinating / decision making body*
   * *percentage of decision making platforms with a monitoring system in place*

5. What conflict management mechanisms are applied?
   * *number of conflicts resolved over a certain period or at different time of year, (also illustrate the total number of conflicts during this period.), for example; over life of project over last year, during dry season (period of major shortage), during wet season (period of surplus)*

Principle 6: Striking a gender balance is needed as activities relate to different roles of men and women

Communities, organisations and groups involved in and/or benefiting from a project are not homogeneous and do not have the same interrests. They differ in gender, economic and cultural background (e.g. religion, ethnicity, class), and these differences often imply different needs and perspectives, among others related to the use of water. This often has implications not only for the use of water supply facilities, but also for operation, maintenance and management. Particularly the tasks, responsibilities and therefore needs and interests between men and women can differ considerably, and projects have to take special measures, often particularly to involve women. In many traditional water resources management systems, women are managing water resources, which is often ignored by projects.

Guiding questions and example indicators for the review

1. How are gender differences if any, perceived at;
   - planning level ?
   - decision making level?
   - user level ?

   ** percentage of persons indicating need for gender differentiation (planners, decision makers and users)*

2. What are the differences in the degree of participation and influence over decision making by men and women?

   ** percentage of decisions making gender differentiation*
   ** percentage of stakeholder representatives that are women (at decision making forum)*
   ** percentage of men and of women that are satisfied with the influence of their gender group in decision making*
   ** percentage of meetings timed to suit both men and women*

3. Do approaches promote equal participation and access to resources for both men and women?
   ** percentage of gender specific activities (differentiate between men and women)*

4. If any, what are the gender sensitisation programmes at different levels?

Principle 7: Capacity building is the key to sustainability

Effective integrated water resources management requires an enabling environment and conscious and competent actors. Education, skills development and capacity building are essential to promote this. Capacity building of the organisations involved in WRM is crucial both for the proper implementation of a project and for its subsequent sustainability. It consists of three basic elements, namely 1) creating an enabling environment with appropriate policy and legal framework, 2) institutional development including community participation, and 3) human resources development and strengthening of managerial systems (Alaerts et al., 1991).

Institutional capacity for water resources management should be developed when there is a clear demand. Institutional response will therefore vary from time to time and place to place (DANIDA, 1991).

Guiding questions and example indicators for the review

1. Is capacity building a part of project activities? If so what are the key capacity building initiatives at different levels?
   ** percentage of budget allocated for training or capacity building*
   ** percentage of persons who have received training through the programme project at different levels (lower / middle/ top/ stakeholders representatives)*

2. Can capacity be developed at all levels? If not what are the constraints / reasons (legal, institutional, lack of resources etc.)?
   ** percentage of trained people utilising recently acquired skills (if not available you may use a proxy indicator such as number of systems properly maintained)*

3. Which techniques are / philosophy is used for capacity building?

Principle 8: Water should be treated as having an economic and social value

Water is recognised to have both a social and economic value. On one hand, water is considered a social necessity and therefore a basic right for all. Everybody requires access to sufficient and safe water for drinking and other essential activities. On the other hand water also has an economic value. The supply of suitable water and the disposal of sewage has a cost, and systems can only be maintained when this cost is covered, either through donations, subsidies or by users contributions. When treating water as an economic commodity, optimum use should be made of market-based instruments, like the "user pays and the polluter pays" principles. The charging mechanisms that will be adopted must be appropriate and reflect local socio-cultural and economic conditions (DANIDA, 1991)

Making the concept of water as an economic commodity operational includes shifting emphasis from supply to demand management principles when dealing with water resources. However next to the economic efficiency dimension, water must also be considered as a social commodity to ensure that the basic needs for the poor segments of the populations of the developing world are satisfied.

Guiding questions and example indicators for the review

1. Do all users pay for water used?
   ** percentage of water users that pay for water (water supply, irrigation, industry)*

2. Is there a tariff system for different water users? If so describe the system.

3. Does the tariff system (or cost recovery system) meet the:
   - capital cost
   - O&M cost
   - replacement cost

   ** ratio income from tariffs and O&M cost*

4. Is there any cross subsidy system to enable poorer communities to receive water supply? if so how does it work? what level of supply serves poorer communities?

5. Is the financial system transparent ? if so, how is it transparent?

6. Do different water users feel the price of water is 'fair' ?
   ** percentage of users considering they pay a fair price*

References

Alaerts, G.J., T.L. Blair and F.J.A. Hartvelt (editors) (1991). A strategy for water sector capacity building : Proceedings of the UNDP Symposium, Delft, 3-5 June, 1991. UNDP and IHE. New York, United States.

DANIDA, 1991. Copenhagen report : Implementation mechanisms for integrated water resources development and management. Nordic Freshwater Initiative for the UN Conference on Environment and Development (Rio), 1992 and the International Conference on Water and the Environment (Dublin), 1992. Report from Copenhagen Informal Consultation, November 11-14, 1991. DANIDA Ministry of Foreign Affairs. Copenhagen, Denmark.

International Conference on Water and the Environment : Development issues for the 21st century. 26-31 January 1992. The Dublin Statement and report of the conference. Dublin, Ireland.

Ministerial Conference on Drinking Water and Environmental Sanitation : Implementing UNCED Agenda 21. 22-23 March 1994. Political statement and action programme. Noordwijk, The Netherlands.

OECD/DAC (1994). Meeting on water resources management, 10-11 May 1994 : Conclusions. Paris, France.

Serageldin, Ismail (1995). Water Resources Management: A New Policy for a Sustainable Future. Water International, Vol. 20, pp 15-21.

Serageldin, Ismail (1995). Toward sustainable management of water resources. World Bank. Washington, United states.

United Nations (1977). Report of the United Nations Water Conference ; Mar del Plate, 14-25 march 1977. New York, United States.

UNDP, (1991). Report of the Global Consultation on Safe Water and Sanitation for the 1990s, ; Safe Water 2000. 10 - 14 September, 1990. New Delhi, India.

UNDP(1992). United Nations Conference on Environment and Development, Rio de Janeiro : Agenda 21, Chapter 18 : Protection of the quality and supply of freshwater resources: application of integrated approaches to the development, management and use of water resources.

World Bank 1993). Water Resources Management : A World Bank Policy Paper. Washington, United States. ISBN 0-8213-2636-8.

Assessment of experiences made with WRM

Aim of assessment

To document the practical experiences made with water resources management to lead to improved water resources management practices

Components of assessment

1. Get answers to the question 'to what extent are the 8 formulated principles adhered to?'
2. Overview of processes of change (trends) taking place with regard to water resources management. Include among other things:
   - perceived necessity for water resources management by different stakeholders at various levels
   - analyse and describe roles of and linkages between stakeholders at the various levels (national, regional, local)
3. Overview of lessons learned:
   - successes experienced so far
   - mistakes / weaknesses identified so far
   - open issues still to be addressed
4. Documenting of how assessment was conducted:
   - who was involved
   - planning
   - implementation

Activities [1]

1. Select case study / studies and level you will focus assessment on, while at the same time look at the linkages with other levels (national, regional, local)
2. Identify stakeholders at the various levels to be involved in the assessment (= participation analysis)
3. Select principles that can be assessed in your case(s) [2]
4. Check and reformulate if necessary leading questions for selected principles [3]
5. Adapt indicators accordingly [3]
6. Select appropriate participatory assessment tools
7. Adjust your draft plan of action with other stakeholders participating in assessment
8. Seek support, resources and approval for assessment exercise
9. Conduct assessment
10. Prepare draft assessment document and send for comments to IRC and Advisory Group contact
11. Finalise assessment document (...and other documentation, e.g. photo's, maps, illustrations, video's)
12. Presentation of outcomes at WRM synthesis workshop

Notes

[1] The activities are not necessarily in chronological order.

[2] An explanation should be given if a principles has not been included in the assessment.

[3] Leading questions and indicators may be reformulated to meet local situation, but should remain comparable with the jointly formulated questions and indicators

Guidelines for a Stakeholder Analysis

Why a stakeholder analysis

- One of the principles we agreed on is to involve stakeholders in water resources management
- Therefore the assessment should also be done involving stakeholders
- At various levels (national, regional, local) various stakeholders are involved
- It is important to identify the relevant stakeholders at the various levels
- Identify most relevant stakeholders to be involved in the assessment of problems and experiences in dealing with water resources management, with focus on the drinking water supply and sanitation sector

Procedure of a stakeholder analysis: identify all parties involved

- write down all persons, groups and institutions affected by or active in water resources management
- categorize them, e.g., interest groups, individuals, organisations, authorities, etc... by level, e.g., national, regional, local
- discuss whose interests and views are to be given priority when analysing problems and experiences
- specify gender, e.g. what roles do women and men play at various levels

More detailed analysis of stakeholders

- take a closer look at some of the groups
- select the most important groups
- make a more detailed analysis of these groups in terms of:
    - problems: main problems affecting or facing the group (economic, ecological, cultural, etc.)
    - interests: the main needs and interests as seen from that group
    - potential linkages or involvement: the strengths and weaknesses of the group. Main conflicts of interests, patterns of cooperation or dependency with other groups.

Stakeholder analysis format:

Stakeholder	Level / Role	Problems	Interests	Potential Linkages	How to involve

Exercise: practise preliminary selection of stakeholders. Three groups (by level) identify typical stakeholders. This exercise will be refined for each case in individual assignments.

PARTICIPATION ANALYSIS (exercise)
IDENTIFICATION OF STAKEHOLDERS THAT CAN/SHOULD BE INVOLVED IN ASSESSMENT OF EXPERIENCES IN WRM

This table lists potential stakeholders. For every case study a specific identification of stakeholders (participation analysis) needs to be carried out.

Level	Stakeholder (in order of priority)	Role /Interest	Problems (with WRM or playing role)	How to be involved in assessment
LOCAL	Water user groups • village Panchayat/committ. • village dev. committee • women groups(clubs) • Farmer association • Youth group	• user fee collection • minimise Wastage	• poor reliability of supply • indifference to payment • breakage of source/pipes • lack of transparancy • community organisation	• participation in the assessment as follows • planning /designing • providing /collecting information • sharing information and experiences
	• care taker • Conservation group • Trader group(small)	• Operation & Maintanance • Provision of Spare Parts	• limited skills, resources, system • shortage & poor quality of spare parts	• sharing information and experiences
	• small enterpreneurs • NGO's • Local authority local institutions like school, hospital, day care centre etc....	*not identified*	*not identified*	*not identified*
REGIONAL	• Agriculture authority • Environmental Authority	• Role to support agricultural development • Interest to receive adequate quantity of water of suitable quality • Potential polluters	• not enough / too much water • water allocation conflicts • contamination of water source	• meet unions: province authorit representatives • design + disseminate questionnaire
	• Health Authority (Prov/Distr)	• Role: plan coordinate health and sanitation activities	• lack of awareness	• In assessment body; assessment process
	• Regional Irrigation Authority (Prov/Distr)	• people have safe drinking water /sanitation facilities • water born / related deseases		• seek info from them • seek info through them
	• Industrial authority • Planning and development committee(Prov/Distr/Vill) • Drinking Water Authority(P/D/Catchment) • Urban Development Authority	*not identified*	*not identified*	*not identified*

Stakeholder analysis **Annex 8**

Level	**Stakeholder (in order of priority)**	**Role /interest**	**Problems (with WRM or playing role)**	**How to be involved in assessment**
NATIONAL	• National Government	• Policies • Finance Allocation • Priorities • Conflict Resolution	• Resource constraints • Politival • Coordination	• Lobby groups
	• Ministry Water Supply & Sanitation	• Policy + guidelines • Budget • Infrastructure • Monitoring	• Resources constraints • Conflicts + allocations • Natural disasters horizontal coord. • Vertical coordination	• 'Buy in' at highest level
	• External Support Agencies	• Funding • Policy influence • M&E • Technical + capacity building	• Political changes • Policy differences	• Viable project workshop • Follow up on highest level
	• Ministry for Irrigation • Min. of Agriculture • Min. of Industry • Min. of Rural Devel. • Min. of Local Gov. • Min. of Urban Dev. • Ministry Public Health • Ministry Natural Resources Environmental Affairs • Non Gov.Organisations • State Government • Provincial Government	*not identified*	*not identified*	*not identified*

Participatory assessment techniques applicable for WRM

Introduction

This hand out describes in detail the use of a number of participatory techniques which can be used to assess WRM activities and projects. The following techniques are being described:

1. Mapping of the catchment, water sources and land uses.
2. Venn diagram
3. Matrix with ranking
4. Pocket chart

The tools in this hand out are described in sequence, one building on the results of the other. However this does not mean that the tools can not be mentioned separately, or in sequence with other tools.

1. Mapping of the catchment, water sources and land uses.

Purpose: to increase awareness and insights among participants regarding the different uses of land and water in a catchment area, and the impact of the various land and water use activities on the water resource(s).

Needed materials: large sheets of paper, felt pens in different colours, rectangular cards, adhesive tape, small stickers in two colours.

Steps:

1. The facilitator explains the objective and method of the exercise, and divides the group of participants into smaller groups (e.g. according to gender, age, class, completely mixed).
2. The groups draw the chosen water system with felt pens on the large brown sheet.
3. Each participant writes cards with the various uses of the water system and the surrounding land that affect the water source system, e.g. irrigation of cash crops, irrigation of food crops, supply of drinking water, disposal of human or industrial waste, use of chemicals, forestry, mining.
4. The cards are reviewed by the group and selected cards inserted into the drawing at the appropriate spots.
5. The participants indicate with a different coloured sticker on each fixed card whether the use has an impact on water quality, quantity or both.
6. The facilitator reflects upon and analysis the results together with the group.
7. The process and results are being documented.

2. Venn diagramm

Having identified for what uses the water resource system is used and whether this affects quantity, quality or both, the participants will analyse what stakeholders are involved in each use and how much influence they have.

Purpose: to identify different stakeholders with an interest in a specific water source/system, and indicate their level of involvement in the management of that source.

Needed materials: large sheet of paper, felt pens in different colours, circular cards (diameter about 10 centimetres), adhesive tape.

Preparation: the facilitator draws a circle (diameter about 10 centimetres) in the centre of a large sheet of paper. In the circle, (s)he writes "management of the water source".

Steps:

1. The facilitator explains the objective and method of the exercise, and divides the group of participants into smaller groups (e.g. according to gender, age, class, completely mixed).
2. The participants write down the different users and other stakeholders on a new set of circular cards, based on the inventory of water uses made in the first exercise. At user level, it is important to distinguish between different socio-economic, class, religious and gender groups if this influences water use and interest.
3. The participants are asked to stick the different cards representing the stakeholders at the large paper sheet. Thereby the distance to the inner circle mentioning "management of the water source" should reflect the level of involvement of each specific stakeholder in managing the water source.
4. The result is briefly presented, and the facilitator makes sure that all items are understood.
5. The participants discuss which stakeholders have contacts with each other or even co-operation on water resource management.
6. The facilitator reflects upon and analyses the results together with the group.
7. The process and results are being documented.

3. Matrix with ranking

After identifying the level of involvement of the various stakeholders in the management of a water source system through a Venn Diagramm, the participants will characterise the nature of involvement of the different stakeholders through a matrix exercise.

Purpose: to increase awareness and insights among participants regarding differences among stakeholders in accessing and using the water source(s), and managing and controlling it.

Needed materials: a large sheet of paper, felt pens (in different colours), rectangular cards, adhesive tape, small stickers in various colours.

Steps:

1. The facilitator explains the objective and method of the exercise, and divides the group of participants into smaller groups (e.g. according to gender, age, class, completely mixed).
2. The participants write the water uses identified during the mapping on a new set of rectangular cards. These are placed along the left hand side of a brown paper sheet (column).
3. The identified stakeholders are written on another set of cards, reflecting national, regional and local levels. Think of segregating local levels for class and sex and other important socio-economic and cultural distinctions.
4. The cards are compared and the agreed categories of stakeholders are fixed in a horizontal row at the top of the paper, so that a matrix is formed.
5. Using small stickers with two different colours, participants are asked to indicate which stakeholder(s) are accessing or using the identified water sources/uses (e.g. green colour), and which stakeholder(s) are involved in decision making and managing the water source for each of the water uses (e.g. red stickers).
6. The facilitator reflects upon and analyses the results together with the group.
7. The process and results are being documented.

4. Pocket chart

Purpose: to create insight and understanding on the division between men and women of tasks and responsibilities regarding water, and access to and control over water.

Needed materials: large sheet of paper, felt pens of different colours, rectangular cards, adhesive tape.

Steps:

1. The facilitator explains the objective and method of the exercise, and divides the group of participants into smaller groups (e.g. according to gender, age, class, completely mixed).
2. Ask participants to write down on rectangular cards for what different activities the water resource(s) are used by adult men, adult women, male and female children (NB: In some cultures, a further distinction in adult men/women and male/female elders may need to be made. Here we will not do so). For example, irrigated cash crops forestry, grazing, fish ponds, on the productive side and on the reproductive side: water collection, waste/excreta disposal, laundry, irrigated food crops, gathering traditional medicines, etc.
3. Group the cards in a horizontal row on the upper side of a large paper, putting unproductive activities at the left, and productive activities at the right hand side (the facilitator might have to explain the differences in productive and unproductive activities).
4. The 4 gender/age cards are fixed in a vertical column at the left side of the paper. In this way a matrix is formed.
5. Then each participant is asked to place black marks in the matrix indicating which persons have *access to and use* water for the activities stipulated in the horizontal

row. At the same time, they are asked to place red marks indicating which persons have *control over* the water used in the different activities.
6. The facilitator reflects upon and analyses the results together with the group.
7. The process and results are being documented.

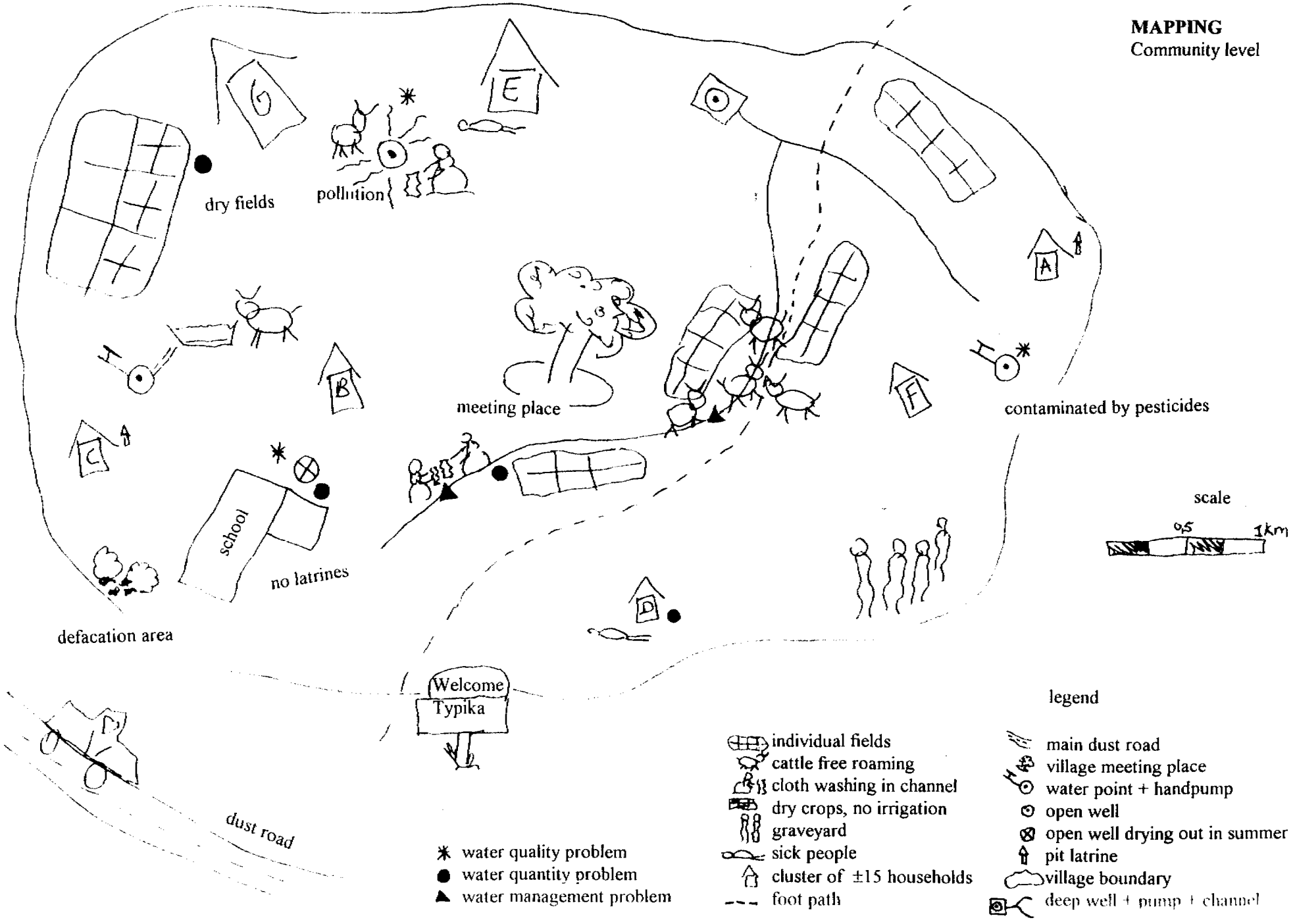
Final remarks

Documentation. The process of a participatory tool should be documented, e.g. in the form of drawings, photographs or on video. The end products are copied on paper (drawing and matrix).

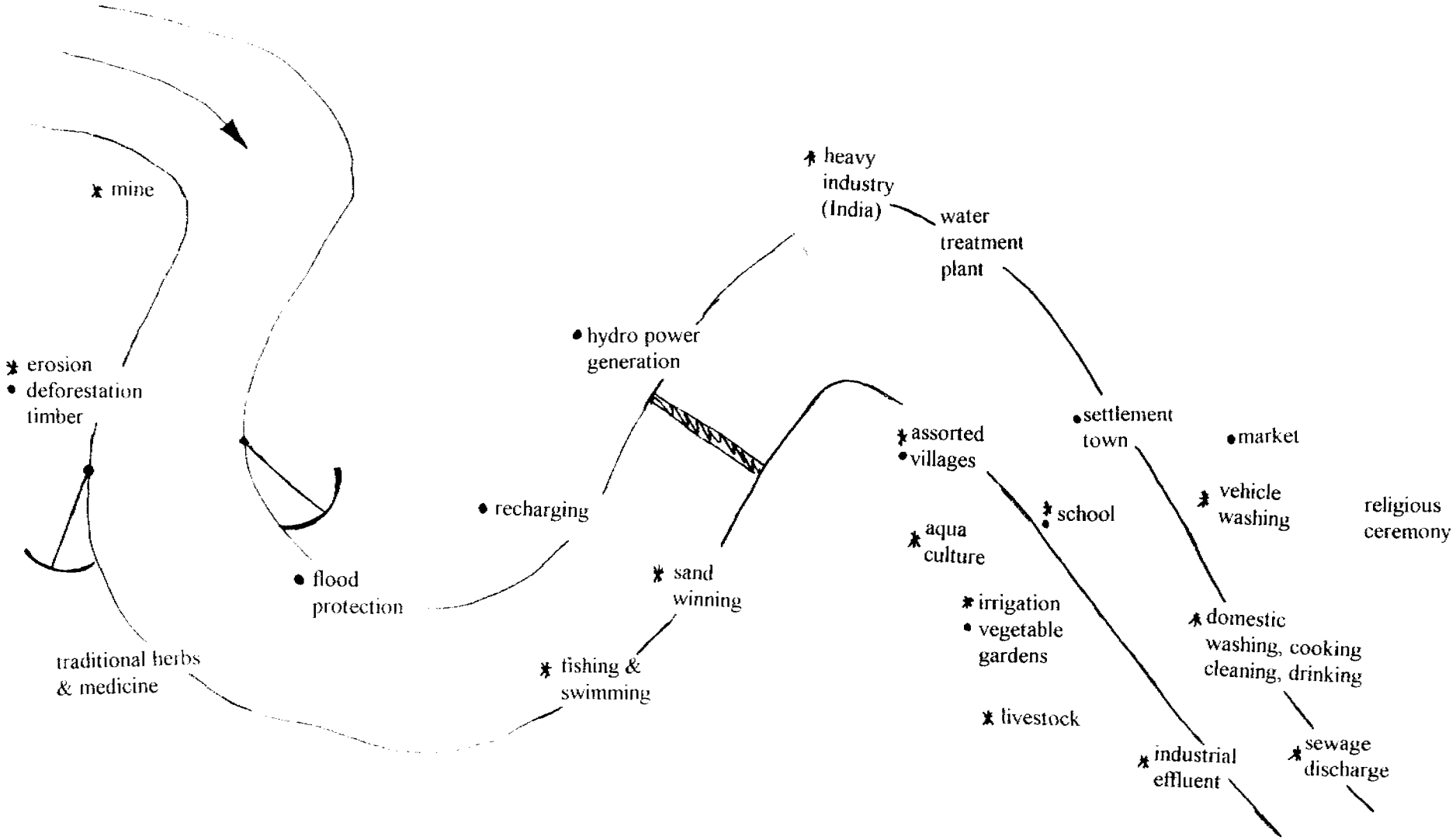
Use of the tools. The tools are described to be used with staff and officials at higher (national or regional) level, to give common insights into the problems of water resource use, the need for integrated water resource management, the range of interest groups (stakeholders) and their relative involvement or exclusion. They form one of the bases for subsequent problem analysis and planning of problem solving actions. They are also tools for helping setting up a monitoring system, by making clear on what aspects hard baseline and monitoring data need to be collected.

Adjustment to community level. To use these tools at community level, have a local artist make small cards with coloured drawings of the locally occurring uses of water and land in the local water resource system, and the various stakeholders (gender-specific if relevant. The community assembly makes the drawing of the water system and places these cards into the drawing to illustrate uses. Take care to include also traditional uses of the water source and catchment area, such as gathering firewood, food and medicinal herbs, doing laundry, etc. They then discuss what impact these uses have on water quality and quantity, who are the actors, and who are negatively affected by these actions.

For the analysis of access and control, use drawings of local decision-makers (male leaders, female leaders, wealthy men, wealthy women, poor men, poor women, etc.) to indicate stakeholders. You can fix the pictures of decision makers on a wall with envelopes underneath and ask each man and women in the area to vote, with a small slip of paper, or a bean or other locally suitable item, on who makes the decisions for a particular use of the water source and its surrounding land. Segregation of the results by sex is possible by giving men and women different colour cards or beans. Instead of written cards also use drawings to illustrate different types of uses (irrigation, water supply, waste disposal, et.).

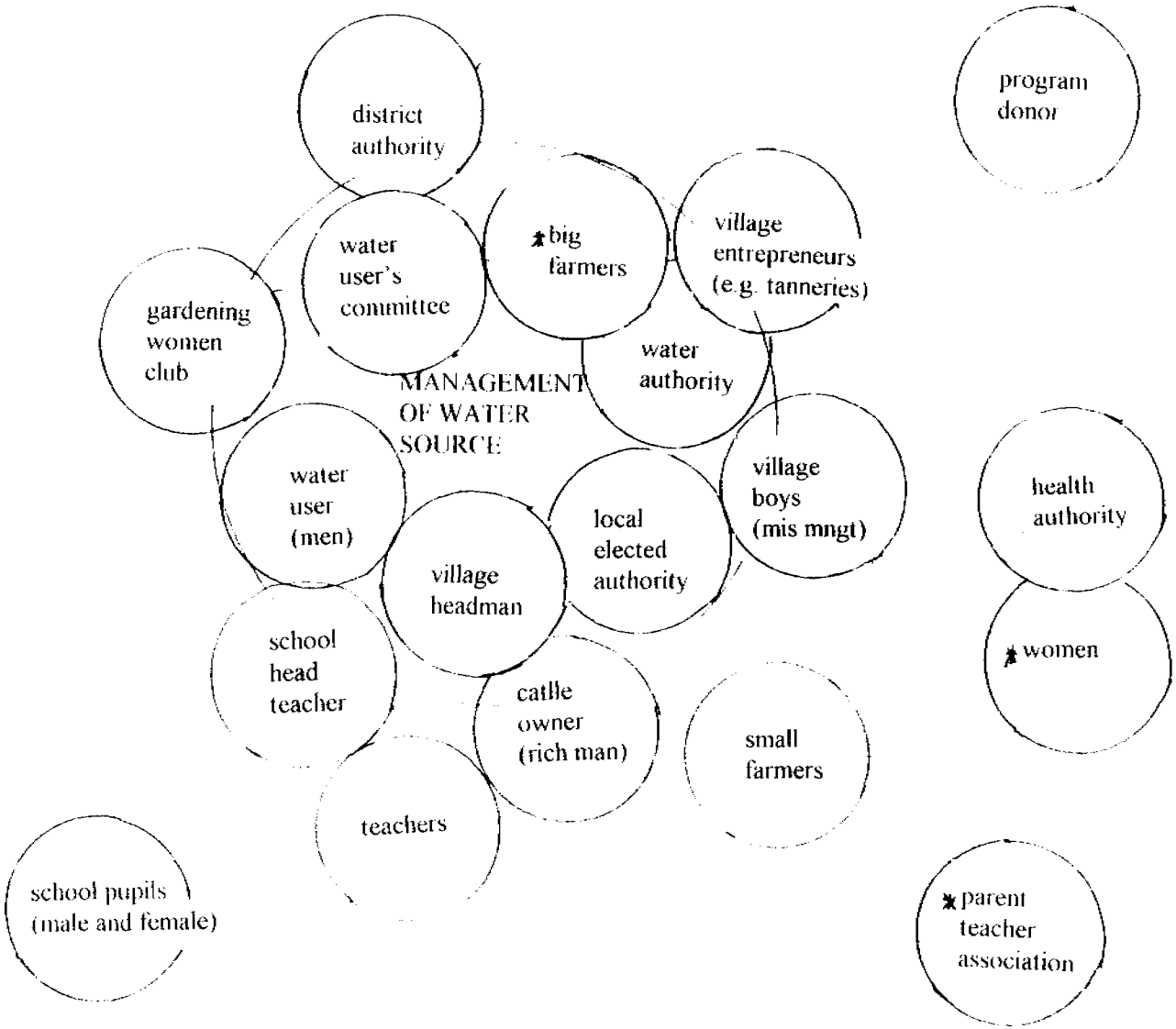

MAPPING
Community level
dry fields
pollution
meeting place
contaminated by pesticides
school
no latrines
defacation area
Welcome
Typika
dust road
scale
0,5
1km
water quality problem
water quantity problem
water management problem
legend
individual fields
cattle free roaming
cloth washing in channel
dry crops, no irrigation
graveyard
sick people
cluster of ±15 households
foot path
main dust road
village meeting place
water point + handpump
open well
open well drying out in summer
pit latrine
village boundary
deep well + pump + channel

MAPPING EXERCISE
Regional level

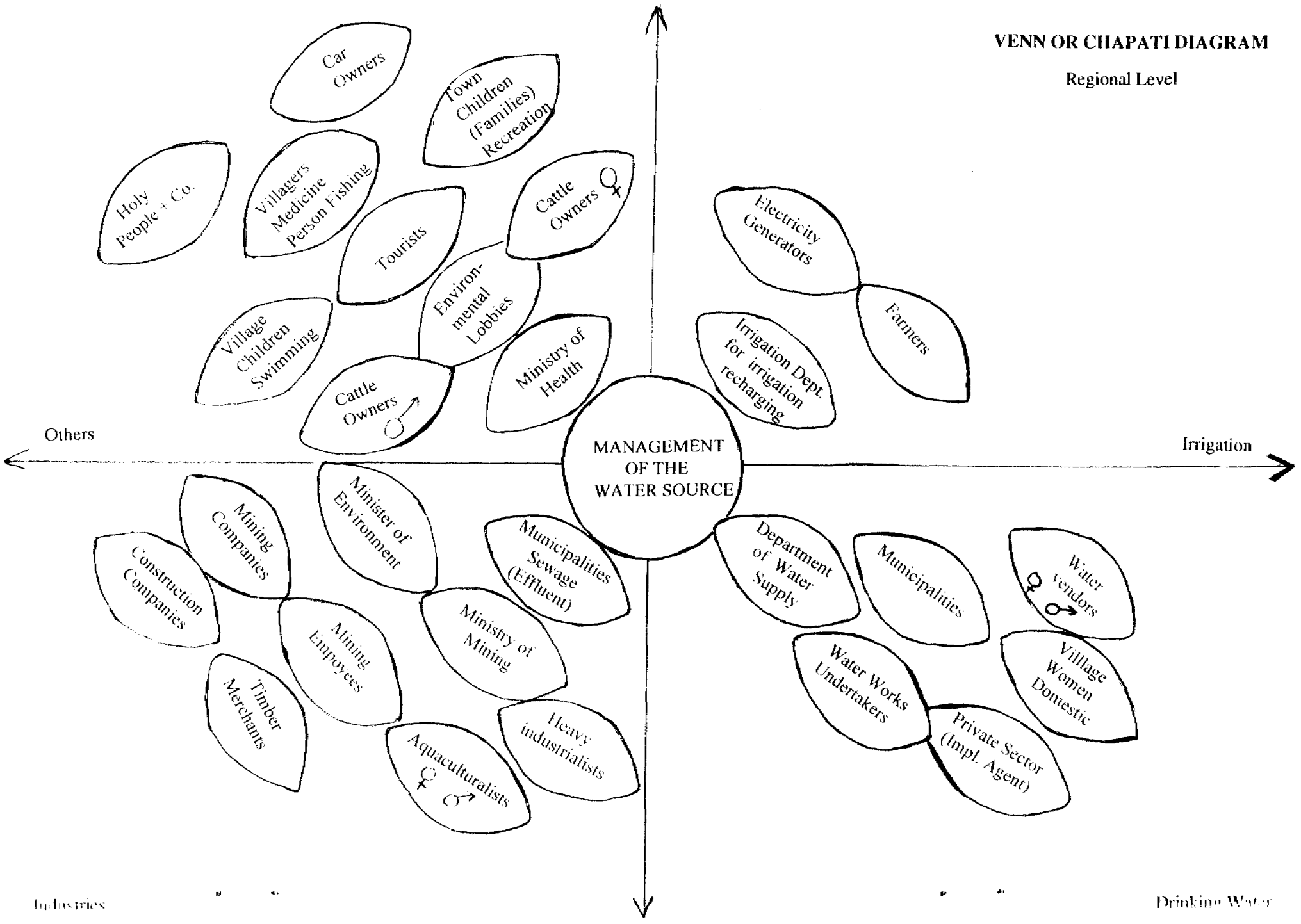


* Affecting water quality
• Affecting water quantity

VENN OR CHAPATI DIAGRAM
Community level



* position depends on local context


VENN OR CHAPATI DIAGRAM
Regional Level
Car Owners
Town Children (Families) Recreation
Holy People + Co.
Villagers Medicine Person Fishing
Tourists
Cattle Owners ♀
Environ-mental Lobbies
Village Children Swimming
Cattle Owners ♂
Ministry of Health
Electricity Generators
Farmers
Irrigation Dept. for irrigation recharging
Others
MANAGEMENT OF THE WATER SOURCE
Irrigation
Mining Companies
Construction Companies
Minister of Environment
Municipalities Sewage (Effluent)
Mining Employees
Ministry of Mining
Timber Merchants
Heavy industrialists
Aquaculturalists ♀ ♂
Department of Water Supply
Municipalities
Water vendors ♀ ♂
Water Works Undertakers
Village Women Domestic
Private Sector (Impl. Agent)
Industries
Drinking Water

Styles of reporting

There are many ways in which results can be presented. For this WRM workshop, we would like to ask the participants to present brief daily reports on what has happened the previous day. Each day, three participants will be asked to prepare this presentation session, using a technique that has not been used by other participants in earlier daily reporting sessions. The objective of changing techniques is to stimulate creative thinking on different reporting techniques. The following are a few suggestions on how to present results, but of course every group is open to use any other method they like.

Writing

Aid memoire	For a specific time period (day, week, etc.), write down in chronological order the main activities and other important things that have happened, e.g. decisions taken, problems identified, persons interviewed, results of an activity.
Bullet presentation	Write down as concise as possible and in order of importance all points of importance dealt with during a certain time, giving every point a separate bullet mark.
Newspaper Poster	Present key information concerning the days activities in columns on a wall poster - utilising cartoons or pictures to emphasise issues.

Visual methods

Pictures & photos	Of each important event or result achieved, make a picture of photograph, and give a short description.
Slides or video	Very useful for various types of presentations that will remain interesting for some time. Disadvantages are expertise and equipment needed to make a presentation (and to show it).

Visual and text

Poster presentation	Of a certain event, activity or project, make a poster using pictures, graphs and text highlighting the main issues you want to address.
Participatory presentation	Ask participants to provide feedback and information on the previous days activities, this can be listed on a flip chart or written on cards which may then be clustered

	according to the points raised. A brief discussion should highlight key points not included, and address any bias within the feedback.
Oral	
Show or performance	Especially suited to bring specific messages and information across when the audience is illiterate. But also very stimulating as a change during a maybe sometimes boring workshop.
Radio broadcast	Simulate a radio broadcast on the latest news or developments.

Tips for documenting information

1. Use a clear structure.

   Ensure that chapters, headings and paragraphs relate to each other and follow a logical sequence.
2. Be careful when using numbers and percentages. Are they meaningful and correct?
3. Be very careful when using figures:
   - Do they add to the text, are they needed?
   - Are they self explanatory and clear?
   - Is the information shown correct (do percentages add up to 100)?
   - be careful when using numbers and percentages - are they meaningful?
   - Quote the source of the information (even if it is your own project)
   - Graphs should not be three dimensional or confusing
   - Cartoons should be simple and key messages obvious
   - Maps must of a readable scale
   - Shading and colours must not distract from the information
4. Using Tables
   - Shading, underlining and colours must not distract from the information
   - Quote the source of the information (even if it is your own project)
   - Make sure the table corresponds to the above text. Is it referred to in the text?
5. Proof reading - Always read through your text and preferably ask a colleague to also, so as to ensure minimal spelling or grammatical errors, she / he may also have good ideas how it can be made more easily readable.
6. When using statements, hard facts (Saunders, 1996a), or referring to another article (Saunders, 1996b), or source of information - make sure you refer to the source reference in the reference section at the end of the paper.

   Saunders, D. (1996a) *A damn fine book on utilising great documentation skills*, E & FN Spon, London.

   Saunders, D. (1996b) Yet another great but falsified article in a journal, *Information and Communication*, Vol. 26, No. 194. pp. 567-74.

   Saunders, D. (1996c) Communication innovation chapters in a book, in *Modern Communication Techniques*, (ed. RU Well), E & FN Spon, London, pp. 51-5.
7. Word process your document
   - Use common fonts (Helvetas, Arial, New Times Roman etc..)
   - Use simple margin settings (left, right, top and bottom all the same)
   - Provide all documents on diskette as well as paper copy

Agreed case study report structure

Contents	Contents list List of tables, figures
Executive Summary	Summary of the whole document
Preface	Acknowledgements to colleagues and partners

Introduction

Chapter 1 Background

Overview of existing socio-economic, and physical setting including an overview of water resources in the region, the environmental setting, water problems faced, short project description.

Chapter 2 Overall Assessment Method

Description of the techniques used for the whole assessment, how it was planned, who was involved, how it was implemented, over what period etc. Clearly discuss assumptions made and limitations or constraints.

Chapter 3 Water Resource Management Principles Addressed

Principle 1

Background	General background on aspects relating to this principle. For example how this principle addressed in the project? Describe the process of change within the project where this issue is relevant.
Methodology used	Describe the methods and tools used to assess the different questions related to this principle, who specifically was involved and what role did they play. How it was planned and applied.
Results	Present the results / outcomes of the assessment, or answers to the questions. Ensure that results discuss related matters and are not just brief or cursory responses.

Lessons learned	From the results and context of the project or programme discuss the conclusions that can be drawn or lessons learned. Issues raised through examining this principle will highlight the importance or lack of it in your situation. What significance do your findings have to others or yourselves? How can we learn from your results?
successes	
mistakes and weaknesses	
open issues	Issues that are not addressed in this assessment, but should be taken into account when applying this WRM principle.

Principle 2 **If you do not feel it is possible in your circumstances to address this principle please explain why not.**

Background	Describe the reasons why this principle is not relevant in the context of your project. If unsure how to progress, discuss the issues raised by the questions and why in your circumstances they are of no relevance.

to .....
Principle 8

Chapter 4 Conclusions

If you make any recommendations in light of the assessment lessons please include them here.

Annexes	Supporting information and other very relevant referral material should be placed in annexes. Remember in the text to refer readers to the annexes.

References

IRC, The Hague, 29 November 1996

Dear Madam / Sir

Re Project 'Promising experiences in water resources management'

We wish to inform you on the progress made in this project and on the next steps to be undertaken. This project aims at assessing the practical experiences made in the field with addressing key principles of sound water resources management as formulated in various international fora (as outlined in the project document and framework paper send to the participants and their sponsors earlier this year). The objective of the assessments is to analyse practical experiences made so far and to come to recommendations which will lead to improved water resources management practices.

From 20 to 29 November 1996 the preparatory workshop was successfully conducted at IRC International Water and Sanitation Centre in the Hague, the Netherlands. Fifteen participants from 13 different projects / organisations, members of the advisory group and IRC project staff discussed and agreed on the framework and methodology of the assessment to be undertaken of practical experiences in water resources management. We wish to use this occasion to express our highest appreciation to the interest and support you are giving to this project.

The assessment will be planned and conducted by the participants together with key involved stakeholders in their home countries. Draft assessment plans, including the proposed case studies, topics to be assessed and tentative work plan, have been prepared during the preparatory workshop.

The assessment will take place in the period December 1996 - May 1997. Draft assessment documents will be send to IRC and members of the Advisory Group for comments and suggestions. Final assessments will be presented, discussed and conclusions/recommendations will be drawn at a synthesis workshop at IRC in the second half of June 1997.

We hereby seek your approval and full support to this exercise and trust that you will assist the participants to carry out this assessment successfully.

A full workshop report, modalities on communication and preparation of the synthesis workshop in June 1997 will be sent to all participants within the next weeks.

Please find attached for your information an overview of the aim and components of the assessment exercise. Do not hesitate to contact us should you wish to receive either of the above mentioned reports or further information on this project.

Sincerely yours

Peter J. Bury
co-ordinator of the WRM project at IRC

Evaluation of the Preparatory Workshop

Comments on the overall WRM project objectives (clarity, relevance):

- Everything was very relevant, however more time could be spend on the definition of concepts and words to make things clearer.
- They are quite relevant and made clear to us.
- Extremely relevant.
- Good.
- I would like to go more deeply in the relationships between different kinds of water (ground, surface, etc.)
- Relevant in that sense that it has given us or reminded us of some issues we never considered necessary.
- Objectives were specific and relevant. It will enable projects to assess how well they are doing and take corrective measures where necessary.
- The process is quite clearly described. The end result/benefits could perhaps be spelt out in greater detail. Title a bit confusing perhaps? Should be more comprehension and explanatory of objective.
- Since participants were able to formulate plans could mean that objectives were clear and relevant.

Comments on the information received on the WRM project and preparatory workshop objectives:

- All the information was clear and detailed and of much guidance.
- This is very important and essential subject to deal with. All information received regarding WRM and objective of the workshop was clear.
- Extremely useful.
- Good.
- It was enough.
- Objectives were very broad and initially I was lost. However, as the workshop progressed, the objectives became clearer and could contribute.
- Very efficient and comprehensive and confidence inspiring. Directions from airport good except need to specify that destination is The Hague Central Station.
- Helpful and clear enough, now that the preparatory workshop is over.

Comments on content / objectives of the preparatory workshop:

- The objectives of the project weren't quite clear till a few days after the workshop began; this caused a bit of confusion.
- Content of preparatory workshop seems a outcome of wider thinking. I found them really good.
- Useful.
- Good, explanatory.
- You can include an item about how can you get good indicators.
- Good.
- Clear and achieved.
- Interesting preparatory workshop, generally the course contents was good and facilitation was very professional. I was a little disappointed with the participatory methods in terms of their high level applicability. Christine could have been a bit more participatory in her approach also!
- Largely relevant, slightly haze initially.
- This entire workshop is very helpful to me and in particular the Royal Government of Cambodia to look at what is being done in terms of WRM. I have been able to learn a lot from other parts of the world.

Comments on methods used during the workshop (including timing, group work, participation):

- All methods were interesting. However, I think that too many participatory activities were done in one day.
- Methods used in the workshop are very good. In some cases we find time a bit packed, but which is usual also for such a big task.
- Very good. Everyone participated, time was just sufficient but initially it was rushed, subsequently slightly slow.
- Very participatory.
- Good.
- Good and practical.
- Methods were excellent, very participatory. Timing was too loaded: adults should not be seated for too long.
- Timing generally good considering the unknown nature of some of the subjects. Very good participation without putting pressure on people.
- Participation and group work were very good, time was fair.

Comments on organisational / logistic matters (accommodation, venue, free time, support):

- Excellent, thank you!
- It is excellent from all dimensions.
- Extremely good.
- Good, satisfying.
- Good.
- Excellent.
- Accommodation: very good, but too expensive, oh yes! Plus breakfast (good one of course) is OK. Logistic support superb, the staff deserves tons of congratulations.
- I am extremely impressed with the administrative abilities of Loekie and Janine! Accommodation fine but a bit far away in this weather. Sufficient time, good support from workshop organisers.
- Organisation was okay. The time table run fairly smoothly, but the ending was slightly affected negatively, e.g. some participants leaving before official ending of the workshop.

Has the preparatory workshop prepared you satisfactorily to carry out and document the assessment of practical experiences with WRM? yes, because: / not sufficiently, because:

- Yes, I am leaving with a clear concept of the task ahead and know how to transmit what I have learned.
- Yes, because there was a good correspondent from time to time.
- Yes, I have been equipped wit leading questions, indicators, and understood the framework and participatory tools.
- A little but a lot on the framework.
- Yes, we could know very interesting experiences.
- Yes, because all the reference hand outs have been given to us.
- Yes because the series of practical exercises coupled with the excellent facilitation and hand outs, I hope there is no cause for alarm.
- Yes because we have been prepared a work plan and been involved in developing the leading questions and indicators. The rest is up to us!

- Yes because the objectives, methodology, stakeholders, the structure of the report (format) etc. are clear enough.

What support would you appreciate from IRC or the Advisory Group during the assessment phase?

- Just being able to communicate progress, set backs and receiving suggestions to doubts along the way.
- Needed suggestions and supports time to time as requested for.
- Perhaps visit around March to see how things are going.
- Send new WRM documentation.
- I will request when advise needed.
- Communication to Danish Embassy (attention to DANIDA senior advisor), and communication to superiors in the region.
- Perhaps monthly contact via E-mail. Jan Lundqvist may visit South Africa in February and we will get together if so.
- Prompt communication regarding new information or changes e.g. dates, and prompt feedback on draft report.

Suggestions you have for next synthesis workshop (programme, duration, other):

- Duration not more than one week.
- Next workshop seems to be good to be held in June. The duration of 7 days seems reasonable.
- If the programme could be send well in advance.
- One week.
- Enough time should be given to presentation and feedback. Assessment report should be thoroughly screened so as to give the final outcome an international touch.
- Prefer workshop to be scheduled over 1 week only if possible. Need to devote a fair bit of time to planning the way forward.
- Clear programme, clear objectives, seven working days, a venue less disruptive.
- I would suggest to set up time a bit wider so that each session of the workshop content can be well discussed.

Ideas on dissemination of outcomes of this project:

- To headquarters of world-wide agencies that work with water so that it will reach other countries world-wide and have them help with distribution.
- Through the reports in different participating projects and through other agencies as well.
- Make videos of experiences, it can be used in television programmes.
- Publish the outcomes in the IRC Newsletter.
- Outcomes of this project should be circulated to all international donors, embassies of the countries involved. Others are key stakeholders at national and regional levels.
- Articles in Water Research Publications, perhaps a "wadshow" in participants host countries, a hard book, possibly video, possibly a workshop and invite senior water resource managers from around the world or possibly tag on to the WEDC conference as a mini training/session/workshop. Suggest a bit of publicity in the interim period!

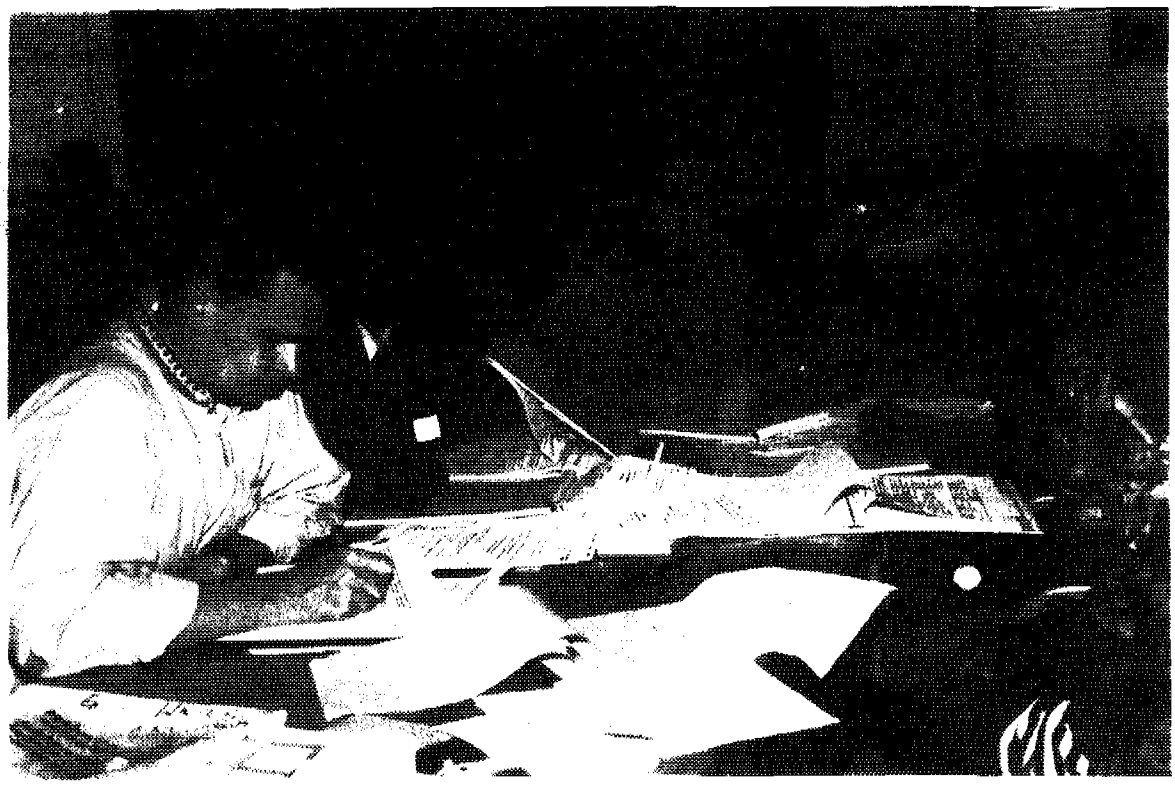
Other contributions made by the participants:

- Could it be possible for IRC to critically examine language in workshops. For the benefit of others who can't communicate very well in the English language to have a workshop on

their own whereby a common language will be used. This is because some participants are having very good presentations but there was difficulty in expression.

- General comments:

1. Probably too few case studies of WRM outside rural WSS. Integrated catchment management etc. Needed where water supply and sanitation is linked to conservation and catchment protection.
2. Felt that one or two of the participants were a disruptive influence or not "tuned in" to the project objectives. Coordinators/organisers perhaps a bit too lenient with them!! (I realise that diplomacy is important and it may not have been easy).
3. I don't think enough time was spent looking at the meaning of WRM and need for catchment management etc.

- This workshop should be conducted in Cambodia to increase better work towards a sustainable decentralised system there.

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