

Water resource management: Integrated planning and management at community level



This training manual is intended to help to WaterAid in Nepal 's partners and stakeholders train community leaders in developing integrated plans for managing water resource at community level.

The production of this manual was led by Kabir Das Rajbhandari from WaterAid in Nepal with support from WaterAid in Nepal 's partners. Consultant Dinesh Raj Manandhar assisted in the preparation of this manual by organising a series of workshops at community level and with practitioners. Colleagues from the Advocacy team in Nepal reviewed the document, providing valuable input.

This document should be cited as WaterAid in Nepal (2011) *Training manual - Water resource management: Integrated planning and management at community level.*

The document can be found in the documents section of the WaterAid in Nepal country programme website– www.nepal.wateraid.org

A WaterAid in Nepal publication

September 2011



WaterAid transforms lives by improving access to safe water, hygiene and sanitation in the world's poorest communities. We work with partners and influence decision makers to maximise our impact.

Cover picture:

Top: A school girl at Lalit Kalyan School behind recharged well from harvested rain.
WaterAid/Anita Pradhan

Middle: Pratima Shakya from Hakha tole in Lalitpur district at the dug well front to her house.

Bottom: Krishna Shrestha caretaker, Sunga wastewater treatment plant, Thimee.
WaterAid/Marco Betti

Contents

Abbreviation	iii
1. Introduction	1
1.1 Background	1
1.2 WaterAid and Water Resource Management (WRM)	2
1.3 CWRM approach and capacity building	4
1.4 About the manual	5
1.5 Target group	6
1.6 Objective of the training	6
1.7 Expected outcomes	6
2. First session: Introduction, objectives and expectation of the training	7
3. Second session: Components of WRM initiatives	11
4. Third session: Analysis of problems of water resource management	15
5. Fourth session: Objectives of community water resource management initiatives	19
6. Fifth session: Identification of resources required for WRM initiatives	21
7. Sixth session: Identification of roles and responsibilities and development of WRM plan with initiatives	23
8. Seventh session: Monitoring and evaluation	27
9. Final session: Evaluation and closing	29
Annex 1: Training schedule	31
Annex 2: Evaluation form	32
References	35

Abbreviation

ARISC	-	Approval, Responsibility, Information, Supervision and Consultation
CBME	-	Community Based Monitoring and Evaluation
GWP	-	Global Water Partnership
IWRM	-	Integrated Water Resource Management
TAC	-	Technical Advisory Committee
WASH	-	Water, Sanitation and Hygiene
WATSAN	-	Water and Sanitation
WRM	-	Water Resource Management



Introduction

1.1 Background

Water is vital for human survival, health and dignity and a fundamental resource for human development. The world's freshwater resources are under increasing pressure. Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment. Water development and management should be based on a participatory approach, involving users, planners and policymakers at all levels. Water has an economic value in all its competing uses and should be recognised as an economic and social good.

Treating water as an economic and social good means trying to promote higher value uses of water, especially when there is water scarcity. This could mean favoring industrial uses over agriculture or promoting higher value crops under irrigation. Or decision of importing high water use crops from countries with higher rainfall rather than trying to grow them at home where water is scarce. Water has multiple uses and priority of use should be made, with focus on domestic use of water. However, it is crucial in this discussion to be clear that a full economic analysis must take into account the social costs and benefits of different water uses and not just, for example, the value of production (crop or any other goods) per unit of water used. These social costs (health, quality of life and support to income generation) should be accounted for in a proper economic analysis and recently, to emphasize the importance of this full accounting, it has become more common to talk of managing water as an 'economic and social good'. On this understanding it is commonly recognized that the highest value use of water is always going to be domestic water supply, and there are high costs for the economy (e.g. expenses in health care) when supplies fail. Another important point is that treating water as an economic good, or recognizing the value of its use, does not necessarily mean that this value should be passed on to all water users as a direct tariff. The 'economic good' principle in water management is therefore not synonymous with calls for higher levels of cost recovery in water supply.

The cost recovery mechanism may be related to the sustainability of the system as water systems may need to be run by the user charges. Values and charges (tariffs) are different things. Water always has an economic value, regardless of whether this value is recognized in some formal setting such as a market for water. Tariffs should as much as possible reflect the objectives of water resource managers, while ensuring that access by vulnerable and poorer communities for domestic or irrigation water is protected through mechanisms such as variable tariffs and targeted subsidies provided by supply agency. Access to water is fundamental to human survival, health and productivity. The indivisibility of these functions to support human well being lies at the heart of a holistic view of the resource. It is, therefore, necessary to ensure the perpetual sustainability of people's access to water and the environment which is dependent upon it.

Global Water Partnership (GWP) has defined Integrated Water Resource Management (IWRM) as “a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems (GWP, TAC 2000)”. IWRM is a process of change, a way of thinking about water management in order to better achieve 3 key strategic objectives, which are Efficiency (maximizing the economic and social welfare), Equity (in allocation of costs and benefits to promote sustainable social development)

and Environmental Sustainability. As the pressure and demands on limited water resources increase, the need for finding new and innovative approaches become more apparent and urgent. Water Resource Management (WRM) is the participatory process of community engagement in integrated water resource development and management which ensures the sustainability of ecosystems¹. and socio-economic development WRM can be defined as a local process to operationalize constructive engagement among diverse values and concerns, rather than a blanket model ready for implementation.

1.2 WaterAid and (WRM)

WaterAid is an international non governmental organisation dedicated exclusively to the provision of safe domestic water, sanitation and hygiene education to the world's poorest and disadvantaged people. These most basic services are essential to life; without them vulnerable communities are trapped in the stranglehold of disease and poverty. WaterAid work by helping local organisations set up low cost, sustainable projects using appropriate technology that can be managed by the community itself. WaterAid works in both rural and urban areas, and currently has programmes in 17 countries in Africa and Asia dedicated to make a significant impact on poor people's access to safe water and sanitation. WaterAid's Global Strategy 2005-2010 and Country Strategy of Nepal 2005-2010 recognize the need to adopt an IWRM approach within the organisation. Issues such as scarcity, conflict, allocation, pollution and watershed management have

¹ CWRM Workshop/WaterAid/Abuja/2005

an impact on WaterAid and partners future work in the Water, Sanitation and Hygiene (WASH) sector.

The Dublin Principles as shown in Box 1 in page below are commonly agreed principles or best practice in managing water through the participation of all relevant stakeholders (IWRM, Thematic Overview Paper, Patrick Moriarty (IRC) and John Butterworth (NRI) and Charles Batchelor). The Abuja Principles give WaterAid, guidance on how to operationalise WRM issues in its future work. Most of Dublin Principles apply to WaterAid's work. At the CWRM inception workshop in Abuja, the Abuja Principles were devised to better link WaterAid's approach to funded project with Dublin Principles. In recognition of the necessary shift towards more integrated water management and based on its own experience at programme level, WaterAid will improve operational links between water and sanitation service delivery and integrated water resources management programme to ensure sustainability of drinking water resources. The seven key issues highlighted below were findings from the workshop and previous studies.

- ◆ Water resources protection
- ◆ Institutions
- ◆ Information management
- ◆ Capacity building
- ◆ Economics and financing
- ◆ Legislative and regulatory framework
- ◆ Implementation approaches

In the present context, water stress is an emerging issue WaterAid is facing and this is a challenge that WaterAid has to address. For which different approaches and options are being promoted including CWRM approach as one of them.

However, WaterAid is trying its best by concentrating its approach mainly on thoughtful extraction of Surface Water and Ground Water. It is sensed that falling water tables, ground water pollution, serious problems of water quality (microbiological and arsenic contamination) and growing competing demands for drinking water and sanitation is making the WRM approach unsustainable by posing a challenge to provide drinking water and sanitation services effectively to the rural and urban poor of Nepal. A better understanding of WRM approach is necessary. WaterAid will therefore place an increased emphasis on the concept, tools and techniques of WRM while designing water, sanitation and hygiene projects to ensure that the minimum requirements of WaterAid's Global Strategy are achieved. These are;

- ◆ That all project proposals include an assessment of the sustainability of the water sources and either a description of the actions to be taken to safeguard or enhance that sustainability or reasons why no actions are required
- ◆ That water quality policies are enacted in country programme and that all sanitation project proposals include as assessment of the risk of pollution of drinking water sources and actions to prevent the same, if necessary
- ◆ WaterAid and its partners will maintain relevant data on Water Quality and Hydrogeology of the water resources that they have utilized and access to available to others.

WaterAid will undertake technical, institutional and capacity building measures and also has outlined the guidelines for meeting the minimum requirements in its WRM approach (*WaterAid's approach paper on WRM in Nepal, Rajbhandari, K, 2006*).

Guiding principles from the Dublin Statement

Principle No. 1: *Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment*

Since water sustains both life and livelihoods, effective management of water resources demands a holistic approach, linking social and economic development with protection of natural ecosystems. Effective management links land and water uses across the whole of a catchment area or ground water aquifer.

Principle No. 2: *Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels*

The participatory approach involves raising awareness of the importance of water among policy-makers and the general public. It means that decisions are taken at the lowest appropriate level, with full public consultation and involvement of users in the planning and implementation of water projects.

Principle No. 3: *Women play a central part in the provision, management and safeguarding of water*

Living environment has seldom been reflected in institutional arrangements for the development and management of water resources. Acceptance and implementation of this principle requires positive policies to address women's specific needs and to equip and empower women to participate at all levels in water resources programmes, including decisionmaking and implementation, in ways defined by them.

Principle No. 4: *Water has an economic value in all its competing uses and should be recognized as an economic good*

Within this principle, it is vital to recognize first the basic right of all human beings to have access to clean water and sanitation at an affordable price. Past failure to recognize the economic value of water has led to wasteful and environmentally damaging uses of the resource. Managing water as an economic good is an important way of achieving efficient and equitable use, and of encouraging conservation and protection of water resources (WMO 1992).

1.3 WRM approach and capacity building

Due to the interconnectedness of natural water resource systems, particularly at catchments scale, the Water and Sanitation (WATSAN) sector is affected by water use in other sectors (e.g. agriculture, fisheries, industry, mining etc) which may have potential negative and positive impacts on one another. Thus there is need to consider the different uses of water together to ensure its equitable and efficient use. Therefore a WRM approach has become necessary in urban and rural water supply programme to avoid the apparent impacts like scarcity, conflict over quantity and quality of water required to meet the water needs,

allocation of water, pollution of water, raw effluents and watershed management.

Realizing these needs, WaterAid has already started to address many WRM issues through promotion of appropriate water optimization technologies, proper water management, water quality, protection of sources for their safety and sustainability, hygiene promotion, participation, equity and gender approaches etc either separately or through integration while delivering its programme in one way or other way round. In order for WaterAid in Nepal and its implementing partners to have an impact in this area, more needs to be done on understanding and applying WRM approaches at the different levels:

- ◆ National policy level
- ◆ Water Aid in Nepal level
- ◆ Implementing partner level
- ◆ Local community level

On how community levels - and on how stakeholders at each level can play a positive and effective role in sustainable water resource management. WaterAid will engage in WRM to guarantee access poor to safe domestic water among other competing needs.

WaterAid's focus is on funding partner organisations to help communities set up and maintain water, sanitation and hygiene activities. WRM can act as a catalyst for communities to carry out further development work themselves, enabling them to address the issues of water depletion and contamination, the activities towards minimizing wastage of water at community level including wastewater, management of water resource at catchments scale and activities towards better and more sustainable futures. The scaling up of such activities and lessons, combined with policy advocacy would impact on national level actors and actions. Recognition of a WRM approach by the organisation and its partners and supporters calls for a departure from the restricted three dimensional sector focused approach, i.e., water, sanitation and hygiene promotion towards a fuller integration of the different aspects of water consumption and use. For the community to act as a role player in management of water resource at local level, it is required to build capacities on the community in integrated planning and management of local water resources.

WaterAid's approach on WRM specifies that capacity gaps exist at various levels surrounding WRM. WaterAid therefore will make an effort to enhance the capacity

on WRM through training, exposure visits preparation of participatory water and environmental sanitation plan, water use master plan, training of trainers on different WRM tools and techniques (eg rain water harvesting, value based water education, ground water recharge, source protection, water bodies rehabilitation, sanitary surveillance, liquid and solid waste management, ecological sanitation and water, waste water treatment technologies etc) in relation to WASH delivery and other appropriate ways of WRM. All staff and partners will need to have a better understanding of WRM. One of the components of the capacity building is to train the applications to the community people. On WRM approach for its further application at local community and this purpose, the manual has been developed and intended to be widely used.

1.4 About the manual

This Training Manual on Water resource management: Integrated planning and management at community level has been developed by WaterAid for use by its staff and partner organisations to conduct training at community level on WRM. The manual will be used as a resource material by Professionals/Trainers and other organisations and stakeholders working and contributing in this sector and beyond including other grass root level organisations engaged for implementation of community water resource management at local level.

The manual will help the professionals to build capacity of communities to manage local water resources through integrated planning and management. The training manual comprises of seven sessions as detailed along with instructions to the trainers/facilitators.

The first session is designed as an “ice breaking” session. The second session deals with the components of a WRM plan. The third session focuses on analysis of problems in WRM. The fourth session focus on setting objectives for community water resource initiatives and plans and the fifth session on identification of resources needed for WRM plan. The sixth and seventh sessions focus on identification of roles and responsibilities of community members, development of a WRM plan and monitoring and evaluation of the plan.

The schedule of the three day long training is provided in the Annex 1 and evaluation format of the training in Annex 2.

1.5 Target group

The target group of the training on “Water Resource Management: Integrated Planning and Management at community level” are community groups and individuals directly related to water resource management at community level and at the village level. But can also be extended to district level as relevant and appropriate.

1.6 Objective of the training

The overall objective of the training is to adopt and apply WRM principles at the community level and village level to enhance the sustainability and maximize the impact in the WATSAN service delivery programme.

Specific objectives

Specific objectives of the training are;

- ◆ To increase the knowledge of the participants on integrated use and management of community water resources without deterioration of source and quality.
- ◆ To build the capacity of the participants on implementing actions to resolve

the problems related to use and management of local water resource through proper planning.

- ◆ To prepare community water resource management plans by using seven point strategy of problem solving.
- ◆ To orient participants on WaterAid’s approach and policy towards WRM in WASH services and build their capacities to address the minimum conditions of WaterAid’s WRM approach while implementing the programme and projects.

1.7 Expected outcomes

At the end of the training, the participants would have acquired the skills and competencies to prepare a community water resources management plan and will have understood the WRM tools and techniques to be used at least at community and village level, which enable the participants to;

- ◆ Acquire knowledge on community water resources management planning and its components in general and in relation to WASH in particular
- ◆ Analyze the problems of water resource management
- ◆ Set objectives of a community water resources management and its plan
- ◆ Develop a community water resources management plan by using seven point strategy prior implementing integrated WASH activities
- ◆ Identify resources needed for implementing/materializing community resources management initiatives
- ◆ Identify roles and responsibilities of community members in WRM
- ◆ Monitor and evaluate the community water resources management initiatives according to prepared WRM plan
- ◆ Develop local cadres in WRM initiatives to implement WASH programmes and projects.



First session

Introduction, objectives and expectation of the training

 Time: 2 Hours

Objectives of session

By the end of this session, following objectives will be achieved:

- ◆ Participants are introduced to each other.
- ◆ Expectations from the workshop are identified
- ◆ Participants' skills and knowledge on water resource management are discussed.
- ◆ Objectives and schedule of the workshop are discussed and agreed.
- ◆ Rules for workshop are discussed and defined by participants.

Materials required

- ◆ Newsprint and marker
- ◆ Pen and paper
- ◆ Meta cards
- ◆ Schedule of workshop
- ◆ Workshop rules

Activity 1: Welcome to participants and opening of training 15 min

Start the session with a welcome message to all participants. Introduce yourself and brief the participants about who organised the training and the objectives of the training.

Activity 2: Introduction 15 min

Ask the participants to get into pairs and give 10 minutes to talk and get to know each other. Ask them to use the following questions for conversation.

 10 minutes

- ◆ What is your name and how do you prefer to be addressed?
- ◆ Where do you come from?
- ◆ Where do you work and for how long you are working there?

In addition to the above questions, ask the participants to share and focus their questions on their skills, capacity and experience related to community water resource management including other subject matter

supporting to the objectives of the training. It will also be an opportunity for them to say some facts about themselves and share with the group, which will be remembered throughout the training and later.

At the end, ask them to introduce their pair to the group. 🕒 10 minutes

Activity 3: Expectation of participants 🕒 30 minutes

Ask each participant to write their expectations from the training on the Meta cards. Divide all the participants into four groups and initiate group discussion on expectations from the training. Ask them to select and write in newsprint paper up to three important expectations from the pool. After group discussion completes, ask the groups to choose one of the members to present on the group work. Display the presented newsprint paper on the wall and point out the common expectations from the presentations. Ask the group members to clarify any unclear expectations. The group work may be of 15 minutes duration and another 15 minutes for clarification and feedback.

Activity 4: Objectives of the training 🕒 20 minutes

The training written down and allow the distribute newsprint with the objectives of participants to read. Clarify the unclear objectives and initiate discussion on how many of the objectives mentioned are aligned with the expectations. Write the comments and suggestion from the floor in the newsprint paper.

Activity 5: Schedule of the training 🕒 15 minutes

Distribute the schedule of the training to participants and highlight the following information.

- 💧 Time schedule
- 💧 In house sessions
- 💧 Field visit

Activity 6: Rules of the training 🕒 20 minutes

Propose the following rules of training to the participants.

- 💧 Division of responsibility.
- 💧 Active participation in all the session of training.
- 💧 Opening and closing of session in fixed time period.
- 💧 Respect the opinion of other participants.
- 💧 Supporting each other's opinions.

Disseminate these rules to the participants and initiate discussion on rules of the training. Ask if there are any other rules participants would like to include. Finalize the rules of training after discussion and write up to display during further training sessions. Emphasizing on the session being useful for increasing knowledge and skills of participants and motivating the participants to participate effectively during identification of objectives of community water resource management, close the session.

Instruction to resource person

- 💧 It is important that the objectives and schedule should be shared before the participants come to the training. Participants should present their expectations before they discuss in detail about objectives and schedule of training in the beginning. If there is common expectation and also expectation matches to the objectives and schedule of training, then it

would be easier for participants to learn.

- There are chances that some expectations do not match. Resource persons should not spend a lot of time making discussion of expectation outside the objectives of training. The resource person should explain the objectives and scope of the training and to satisfy the participants if their expectations are outside objectives. However if these expectations are significant and can be included in

training then few changes could be made in objectives and schedule.

- Display the objectives, schedule and rules of the training on the wall so that they could be used during the training.
- Unachievable expectations will not enable the objectives of training to be met. To prevent such a situation occurring, participants should discuss what they want to learn in the training and compare their expectations with the schedule and objectives of the training.



Second session

Components of WRM initiatives



Time: 1 Hour

Objectives of session

- ◆ Identification of different components of Water Resource Management initiatives.
- ◆ Discussion on role of planner and implementer for the success of the WRM initiatives including plan
- ◆ Identification of constraints and challenges to successful implementation of WRM initiatives
- ◆ Identification of solutions to the constraints and challenges identified.
- ◆ Orientation on WaterAid's objectives and perception on WRM and its minimum conditions for effective WASH service delivery and integration of WRM.

Materials required

- ◆ Newsprint and marker
- ◆ Pen and paper
- ◆ Pictorial demonstration chart on Community Water Resource Management Planning Cycle.

Methodology

Activity 1: Lecture and discussion on WRM initiatives

 30 min

The lecture on WRM (refer WaterAid's policy guideline on WRM) is necessary before initiating discussion in the group. Explain the meaning of integrated and community water resource management initiatives and planning cycle (see Figure 1). During the lecture relation of IWRM and WRM should be explained. The technical and social components of WRM and data recording (mainly water quality, hydro geology and socio economic) should be thoroughly discussed during lecture. Mainly the concept, tools and techniques of WRM should be emphasized while

Figure 1: Community Water Resource Management Planning Cycle



designing water, sanitation and hygiene projects to ensure that the minimum requirements of WaterAid’s Global Strategy as mentioned earlier are achieved. Then initiate group discussion.

Divide the participants into 5-6 members’ small groups and ask each group to initiate discussion on questions “What is a WRM, what does WRM mean at community level, who are the stakeholders responsible for, how it is in common and different from IWRM and conventional approach, what is the scope and limitation in context of WASH, where WRM is applicable and when should be WRM be applied?” The participants should be clearly briefed about WRM during lecture session before the discussion starts.

Ask the participants to write the issues from discussion in the newsprint paper for presentation. At the end of activity, ask one of the group members to present the outcomes.

The lecture may be 15 mins, discussion about 10 mins and feedback about 5 mins each.

Activity 2: Identification of components of WRM

30 min

Ask the participants to share their experience on reasons for failure or success of WRM approach and how to make successful implementation of the overall initiatives. Divide the participants into 5-6 members’ smaller groups (theme wise) and give following questions for discussion. The participants should consider those projects which they think include WRM approach while they implemented them.

Question 1: What are the successful components of a successful community water resource management?

Question 2: What are the barriers for implementation of WRM initiatives?

Two groups can be formed so that they discuss above two questions under separate themes as Technical and Administrative theme and Institutional, Cultural and Social theme.

Ask each group to write the outcomes in newsprint paper and select one of the group members from each group for presentation to the whole group. After smaller groups finished discussion to the whole group, initiate discussion on the question and comments raised.

Close the session by assuring the participants that the points identified by the participants will be important for CWRM implementation. Also express the view that one of the objectives of the workshop is to help participant to identify different successes and barriers of successful implementation of community water resource management initiatives.

Instruction to resource person

The resource persons need to bring the issues in discussion and ensure the group considers the following issues while discussing with the whole group.

- ◆ Involvement of community in all stages of planning and implementation
- ◆ Mention clearly the roles and responsibilities
- ◆ Volume of work and work schedule
- ◆ Tools for monitoring
- ◆ Tools for capacity building of members for effective operation of CWRM
- ◆ Ownership and participation of community

The instructor also should be aware and clearly explain what WaterAid programmes can do and can not do. When projects are externally funded, we cannot expect that it will be able to satisfy fully the demand for water and sanitation services for the poor.

If full coverage is to be achieved, then people will need to implement their own services. National and local governments must draw up policies and strategies for ensuring that best practices in WATSAN as developed for individual projects need to be scaled up or replicated in other areas.

WaterAid programmes can generally work on WRM at a community, district or sub regional scale and usually not at sub national or international scale. WaterAid's focus is on domestic water and does not have expertise in agricultural and industrial uses of water. The large scale projects are outside scope of WaterAid. WaterAid can assist in setting up local and sub regional systems for collecting, storing and assessing data and can lobby government for handling large scale and basin level systems to hold and interpret data.

For details on this, refer WRM Workshop, Addis Ababa, March 2007 document.



Third session

Analysis of problem of water resource management

 Time: 2 Hours

Objectives of session

- ◆ Identification and analysis of problems (including reasons and effects)
- ◆ To build the skill of participants on using seven point strategy for problem solving.

Materials required

- ◆ Pictorial Chart on seven point strategy of problem solving (See Figure 2).
- ◆ Newsprint, marker, meta cards, paper, and pen
- ◆ Direction for using the fish bowl method

Methodology

Activity 1: Learning seven point strategy of problem solving 1 hour

Show Figure 2 and brief the participants about the seven point strategy of problem solving, emphasize during the briefing which problems that arise in daily activities could be solved systematically by this method.

Figure 2: Seven points strategy of problem solving



Distribute seven point strategy charts to participants. Divide participants to two smaller groups (Group A and Group B) for the fish bowl method. Provide any one topic from the barriers identified in the previous session to the group for discussion. They are supposed to apply the whole seven step strategy during discussion. For this exercise, Group A should be seated in the middle of the room and Group B should be seated around group A. Sitting arrangement should be made in such a way that Group B could listen and observe the discussion of Group A but could not interfere.

However, the number of participants can be divided into more than 2 groups and learning process can be done accordingly as stated above for allowing groups to learn and discuss. 🕒 30 minutes

Ask the following questions to all the members of both groups after discussion. 🕒 15 minutes

- 💡 On what aspect did the group focus on?
- 💡 Was Group A able to reach to a common agreement? If not why?
- 💡 What types of problems arose?
- 💡 Was the communication within the group fine? Did any members take the leadership role?
- 💡 Did all the members participate in the discussion?

After completion of the fish bowl method, initiate discussion in whole group on following issues. 🕒 15 minutes

- 💡 How could the methodology used in activity 1 be helpful in problem solving using seven point strategies?

- 💡 What types of problems/issues could arise if the problems are not carefully solved?

Note: Fish Bowl Method is one of the tools to learn and understand processes and steps of seven point strategies.

Activity 2: : Identification and analysis of problems, and solutions on WRM at local level 🕒 1 hour

Divide the participants into three small groups and give them following task.

Small group activity: 🕒 25 minutes

Request each small group participants to select one of the problems on water resource management experienced by them in their working area. The problem may be unavailability of technical data, community participation and technology choices on WATSAN etc. Ask them to discuss and write the answers to following question related to the problem in the Meta cards.

- 💡 What are the causes of the problem? What other information is required for the problem identification?
- 💡 Write three solutions of the problem and select one of the best.

Whole group work: 🕒 25 minutes

Ask the small groups to rejoin the whole group and initiate discussion on following questions.

- 💡 What did you learn from each smaller group's problems?
- 💡 Was it easy to analyze the problems and find new solutions?
- 💡 How much does this method/exercise match with the real life?

Close the session informing the participants that the problems and selected solution shall be the base for preparing the objectives of water resource management plan in the next session.

 10 minutes

this an example may be taken by the group for illustration and the resource person should facilitate the participants to come up with good understanding of the seven points strategy. The example may be taken as problem of technology choice on water supply system.

Instruction to resource person

The resource person should be well prepared in the steps of the seven points strategy from problem identification through evaluation. If the participants face difficulty in following the steps, ask them to follow instructions as given below. For

- ◆ Clarity of all participants on problems.
- ◆ Brainstorming the causes of problems.
- ◆ Find the solution right after identification of the problem.
- ◆ To find the correct solutions for identified problems.
- ◆ If the solution can be implemented, what are the various activities?



Fourth session

Objectives of water resource management at community level



Time: 2 Hours

Objectives of session

- ◆ Identification and formulation of objectives of community water resource management Initiatives and plan
- ◆ Analysis of objectives of the initiatives (Clarity, possibility, relationship, and on the basis of whether overall objectives of WRM at community/village level and plan could be measured or not)

Materials required

- ◆ Meta cards, newsprint paper and marker
- ◆ Paper and pen
- ◆ Copy of objectives of one of the established project for analysis by participants.

Methodology

Activity 1: Features of objectives of WRM approach and good plan

1 hour

Initiate discussion by asking the following questions to participants to find the different elements of objectives of WRM and a good plan.

- ◆ What types of information are required for inclusion in objectives of WRM and the plan? 15 minutes
- ◆ Why is it important to formulate the objectives of WRM and the plan on measurable basis? 15 minutes
- ◆ What will happen if the objectives of the WRM and plan are clear and measurable but difficult to achieve? 15 minutes

Note down the answer in the newsprint paper displayed in front of participants. Summarize the outcomes at the end of session.

15 minutes

Activity 2: Formulation of objectives

🕒 1 hour

Distribute news prints to participants to write down the problems identified in earlier third session. Also distribute objectives of one of the established project for reference to participants. Ask the participants to write one productive and one capacity building objective to address each problem in the Meta cards. Display the Meta cards on the board and categorize similar objectives into groups through discussion. Summarize the outcomes at the end of session

Instruction to resource person

1. Objectives of a good WRM plan should meet the following factors.
 - ◆ Measurable (On the basis of character)
 - ◆ Relevancy (related to recognized problems)
 - ◆ Feasibility (Logical chance of success)
 - ◆ Productive objectives generally could be measured in quantity. For example, per hectare crop production, no. of family that obtained primary health care service etc.
2. Identify the following type of questions to be asked during the activity of setting objectives of CWRM and plan.
 - ◆ What changes are required and intended?
 - ◆ How much? For whom? Where? When?
3. Even after identification of problems, it is difficult to find the solution until the activities to be performed for water resource management are identified. The objectives of the plan should be clear enough to describe what are we going to achieve? Otherwise the plan prepared could experience problems during implementation. The session shall focus on identification and analysis of objectives of water resource management at community.
 - ◆ Capacity building objectives could be measured using observations, interviews and quantifiable methods. For example, involvement of trained personnel in maintenance of water supply system, community leaders prepare the proposal for village improvement on self expenses etc.



Fifth session

Identification of resources required for WRM initiatives at community level



Time: 2 Hours

Objectives of the session

- ◆ Identification of resources required for successful implementation of WRM initiatives and plan.
- ◆ Preparation of checklist of resources required for various WRM activities in community.
- ◆ Identification of factors that make the resources feasible and meaningful.
- ◆ Discussion for setting value of required resources.

Materials required

- ◆ Newsprint paper
- ◆ Marker, paper and pen
- ◆ Newsprint paper with mention on different types of resources

Methodology

Activity 1: Identification of resource

 30 min

Write the topics “Types of resources required for implementation of a plan” and allow the participants to present some examples based on experiences in their own community. List the resources identified by the participants in the newsprint paper. Display the newsprint paper with mention on different types of resources and compare with the resources identified by participants.

Activity 2: Factors that make resources feasible

 30 min

Initiate the discussion on factors that makes the resources used in the plan suitable and prepare the checklist.

Activity 3: Advantage and drawbacks of external support 30 min

Divide the participants into two groups and ask one group to identify and discuss on advantages of external support. Ask second group to identify and discuss the drawbacks of external support. Ask the participants to write the advantages and drawbacks in the newsprint paper. At the end of session, allow one member from each group to present the groups' findings. Summarize the findings of the discussion to participants.

Activity 4: Strategy for minimising drawbacks of external resources 30 min

Divide the participants into four groups and ask them to identify a strategy for minimizing the drawbacks of using external resources in a plan. Tell them to write the identified strategy in newsprint paper for discussion in larger group. Initiate discussions in larger group on outcomes of group work in smaller groups. Instruct the participants to write the most suitable recommendation from what has been discussed in the group work.

Instruction to resource person

Following are the different types of resources. Write them in newsprint paper for comparing them with examples presented by the participants during session.

- ◆ Human Resources: community members, volunteers, technician, consultant, trainer, facilitator etc.
- ◆ Physical: tools, equipments, seeds etc.
- ◆ Financial: donations, bank loan, institutional grant etc.

- ◆ Technical: technical capacity of the quality level, set for implementation.
- ◆ Informative: books, records, thesis etc.

Instruct the participants that following matters should be included in the list of factors that makes the resources suitable.

- ◆ Availability at local level, reliable and as per expectation
- ◆ Technically reliable/feasible
- ◆ Less cost intensive
- ◆ Environmental friendliness/sensitiveness
- ◆ Sustainable

Identification of resources is an important stage of designing a CWRM initiative and plan. Mention to the participants that resource identification should be done in a careful manner to meet the objectives of the CWRM initiatives and a plan. The participants will be involved in experience sharing at the community with some examples. During the activity, brief the participants not to concentrate on the examples provided by them on funds and materials only but to make careful consideration of other factors also. Also, mention to the participants that dependence on the easily available and non functioning technologies in terms of external resources should be avoided in various stages of community water resource management. However, sometimes external support is also required during the use of resources available at local level; however such grant support should be taken only after thorough assessment of utilization of local alternatives.

7

Sixth session Identification of roles and responsibilities for preparing and implementing WRM plan

 Time: 3 Hours

Objectives of session

- ◆ To enhance the skill of participants on development of CWRM plans with initiatives
- ◆ To identify the roles and responsibilities of different members of the local community for preparing WRM plan at community/village level and its implementation using ARISC formula.

Materials required

- ◆ Newsprint paper
- ◆ Marker, paper and pen
- ◆ WRM Planning format
- ◆ ARISC formula format
- ◆ Newsprint paper with list of community members who can participate in implementation of WRM plan

Methodology

Activity 1: Identification of roles of community members in implementation of WRM initiatives 20 min

Write the topics “Roles of community members in implementation of WRM initiatives” in newsprint paper and ask the meaning of the topic to the participants. Write the main points of every definition in newsprint paper and display. Ask the participants about different members of community who could play a role in the initiatives. List the identified role player in the community in the newsprint paper. Compare the list from discussion with already prepared list by displaying in front of the participants.

Activity 2: Lesson on using ARISC (Approval, Responsibility, Information, Supervision and Consultation) formula in identification of roles and responsibilities of community members in implementation of WRM initiatives  40 min

Explain the ARISC formula to the participants. Divide the participants into four groups. Instruct the groups to identify and prepare a list of activities to meet the objectives identified in previous session. Each group may be provided with one or two objectives depending upon the number of objectives and number of groups made among the participants. Also instruct them to identify the roles and responsibilities of different members of community in implementing those activities and fill in the table using ARISC formula.

Activity 3: Formulation of WRM initiatives  2 hours

Distribute WRM planning format to participants. Describe each column of the format.  40 min

Divide the participants into four groups and ask each group to formulate the WRM activities for water resource management at local level.  40 min

Allow each group to present their plan at the end of group work. Initiate discussion to clarify any unclear matters from the group work.  40 min

Instruction and materials for resource person

- Following members of community can participate in planning.
 - Local representatives
 - Members and officials of committee
 - Organisational staff
 - Technician and technical advisor
 - Local women
 - Intellectuals in the community
- ARISC formula could be used for delegation of responsibility in development of the WRM initiatives. The resource persons will have to be well aware on using this technique as well as WRM planning format. The ARISC chart and WRM planning format are given below as an example:

Activity (for example)	Approval	Responsibility	Information	Supervision	Consultation
Water source Protection/ Fencing					

8

Seventh session Monitoring and evaluation



Time: 2 Hours

Objectives of the session

- ◆ Understand the importance and purposes of monitoring and evaluation
- ◆ Identify the difference between monitoring and evaluation.
- ◆ Understand participatory or community based monitoring and evaluation (CME)
- ◆ Identify the necessary components of effective monitoring and evaluation.
- ◆ Prepare the checklist of monitoring and evaluation of WRM initiatives including plan.

Materials required

- ◆ Newsprint paper, marker, paper and pen.
- ◆ Objectives and indicators of model project.

Methodology

Activity 1: Lesson on monitoring and evaluation

30 min

Write the topics “Monitoring” and “Evaluation” in newsprint paper and instruct the participants to define them. Explain to the participants:

- ◆ What is monitoring and evaluation?
- ◆ Where and why is monitoring and evaluation required?
- ◆ What is participatory monitoring or community based monitoring and evaluation (CME)?
- ◆ How, where and when is it carried out?
- ◆ Who is responsible?
- ◆ Where to report?

Here focus need to be given to CME, which WaterAid is promoting through its implementing partner organisations in their projects.

Activity 2: Preparation of monitoring of CWRM plan 45 min

Divide participant into four groups and ask the participants to prepare a monitoring plan for activities listed in the CWRM initiatives prepared in session six based on question below;

- ◆ What to monitor?
- ◆ When?
- ◆ Who will monitor?
- ◆ How?
- ◆ Where to report?
- ◆ What is the learning from monitoring and evaluation?
- ◆ What actions to be taken?

After the group work, ask the members of groups to present on the outcomes.

Activity 3: Identification of indicators for evaluation 45 min

Explain to the participants about the indicators for evaluation of a project. Distribute the objectives and indicators of a model project. Divide the participants into four groups and ask them to identify different indicators for evaluation for the objectives they have identified in fourth session. Provide newspaper paper to each group and instruct the groups to write the identified indicators in the paper. Instruct the groups to select one of the members for presentation. Summarise the outcome at the end of session.

Brief the participants that evaluation methods are lesson learning tools for everyone related to CWRM. Close the session, emphasising that monitoring and evaluation supports in enhancing local capacity and it helps community to understand how to make community water resource management initiative successful at the community/village level.

Instruction to resource person

- ◆ Monitoring means – regular inspection of activities to be performed within the WRM initiatives.
- ◆ Evaluation means – to compare the real outcomes after implementation of WRM initiatives with the objectives set and analyse the outcomes.
- ◆ Make participant understand that monitoring and evaluation needs to be done from time to time during the implementation of WRM initiatives but monitoring is to be done more frequent.
- ◆ Following factors need to be considered during monitoring.
 - ◆ Activities in WRM initiatives
 - ◆ Expenditure till now
 - ◆ Availability of materials
 - ◆ State of work schedule.
 - ◆ Administrative works.
- ◆ Monitoring provides the method for measurement and correction of activities during implementation of WRM initiatives. Evaluation provides information about the goals to be achieved after implementation of WRM initiatives.
- ◆ Following factors need to be considered during evaluation.
 - ◆ Whether the intended changes were achieved or not.
 - ◆ Improvement in skill and capacity
 - ◆ Were the activities according to objectives?
 - ◆ Was the budget enough?
 - ◆ Were there additional benefits/ advantages?
 - ◆ Regular maintenance could be done or not?

In this monitoring and evaluation, basically participatory and community based monitoring mechanism as being followed by WaterAid in Nepal can be used.



Final session

Evaluation and closing

 Time: 45 minutes

Objectives of the session

- ◆ Evaluation of the training programme as a whole.
- ◆ Closing of the training

Materials required

- ◆ Evaluation format
- ◆ Pen or pencil

Methodology

Activity 1: Evaluation of the training

 15 min

Distribute the evaluation form as per Annex 2 to all the participants and ask them to fill the form. Collect the form and keep them for reference in future.

Activity 2: Closing

 30 min

Briefly summarize the whole training proceedings and outcomes, close the session. Based on the situation the closing may be done in informal or formal way.

Annex: 1

Training schedule

Time / Date	10:00-12:00	12:00-12:15	12:15-1:15	1:15-1:45	2:45-4:45	4:45-5:30
Day first	Introduction, objectives and expectation of the training	Tea break	Components of WRM initiatives	Lunch break	Analysis of problems of WRM	Review
Day second	Objectives of WRM at community level	Tea break	Identification of resources required for WRM initiatives	Lunch break	<ul style="list-style-type: none"> ◆ Identification of resources required for WRM initiatives at community level (Contd.) ◆ Identification of roles and responsibility for preparing and implementing WRM plan 	Review
Day third	Preparing (development) of WRM plan	Tea break	Preparing (development) of WRM plan (Contd.)	Lunch break	Monitoring and evaluation	<ul style="list-style-type: none"> ◆ Evaluation ◆ Closing

Annex: 2

Evaluation form

Training programme on WRM: Integrated planning and management at community level

1.1 General

SN		Scores					Comments/Suggestions
1	Meet the objectives of the Training	1	2	3	4	5	
		Respondents					
2	Achieved the outputs of the Training	Scores					
		1	2	3	4	5	
		Respondents					
3	Meet the expectations shared in the Training	Scores					
		1	2	3	4	5	
		Respondents					
4	Facilitations in the Training	Scores					
		1	2	3	4	5	
		Respondents					
5	Most appropriate session in the Training						

Note:

score 1 is lowest and 5 is highest

Comments/suggestions should be:

1. How is the course content?

2. Is this course enough?

3. How is deliberation? Resource person.

4. Any other.....

1.2 Session specific

SN		Scores					Comments/Suggestions
		1	2	3	4	5	
1	Introduction and sharing of objectives	1	2	3	4	5	
		Respondents					
2	Components of WRM initiatives	Scores					
		1	2	3	4	5	
		Respondents					
3	Analysis of problems of WRM	Scores					
		1	2	3	4	5	
		Respondents					
4	Objectives of WRM initiatives at community level	Scores					
		1	2	3	4	5	
		Respondents					
5	Identification of resources required for WRM initiatives at community level	Scores					
		1	2	3	4	5	
		Respondents					
6	Identification of roles and responsibilities for preparing and implementing WRM plan (development of WRM initiative plan)	Scores					
		1	2	3	4	5	
		Respondents					
7	Monitoring and evaluation	Scores					
		1	2	3	4	5	
		Respondents					

References

IRC International Water and Sanitation Centre (1999) ***Integrated Water Resource Management (IWRM) in Water and Sanitation Projects (Lessons from Projects in Africa, Asia and South America)***: Occasional Paper Series (OP31E)

Cap-Net and UNDP (2000) ***Tutorial on Basic Principles of Integrated Water Resource Management (IWRM)***

GWP (2000) ***The IWRM Tool Box*** (Contains a range of tools and case studies including water and sanitation)

Hassing J (2000) ***Working with IWRM***

GWP (TEC) (2004) ***Catalyzing Change: A Handbook for Developing Integrated Water Resource Management (IWRM) and Water Efficiency Strategies***

GWP (Technical Advisory Committee – TAC) (2000) ***Integrated Water Resource Management (IWRM): Background Papers***, No. 4

Moriarty, P. et. Al., IRC International Water and Sanitation Centre (2004) ***Integrated Water Resource Management (IWRM): Thematic Overview Paper***

Cap-Net, GWP, UNDP (2005) ***Integrated Water Resource Management (IWRM plans): Training Manual and Operational Guide***

WaterAid (2005) ***Report on Global Integrated Water Resource Management (IWRM) Inception Workshop*** (organized by WaterAid in Abuja)

WaterAid Nepal (2006) ***Approach on Community Based Water Resource Management (WRM): A Guideline*** (Unpublished)

WaterAid (2006) *Integrated Water Resource Management: Proposition Paper*

WaterAid Nepal (2007) *Proceeding Report on Training cum Workshop on Water Resource Management (WRM)* (Volume: I and II)

Hafren Water (2007) *Water Resource Management Principles and Means of Practical Implementation* (working draft), Produced for Community Water Resource Management (CWRM) Workshop organized by WaterAid in Addis Ababa, Ethiopia

WaterAid (2008) *Water Resource Management (WRM) Policy*

WaterAid Nepal (2009) *Policy Guidelines on Water Resource Management (WRM)*

WaterAid Nepal (2010) *Water Quality Standards and Testing Policy* (Updated)



WaterAid transforms lives by improving access to safe water, hygiene and sanitation in the world's poorest communities. We work with partners and influence decision-makers to maximise our impact.

For more information, please contact:

WaterAid in Nepal

Kupondole, Lalitpur, Nepal

GPO Box: 20214, Kathmandu, Nepal

Telephone: + 977 1 5552764/ 5552765/ 5011625

Fax: + 977 1 5547420

Email: wateraidnepal@wateraid.org

www.nepal.wateraid.org