

● **The PMU Implementation Manuals**

Volume III:

Monitoring and Evaluation

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● **Bangladesh Arsenic Mitigation
Water Supply Project (BAMWSP)
Dhaka, Bangladesh**

● **The PMU Implementation Manuals**

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Preface to Volume III, The M&E Manual

This manual is part of a set of four manuals prepared by a Bangladesh/International Team on request of the Task Managers of the Bangladesh Arsenic Mitigation and Water Supply Project (BAMWSP). The other manuals are Vol. I, Operations, Vol. II, Training and Vol. IV, Sourcebook.

Vol. I, Operations, describes the operational procedures of the project and contains the project forms. Vol. II, Training, contains the training and support strategies and the course outlines; and Vol. IV, Sourcebook, contains the background information on contamination of drinking water and a series of fact sheets and guidance sheets on choices in technology and local maintenance, management and financing systems.

The purpose of the manuals is to help SOs and PMU assist communities in making, implementing and managing informed choices on technologies and service levels and local maintenance, management and financing systems, using a demand-based, participatory approach. They also contain information regarding gender and poverty aspects of this approach.

➤ **Purpose and Users of the Manual**

The purpose of this manual is to introduce the monitoring and evaluation system of the BAMWSP Project. The manual serves as the primary guideline to develop a detailed monitoring workplan and to elaborate a Management Information system, (MIS). The focus of the manual is further centered on familiarizing the reader with the concepts and approaches of participatory monitoring and evaluation as a component of decentralized, demand-based project management. The manual is based on the implementation steps as described in Project Implementation Plan (PIP) of BAMWSP and as operationalized in the Operations Manual's detailed description of the Project Cycle (See Volume 1, Operating Chapter 2).

Box 1: The Purpose of the Manual

- 1. Introduce the M&E system for the Project**
- 2. Guide the development of the monitoring plan**
- 3. Guide the development of the MIS**

Training of those who participate in implementing the process illustrated in this monitoring and evaluation manual is a must. Moreover, to internalize the M&E process and to make it participatory in real terms, the users of the project need to be involved in developing area- and scheme-specific indicators and in chalking-out the detailed work plan. This may be done at the beginning of the planning phase as well as at the middle of the implementation phase by holding participatory workshops involving all the stakeholders of the project, including male and female representatives from villages. In this way the number of the indicators may be significantly reduced while the monitoring activities may become much more focused

and effective. The process will also give the participants a better insight in the monitoring process as well as a sense of ownership. The latter is a crucial factor in making any participatory process effective.

Box 2: Users and Use of the Manual

The manual is intended to be used:

- 1. By staff and consultants of the PMU and RPMUs to design the M&E system**
- 2. For the orientation of SOs and others to the M&E process**
- 3. As reference document in setting indicators and choosing methods and tools**

In its present form, the manual caters primarily to the needs of the staff and consultants of the PMU and RPMU responsible for designing a monitoring and evaluation system and in orienting the SOs and other parties involved in the process.

The manual aims not to provide any rigid framework to be followed to implement monitoring activities. Rather it aims to facilitate the stakeholder process of setting up an effective bottom-up monitoring and evaluation process by bringing in the principles of participatory monitoring and evaluation as practiced in other parts of the globe.

For access to experiences elsewhere the team used reference materials on monitoring and evaluation in Bangladesh and the region, as well as key documents on water, sanitation and hygiene monitoring from developing countries outside the region. The list of these documents has been annexed at the end of the document.

A Draft of this Manual, together with the three other manuals, was reviewed in a four-day workshop with the PMU, to agree on contents and draw up a final version.

Box 3: Elements Needed for a Successful M&E System

Key elements in setting up a successful M&E system are:

- 1. Training all those participating in the process**
- 2. Facilitating a process for setting up the system, rather than prescribing a rigid framework**
- 3. Ensuring that the system is participatory, with the users designing the indicators and work plan**

➤ What's in this Manual?

In this manual the basic strategy for the M&E is described. Under this strategy the community women and men, as prime stakeholders of the project and managers of its processes, monitor the planning and implementation for a better performance, management and result. The Support Organizations (SO) and the staff and consultants of the PMU carry out monitoring activities so as to better support the communities in their work and as an internal and triangular control for the overall success of the project.

The individual chapters of this manual are geared to the generation of monitoring information that will guide the project on a continuous basis to ensure achievement of the project objectives. The manual aims at creating a system in which the information collected through the monitoring activities is analyzed and utilized by the agents to know about the present state of affairs as well as to determine future activities for effective planning and implementation. The document is organized as follows:

In Chapter 1 an overview of the participatory monitoring and evaluation process is presented with a discussion of both the theoretical and practical aspects of the monitoring system.

Chapters 2 to 7 describe the monitoring as it relates to the direct project cycle and its follow up after completion of the construction with regard to:

- Pre-planning
- Planning
- Implementation
- Sustainability
- Impacts
- External evaluation

Each of the chapters gives the proposed monitoring indicators, followed by the methods and sources of information and its uses and users. For each type of monitoring three major levels of agents and users have been identified. These are:

- the communities/users/Community-Based Organizations (CBOs) at the grassroots level
- the Support Organizations (SO) at the support level
- the Project (PMU/RPMU) at the management level

At the end of each chapter a detailed matrix is included. They summarize the components of the proposed M&E system in the following way:

- Each matrix has seven columns. These read from left to right as:
- Domain: Describes the broad aspects of monitoring, based on the declared project objectives, outputs and assumptions,
- Issue: Describes monitoring issues or issues;
- Indicators: Describes the objectives and specific measures of the results of the project,
- Agents: Identifies the particular actors who will gather and utilize the indicated information;
- Tools: Indicates which tools will be used to collect information on the

specific indicators or the various project components and at the different project levels;

- Expected Activities: Sets out the expected use of the information so that agents and participants of the project can have a better understanding of the desired use of the monitoring activities; and
- Referral Points: Indicates to whom the information should be given in the expected reaction does not occur.

Acknowledgments:

This M&E Volume was prepared for the PMU by the joint International /National Consulting Team. The primary authors of this volume were specialists Mr. A.K.M. Masud Ali of INCIDIN, Dhaka, and Ms. Christne van Wijk of IRC, Delft, The Netherlands. Other team members, including Jacob Pfohl of the Peopleworks Collaborative, Inc., Mr. Maarten Blokland from IHE, Delft who made substantial contributions. We also thank other members of the team for their suggestions for this volume: Mrs. Tahrunessah Abdullah, Dhaka, Mr. Shaikh A. Halim, Village Education Resource Center, (VERC), Savar, and Mr. Abdul Awal, of Technical Assistance for Rural Development (TARD), Dhaka.

The Team would like to also thank Mr. Farid Uddin Ahmed Mia, Director of the PMU and his staff for comments for improving and finalizing these manuals, and comments received from the World Bank, WHO and the Swiss Development Corporation (SDC).

Material was drawn from many sources, including local experience of the national experts in both governmental and nongovernmental programmes, the RWS-ES Project in Uttar Pradesh, India , the JAKPAS Pilot Project and the RWSS Project in Nepal, and the Swiss Development Corporation Assisted DASCOH Project in Bangladesh, and many other bilaterally-aided projects in Asia, Africa, and Latin America.

Specific references of resources from which ideas were drawn for this volume are also annexed to this volume.

Glossary of M&E Terms

This manual uses a monitoring terminology, which may not immediately be familiar to all readers, especially those not used to monitoring or to monitoring in its more participatory forms. The specific meaning of each of the terms as used in this manual has therefore been set out in the list below.

Analysis, Interpretation and Utilization	The systematic organization of information gathered so that each major stakeholder acts on evaluation findings.
Purpose	The primary reason to undertake an evaluation.
Concerns	The factors that stakeholders think may threaten the success of the projects.
Effects	Results of the use of outputs generated from the project.
Evaluation	An objective assessment of how the project is performing both in terms of service delivery and the process of service delivery, what effect it is having upon the target beneficiaries and how sustainable it is in terms of management, finance and environmental consideration.
Evidence	The product of analysis that infers whether the change has occurred.
Focus	The priority questions which the monitoring and evaluation examines.
Impact	Outcomes of the results of the project activities; gender desegregated net effects on socio-economic status as well as the environment.
Impact Monitoring	The periodic collection of information to determine whether the BAMWSP Project is having its intended effect.
Indicator	A key piece of information or data, which when studied over time, points to a change.
Information Gathering	Bringing together quantitative and qualitative information needed to answer focus questions.
Inputs	Financial, material, technical and human resources provided to the project in order to achieve the planned objectives.
Issues	Questions about the way a project is planned or carried out about which reasonable people may differ

Lessons	A conclusion that stakeholders may reach which allows them to transfer successes to other activities and not transfer failures.
M&E System	Parts arranged in order for use in measuring progress, and as a tool for analyzing data and using it in decision making.
Monitoring	The systematic collection and analysis of information, by its beneficiaries, management and donors, as a project progresses, to improve project effectiveness.
Objectives	Intended achievements, desired results.
Outputs	Goods, products, services or changes generated by the project activities, aimed at achieving the planned activities.
Participatory M&E	Monitoring and evaluation that is primarily carried out by the beneficiaries of the project as built-in management activities.
Patterns	Trends that objectively gathered information seems to imply.
Performance Monitoring	The systematic and periodic assessment of whether and the degree to which each party of BAMWSP contractual agreements is meeting its obligations.
Process Monitoring	The systematic and periodic assessments of how specific aspects of BAMWSP are being undertaken.
Referral	To whom information should be given if expected reaction does not occur
Reliability	The consistency of information gathered from one time to another and by different actors.
Stakeholders	All the organizations and individuals with a stake in the outcome of the project
Sustainability	The capacity to maintain service and benefits, both at the community and agency levels, without detrimental effects on the environment, even after the withdrawal of the external (managerial, financial and technical) assistance.
Target Beneficiaries	Identified/selected group of people intended to benefit /gain from the project.
Triangulation	The ability to use information from different sources to verify conclusions.
Validity	The extent to which information measures what it is supposed to measure.

**Bangladesh Arsenic Mitigation
Water Supply Project (BAMWSP)
Dhaka, Bangladesh**

Volume 3: Monitoring and Evaluation

Chapter 1 Principles of Monitoring and Evaluation

1.1 Definition of Monitoring and Evaluation

Monitoring has been defined as a surveillance system, to be used by those responsible for a project to see that everything goes as nearly as possible according to plan, and that project resources are not wasted. It is a system of continuous feedback, ongoing throughout the life of a project or program, and involves the review of each activity at every level of implementation.

Box 4: Definition of Monitoring

Monitoring is a surveillance system used by those responsible for a project to see that everything goes as nearly as possible according to plan and that Project resources are not wasted.

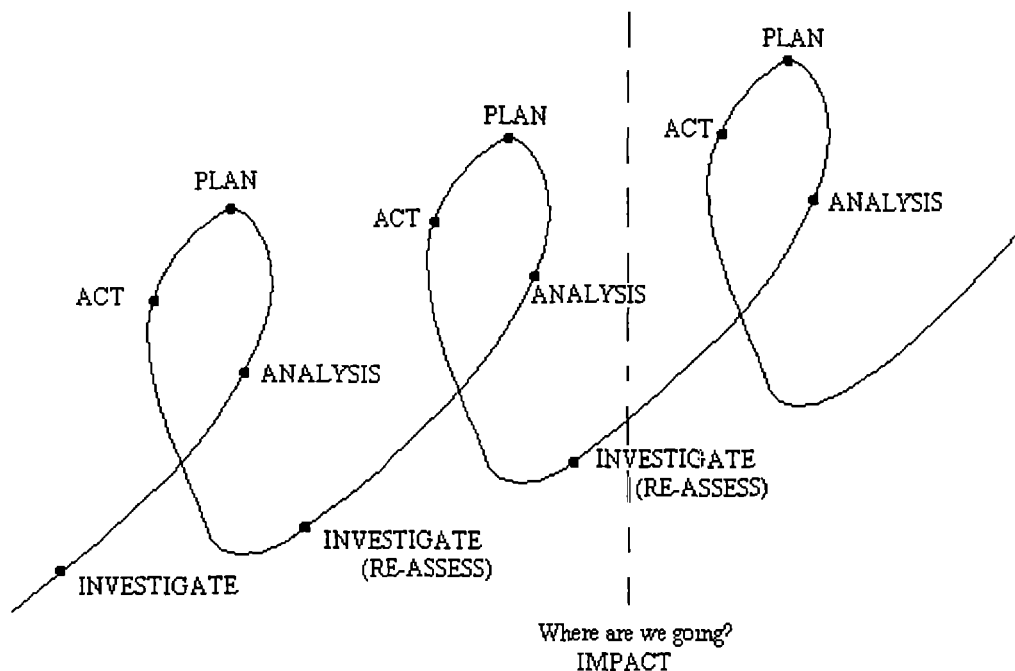
Evaluation is a learning and management tool in which data collected while monitoring is analyzed so that project objectives or policies may be adjusted or redefined, institutional arrangements may be reorganized or resources may be re-deployed as per necessity. Evaluation of a program or project usually concerns the assessment of the effects of the project processes and results on or for the intended users. This may involve benefits and negative effects in the short and in the long term.

Box 5: Definition of Evaluation

Evaluation is a learning and management tool. It analyzes the data collected during monitoring. The results of this analysis inform the user whether the project objectives, policies or the institutional arrangement need to be adjusted and/or whether resources need to be re-deployed.

Monitoring and planning are closely related. For example, a community, or a project plans an activity, then monitors its implementation and results. Analysis of the data leads to new planning, to do things better, or to take up a new activity, or batch, in follow-up to the first one. Thus monitoring and planning become a spiral process to do better or more, or both. This is illustrated in Fig. 1. below.

Fig. 1 The Planning and Monitoring Spiral



Source: Jacob Pfohl, "Participatory M & E , A User's Guide".PACT 1986.

1.2

Rationale of Participatory Monitoring and Evaluation

According to the Project Implementation Plan (PIP), the BAMWSP project will serve as a multi-agency umbrella effort, facilitating GOB, donors/lenders, NGOs, local governments and other interested parties to mount a well-coordinated and strategically aligned effort in Arsenic Mitigation - Water Supply/Sanitation Services. The project will follow a participatory, community based approach in financing awareness building interventions and water supply schemes in urban and rural communities. (PIP, pg.#13). Moreover, one of the outputs of the project is to strengthen "decentralized technical and socio-economic capacity to prepare and execute participatory and rural/urban' water supply and sanitation projects". (PAD, pg.#8) A gender and poverty perspective will be part and parcel of the project processes and results (PAD, pg.#16).

The participatory process is central in the project approach and therefore the monitoring will also be participatory in nature. In participatory monitoring, the community members - men, women, children, local committees, local government and special interest groups - become leaders and planners of activities which often can be simply described as "seeing", "checking", "measuring" and "acting on information if there is something wrong" (Box 6). This type of monitoring is an approach which is vertically linked with two-way information flow to CBOs, SOs, RPMU to PMU in such a way that the monitoring process is transparent, interactive and (part of) the findings can readily be fed into an MIS system.

Box 6: Participatory Monitoring in BAMWSP

In the BAMWSP Project water supply projects are planned, implemented and managed by the communities; and the role of the SOs and PMU is to help them. Therefore each party will do their particular surveillance: the community organisations, the SOs and the (R)PMUs. This monitoring includes both self-assessment (how well are we doing?) and assessment of others (how well are the other partners doing) The monitoring also indicates if and where improvements are required.

1.3 **Planning Participatory Monitoring and Evaluation Systems**

Participatory monitoring and evaluation is a process of formative evaluation in which activities are followed, potential problems and areas where the project needs improvement are identified, and achievement of goals and/or change in attitude are periodically tested. Formative evaluation is not judgmental, but is designed to assist or advise the project planners and implementers, including those in the communities themselves.

Participatory monitoring and evaluation involve the different partners in the project - the community members and CBOs, the SOs and the RPMUs and PMU - in measuring, recording, collecting, processing and communicating information. Each stakeholder - the members of the community groups, the CBOs and the overall project management - then use this information in their decision-making at their respective levels.

The process of planning a participatory monitoring and evaluation system begins with an agreement among the partners about the indicators that will be used to monitor activities. Setting indicators implies defining the norms or behaviors to be achieved in the project implementation and agreeing on the ways of observing this achievement. The process then goes on with defining who collects what information and how, and sets out how the information will be analyzed and used. Participatory monitoring and evaluation requires involvement of people at several steps :

- Deciding what areas to monitor and evaluate
- Selecting indicators for M&E
- Designing data collection system
- Collecting and tabulating data
- Analyzing the results
- Using the PME information

Participatory monitoring and evaluation can thus be viewed as a process within a system, which allows the users to continuously share in assessing their own progress and periodically evaluate the results to learn from their own experiences- from success and from failure. The major functions of participatory monitoring and evaluation may be described as follows

- a) It is a management tool which enables all organizations (the cbos, sos and PMU) to improve their efficiency and effectiveness,
- b) It is also an educational process in which participants increase awareness and understanding of factors which affect their situation and so enhance their control over the development process,
- c) Its basic goal is to empower the women and men at local management and use levels to help themselves by amplifying the say of the people for whom the development intervention is intended,
- d) It is an instrument to initiate dialogue on the basic premise that lasting development depends on the integral involvement of three levels:
 - Those who facilitate the project processes (the SOs and PMU),
 - Those who manage the processes and the resulting services and benefits (the CBOs)
 - And those who use and support the services with their money or otherwise and reap the benefits of better water, new functions and jobs (the individual men and women in the communities)

Box 7: Planning Participatory M&E Systems—A Summary

- 1) **Participatory M&E functions as a**
 - **Management tool**
 - **Educational process**
 - **Means of empowering community women and men**
 - **An instrument to initiate dialogue**
- 2) **A participatory M&E system should involve ALL the project partners (community members, CBOs, SOs, RPMU, PMU)**
- 3) **Project partners must be involved in:**
 - **Deciding what to monitor and evaluate**
 - **Selecting the indicators**
 - **Designing the data collection system**
 - **Collating and tabulating data**
 - **Analyzing and using the results**

1.4

Difference Between Participatory and Conventional M&E Approach

Participatory monitoring and evaluation differ immensely from conventional evaluation and this also has methodological consequences. They are summarized in Table 1 below.

Table 1: Differences between Conventional and Participatory Monitoring and Evaluation

Type	Conventional	Participatory
Who	External Expert	Community people, project staff, facilitator
What	Predetermined indicators of success, principally cost and production outputs	People identify their own indicators of success which may include production outputs
How	Focus of 'scientific objectivity'; distancing of evaluators from other participants; uniform, complex procedures; delayed, limited access to result	Self-evaluation; simple methods adapted to local culture; open, immediate sharing of results through local involvement in evaluation
When	Usually upon completion; sometimes also mid-term	Merging of monitoring and evaluation; hence frequent small scale evaluations
Why	Accountability, usually summative, to determine if funding continues	To empower local people to initiate, control and take corrective action

Source. PROWESS, 1990

In recent years there has been a growing shift away from the conventional M&E to the participatory M&E approach, because the latter has been found to be more effective in decentralized community-based projects, since it meets the information needs of the communities

1.5 Some Principles of Community Based Participatory Monitoring

The first pre-condition of participatory monitoring and evaluation is that key partners have the same vision and subscribe to the same set of objectives. Participatory monitoring and evaluation seek to build monitoring activities into good management practices at many levels. Therefore, the second pre-condition is building capacity at all levels through training, staff retention and continued assessment of needs of human resource development. In this approach monitoring is devised as a tool for management and day-to-day supervision.

The Experience in using separate monitoring units that lack a mandate for execution and management has not been satisfying in the water and sanitation sector. In participatory monitoring and evaluation, the group that receives the data has the mandate to act on that information and does not only pass on the data to the managers. The participatory monitoring strategy combines the standard functions of collection and analysis of information with action to improve project performance and effectiveness in the short term.

Field experience with community based monitoring in water and sanitation projects has revealed some basic principles. These are:

- a) Planning for the use of monitoring must be carried out from the beginning of the project. It includes ensuring that action to monitoring information can be taken at the lowest possible level.
- b) Checks and balances need to be built in through the alternative flow of information and multiple collection of data that help ensure validity and quick response to monitoring information (triangulation).

- c) Collection of unnecessary data should be avoided by targeting and limiting collection of information, rather than trying to cover all possible topics.
- d) Quantitative and qualitative data collection strategies should be combined.
- e) M&E procedures must be simplified; keeping the data collection period as short as feasible, and the flow of information as short as possible.
- f) Participatory research tools (such as mapping, pocket charts, focus group, and discussions.) need to be used.
- g) Capacity should be built of those who will collect and use the data. Capacity development refers basically to two things: development of skills through training, and being in a position to use those skills.
- h) Monitoring activities should be built-in with on-going and often decentralized management rather than by establishing separate monitoring units.
- i) The monitoring system must be characterized by simplicity, validity and must be self-sustainable over the long run.

1.6 Purposes and Levels of M&E Activities

The broad purpose of M&E activities is to

- a) Strengthen the decentralized technical and socio-economic capacity of each of the stakeholders of the project by integrating the monitoring and evaluation activities within regular management activities and
- b) Strengthen the planning and implementation capacity of the stakeholders through on going feedback on the basis of information generated by M &E activities.

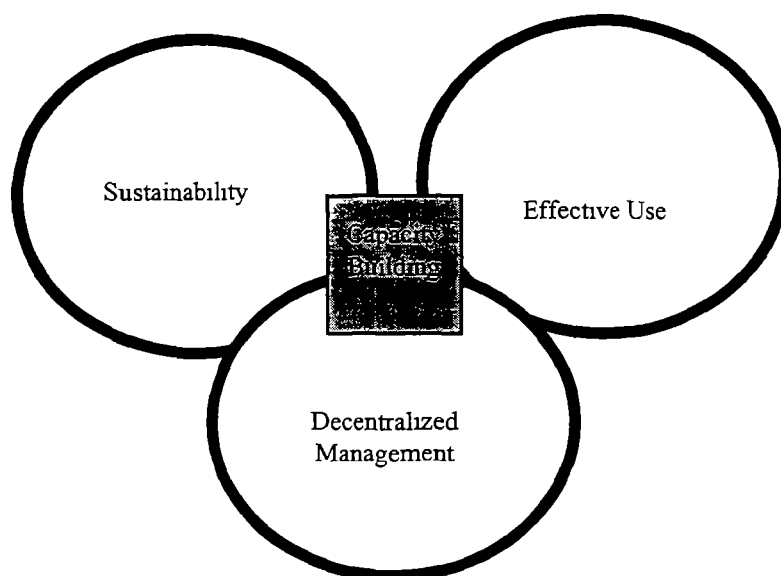
The BAMWSP involves three distinct levels of monitoring and evaluation actors. These are:

- The project (PMU/RPMU) level;
 - The project support level, specifically at SO level; and
 - The scheme/community specific level especially at CBO level.
- 1) At the PMU/RPMU level, the main objectives are to monitor:
 - The role of PMU/RPMU in setting up a demand driven and decentralized approach into the rural water supply sector by building capacity of different levels of stakeholders and actors; and
 - The effectiveness of different approaches and methods and strategies applied by PMU.
 - 2) At the SO level, the main objectives are to monitor:
 - The ability of the SO to play an effective facilitation role in terms of building up its own capacity for providing the required level of professional services to the schemes/communities, and
 - In developing the capacity of the communities to initiate community management over the scheme cycle.
 - 3) At the scheme/community/CBO level the main objectives are to monitor.
 - The viability and functionality of the community-managed schemes in

- its own socio-economic and ecological environment
- The ownership and management capabilities of the community
- Equity for poor women and men

At each of the three levels, the focus of monitoring and evaluation is on how each actor contributes to develop the capacity of the poor to participate in sustaining water and sanitation systems. In this regard capacity building is one of the key area of monitoring and evaluation in the BAMWSP, because to establish a decentralized, sustainable delivery system that utilizes the resources in most effective way (least-cost approach), capacity needs to be built at all levels of the project (Fig. 2).

Figure 2: Capacity Circle



1.7 Special Considerations: Gender and Poverty Sensitive Analysis

At every level of monitoring and evaluation gender sensitive indicators should be used so that a gender analysis can be conducted. Areas in which gender-desegregated data collection and analysis will be particularly useful are:

- The service delivery system, to see if the women and men are benefiting equally
- capacity development, to see if women and men are having the same access to skills, knowledge and technology and both learn new knowledge and skills
- participation, to see if the project accounts for the needs and views of women and men as categories in their own right, for these are often different, and to learn if the women are having proper assistance in participating in project planning, implementation and management.

The same kind of analysis needs to be planned around poverty sensitivity so as to reveal the nature of participation of the poor in the project. For this analysis, data desegregated by class will need to be collected. To this end, the M&E system must include gender and poverty sensitive indicators.

1.8 Roles and Responsibilities of Stakeholders

There are five main actors, each with their own roles, in the M&E system. The role of each of these actors is described below.

i) Men and Women in Communities:

Community members are the users and supporters of the water and sanitation systems. Given their proximity to these systems and their interest in ensuring that the systems continue functioning, the organizations of the householders will play an important role in the monitoring process. They will, in fact, become the managers of the monitoring. Being the immediate users of the data, they will set the indicators, analyze the data, and use the resulting information to improve their decision-making capacity for the areas over which they have control. They will also be responsible for providing the SOs/(R)PMU with information needed by them for assessing contract compliance and the quality of services provided to the communities by SOs. Monitoring must represent the different user categories to ensure that varying interests are represented and work involved in monitoring is not placed upon one particular group.

ii) Support Organizations (SOs):

SOs have the responsibility of checking on progress towards or compliance with the key indicators for each phase during fieldwork and through different participatory activities with the community members. This system of progress monitoring includes the use of a "management warning system" through simple visualized flow-charts. SOs are also responsible for training and assisting community members in routine monitoring at the community level. They are further responsible to provide information needed by PMU/RPMU regarding their own performance and compliance with agreements reached with communities and the PMU. Through regular review meetings they will help to assess the performance of the RPMUs, SAs, and PMU in supporting them to complete their work and internally evaluate the effectiveness of the processes, methods, procedures and instruments of the project.

iii) Service Agencies (SAs)

Service Agencies will provide site appraisals that Portfolio Managers are unable to do and will carry out studies as needed.

iv) Regional Project Management Units (RPMUs):

The main role of the RPMUs in monitoring are to provide monitoring services to SOs and communities in a supportive manner. RPMUs, through their portfolio managers, are primarily responsible for monitoring the contractual agreements for the planning and implementation phases with the SOs and SOs/communities, respectively. The monitoring will cover quantitative, as well as qualitative aspects. During the implementation phase, the RPMU will also monitor the physical work.

v) Project Management Unit (PMU):

The PMU is responsible for facilitating the overall establishment and functioning of the M&E system. It will ensure that information is distributed and used as appropriate by all stakeholders involved in the delivery of services at the project, management and policy levels. This unit is also responsible for analyzing the data emerging from the field, as well as changing approaches, methodologies, criteria, norms, and procedures needed to enhance achievement of project objectives. Where such changes involve a deviation from the project principles, authorization from the Steering Committee is required. The PMU is further responsible for coordinating regional and annual meetings to assess performance, processes, and impacts and learn from the implementation with all stakeholders. The office provides quarterly and annual reports on project progress and assists in deriving and sharing longer-term strategic/policy lessons from the project.

By gathering M&E information from these five diverse sources, a system of checks and balances is automatically built into the M&E system, since the data from these different sources can be compared and contrasted. Through this process conflicting information or gaps in information can be identified and steps can be taken to further gather further information, as needed.

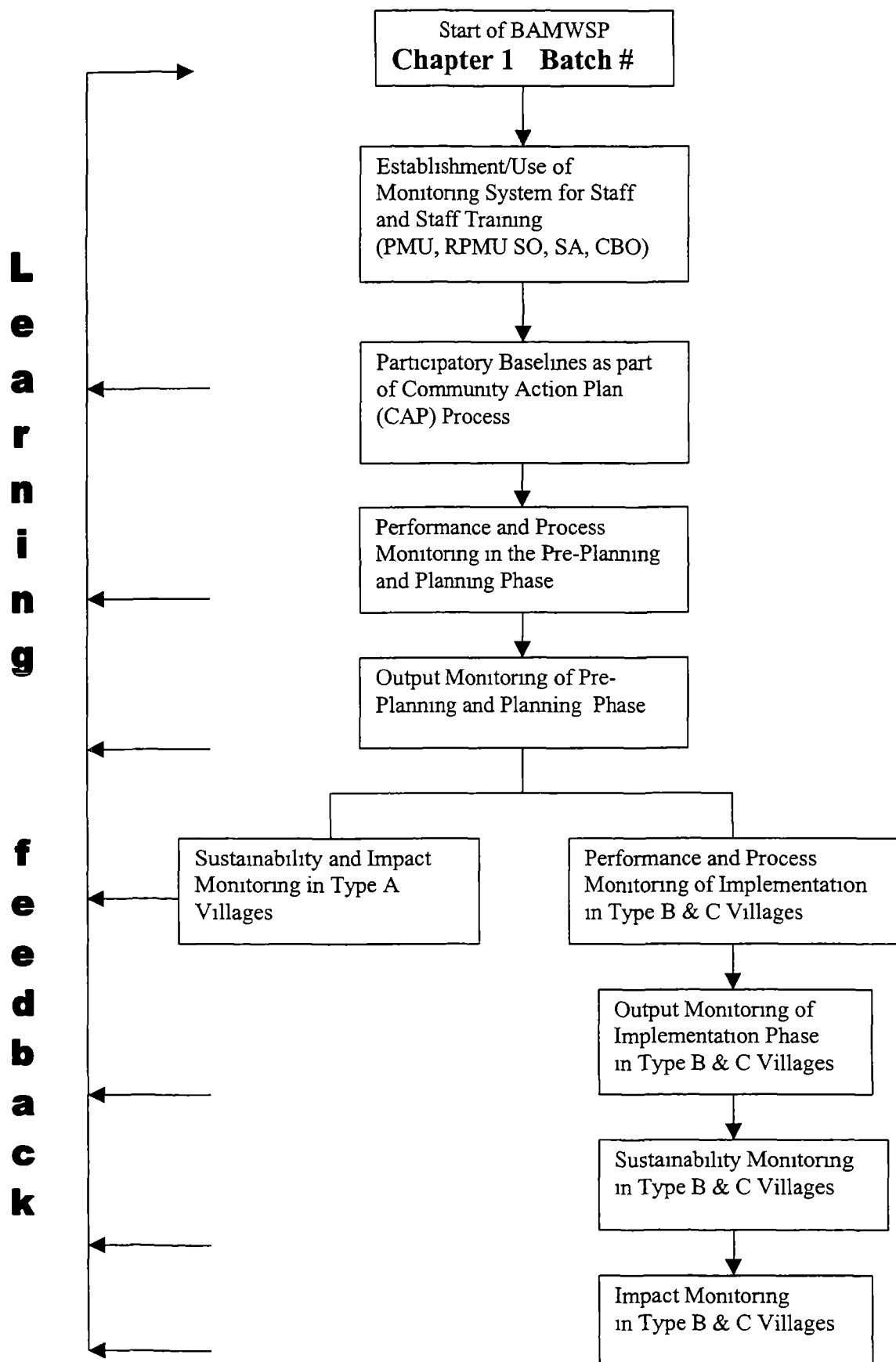
1.8 **The Five Types of Monitoring**

Five types of monitoring and evaluation—performance, process, output, sustainability and impact monitoring—will be used in the various phases of the BAMWSP project. Fig. 3 gives an overview of the place and function of these monitoring types in the project cycle. The outcomes, results and impacts as given by the monitoring, and evaluation, can be valued in the light of the inputs - financial and human resources- from the Government of Bangladesh, the World Bank and the women and men in the project communities.

Performance Monitoring

Performance monitoring is used to check whether the project activities, the tasks of the respective actors and the time schedules have been implemented according to plan and agreed quality norms. Performance monitoring is an internal activity that is carried out by community members and staff themselves (self-assessment), as well as by the Support Organizations and Portfolio Managers.

Fig. 2 Monitoring in the Project Cycle



Box 8: Performance monitoring

Performance monitoring is an internal activity used to inform stakeholders whether the Project activities, the tasks of the respective actors and the time schedules have been implemented according to plan and agreed quality norms. It also helps to determine what corrective measures are needed, if any, and when and where these measures need to be taken.

As needed, the SAs may also assist the Portfolio Managers in their performance monitoring role. Box 9 gives examples of indicators for performance monitoring during the pre-planning and planning phase.

**Box 9: Indicators for Monitoring the Performance
During the Pre-planning and Planning Phase**

- **Staff with appropriate skills and gender mix selected and trained**
- **SOs selected based on project criteria and trained in required mix of skills**
- **Priority communities with a universally high need and demand selected**
- **SOs have conducted pre-feasibility studies in all priority communities as per procedures**
- **PMU has reviewed studies, informed the selected potential project villages and contracted re-selected SOs for the planning phase**
- **CBOs have, with the help of SOs, prepared CAPs in all selected villages**
- **Portfolio officers have reviewed all CAPs with respect to the agreed norms, have paid the SOs and have accountably and transparently selected the most-needed and feasible community projects**

In addition to indicators articulated in Box 9, stakeholder satisfaction is an important qualitative indicator and should be monitored.

Box 10: Indicators for Stakeholder Satisfaction in the Planning Phase

- **At village level: Satisfaction of women and men, poor and otherwise, with SO approach and performance**
- **At SO level: Satisfaction of SOs with PMU performance, in terms of timely payment, communication and degree of capacity building**
- **At PMU level: Satisfaction with SOs on contractual performance and approach**

The key to effective performance monitoring depends upon: a) clear understanding of the roles and responsibilities of different actors at different stages of project cycle; and b) creating a flow of information to actors with capacity for taking rapid action taking.

Process monitoring

Process monitoring allows the stakeholders at all levels to assess whether the intended ways of working in the project are taking place and are working well so that the intended results can be achieved. The information from the process monitoring, in turn, will enable the stakeholders to take corrective actions.

Box 11: Process Monitoring

This measures the degree to which the intended strategy is functioning—the assumption being that a well-functioning strategy will lead to the project’s intended results.

Process monitoring in the project will focus on strategic and operational issues. Monitoring of strategic process issues concerns:

- i. User participation,
- ii. Responsiveness to the varying demands of the users;
- iii. Equity with respect to gender and the poor

(i) User Participation—This means that the project uses tools and techniques that allow the community members to participate in sub-project planning and decision-making. This process will help prepare them to manage and finance the service once the system has been built.

(ii) Responsiveness to the Varying Demands of the Users—Since communities are composed of a number of different sub-populations (e.g., men, women, rich, poor, laborers, land owners, landless) different needs and interests for improved water and sanitation services and different capacities to contribute to these services may exist. Accordingly, it is seldom realistic to introduce only one single model or option. Instead, the project offers a range of options from which the users can choose the locally best fitting mix of technologies and service levels, and maintenance, management and financing arrangements. This process of choosing the best mix of options is called the “users’ informed choice”.

(iii) Equity—This means that the project does not exclude the weaker sub-populations or increase their burden. Instead, an equitable approach shares the participation burdens and benefits equitably between the different sub-populations.

In the project, process monitoring will be applied to:

- i. strategic issues; and
- ii. operational approaches

Key monitoring principles for strategic aspects are:

- The use of a participatory, decentralized and demand responsive approach
- Building community management capabilities from the very start
- Ensuring participation of the poor (women, as well as men)
- Linking water supply with improved sanitation and hygiene for an impact on health

The operational aspects are based on the Operations Manual, which is derived in turn from the PAD and the PIP.

Output monitoring

Outputs are the tangible results of the inputs and processes and are needed to ensure that the project outcomes are achieved. Outputs, however, do not guarantee that the outcomes are achieved. Examples of outputs are the number of people trained, the number of water systems built, and the number of CBOs strengthened. These are all necessary to ensure that the project achieves its ultimate outcome of reducing morbidity and mortality due to arsenic poisoning.

Output monitoring can be defined as the monitoring of the outputs of a project against the set targets and the estimated time and resources (inputs).

Input monitoring is defined as keeping track of the amounts of money, materials and human power (staff days complemented by villagers' time inputs) which constitute the main investments of the project.

The project agency inputs can be detected from the financial administration of the project. In addition to project agency inputs there are inputs from the community, in cash and in time. These will also be monitored since time (in meetings), labor (e.g. for digging, transport and tariff collection) have a value. Through this monitoring it becomes possible to assess the true contribution of the communities, which goes beyond the 1% cash and 10% labor to contribution which the project stipulates.

The monitoring of community inputs will be by sex and class, to see how burdens are divided. This will answer questions such as: "Do better off also contribute, and contribute more than poor, if the village so decided?" (In a good number of projects this does happen). And, if men and women both contribute: "Who contributes in what form and how large is the value of either contribution?" For example, in a number of cases in other projects women did most of the trench digging, but they had no voice in decisions. Gender specific self-monitoring of user participation reveals and prevents this.

Box 12: Output Monitoring

Output monitoring measures the outputs against the project's targets and inputs.

Direct outputs of the BAMWSP are the measurable outputs that are in place directly at the end of the implementation of the first batch, second batch, etc. (per batch and cumulatively). They will include (but are not restricted to):

- a) Community based monitoring system for ongoing local arsenic testing
- b) Physical infrastructure development
- c) Cost-sharing
- d) Least-cost analysis

At the end of each phase, and every batch, outputs will be measured against inputs to show the efficiency of the project.

Monitoring Sustainability

A project is only successful when its products can stand the test of time. Sustainability monitoring focuses on the capacity of the communities to keep the service and benefits at the achieved level and after any special assistance (management, financial and technical) has been phased out, without having detrimental effects on the people and the environment.

Box 13: Sustainability Monitoring

Sustainability monitoring assesses whether the achieved improved conditions, services, behaviors and approaches are maintained by the community after any special assistance has been phased out.

For the BAMWSP Project one of the critical outputs is sustainable water supply and treatment strategies and technologies (PIP, BAMWSP, P # 5). Lessons drawn from a recent global World Bank review indicate that sustainable and effective sub-projects manage water as an economic good with significant consumer participation in decision-making, funding and operation of the water supply system.

Particular characteristics of sustainable rural water supply projects that have emerged from the global study are:

- i. Household demand guides investment decisions;
- ii. Adequate information flows exist before, during and after implementation;
- iii. Communities are mobilized in order to aggregate water demand;
- iv. Communities are able to choose technologies, delivery mechanisms and service levels;
- v. Project staff, intermediaries, contractors and NGOs are properly trained and monitored as to their implementation of project interventions, especially relating to community aspects;
- vi. Communities receive proper training for better operations, maintenance and financial management (PIP, BAMWSP, Annex 10, pg. # 86)

In the same way, the sustainability of the BAMWSP project depends on:

- Continuous participatory community planning and action supported at all levels;
- Sustained and effective testing of tubewells/water sources by communities;
- Physical facilities remain working and are well-maintained;
- CBOs continue to effectively manage water supply operation and maintenance;
- Safe water use continues to be practiced;
- improvement of local sanitation and hygiene goes on, with continued finance available for sanitation;
- Villages and SOs continue to use participatory, gender and poverty-sensitive strategies;
- Environmental safety in chemical waste disposal (arsenic sludge) and protection of new sources from environmental contamination continues to be observed.

From the above the following categories, or domains, of sustainability monitoring have been adopted in the BAMWSP project:

- a) Reliability of the Water Delivery System;
- b) Human Capacity Development for Participatory, Gender and Poverty-Conscious Approaches;
- c) Grassroots Level Organization Building with Effective Community Management and Cost-Sharing.

Impact Monitoring

Impact monitoring can be defined as the monitoring of the effects that the project processes, activities and outputs have on the village people and their surroundings. Or, in other terms, as the gender-disaggregated net effects on socio-economic status and the environment.

Box 14: Impact Monitoring

Impact monitoring is defined as monitoring the gender-disaggregated net effects on socio-economic status as well as on the environment

For the project, impact monitoring will be conducted to assess the extent to which the schemes, sub-projects, and other activities of the BAMWSP project as a whole will contribute to the realization of the longer-term project objectives. This impact monitoring will also feed into the policy level assessments.

The BAMWSP has specific budget provisions for impact evaluation. The budget “includes the cost of impact evaluation in 5% of the project interventions and schemes, and site appraisal conducted by the PMU or a designated service agency for each of the village in which an intervention is undertaken” (PIP, BAMWSP Project, pg. # 35).

The proposed domains of impact monitoring for the BMWs project are:

- Safe water source maintenance and use
- Quality and quantity of water supplied
- Health and hygiene situation
- Environmental management
- Gender Conditions
- Economic impact

Besides being an impact domain in its own right, gender and poverty dimensions will also be monitored as cross-cutting issues in the other domains. As a precondition of impact monitoring, participatory baselines, as well as a well-designed MIS are necessary to provide the data needed to monitor and evaluate impacts. For the BAMWSP the MIS should have a provision for both quantitative and qualitative data.

In the next four chapters, monitoring and evaluation using these five perspectives are described for the total project cycle: Preplanning, Planning, Implementation and Post

Implementation

With the aid of the afore-mentioned matrices and the Operations Manual, it has been described *who* will be involved in the monitoring process, *what indicators* can be used, what will be the *source of information*, what is the *expected action* from the monitoring activity and what to do if the expected actions do *not* occur. All elements are tentative, rather than prescriptive and are subject to changes in the participatory and learning process. Not subjected to change are the principles agreed in the PAD and PIP, and listed upfront in this manual, unless such changes are formally adopted and approved by the two contract parties of BAMWSP.

Box 15: The Indicators

Each matrix provides indicators. Before using these, it is important to remember that:

- **The indicators used in the matrices are guidelines. At the beginning of each phase the key indicators should be refined and adapted to suit the local context.**
- **Selected key indicators should be included in the SO contracts to link Operations with M&E.**
- **Key indicators should be known and agreed on by all the parties involved in M&E (including the communities).**
- **Communities will set their own indicators and determine collection, recording and use; the SOs help them in this process (after having been trained).**
- **Certain indicators should be negotiated with the users to develop community ownership.**
- **In evaluations the indicators used in monitoring should be used, rather than introducing a totally new set of indicators.**

The Project Appraisal Document and the principles agreed therein is the basis for M&E, unless changes are formally adopted and approved by the two contract parties of BAMWSP

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Chapter 2 Monitoring in the Pre-planning Phase

The three key outputs of the BAMWSP project are: a strengthened capacity for participatory water supply; effective water technologies; and effective water supply and use systems (PAD, pg. #23). Conditions to achieve these outputs are a capable PMU and SO staff and communities that know their conditions and are ready to act and solve problems. Hence the first key domain to monitor is capacity building at the following three levels:

- PMU level
- SO level
- Community level

The pre-planning phase is the time when the PMU will set up the system it needs to monitor the performance and processes of the project. Monitoring of some of these aspects will continue throughout the project, while monitoring on other aspects will be added or dropped as the project learning process proceeds.

The sections below describe how the project can operationalize the monitoring, starting from the pre-planning phase of the project. For ease of use, the sections follow the steps for the pre-planning cycle as described in the Operations Manual, Section II, paragraphs 2.2.1 to 2.2.18. This will make it easier to implement the operations and monitor performance and quality of processes side by side.

2.1 Monitoring Effective Staffing, Staff Retention and Training:

The Project's ability to develop decentralized social and technical capacities at community level is one of the major outputs of the BAMWSP. To assess the Project's ability to do this, it is important to monitor staffing patterns and effectiveness of the staff, ability to retain staff, and training.

➤ Indicators:

An indicator of the PMU's capacity to develop decentralized social and technical capacities for preparing and implementing participatory water supply projects is the PMU's and SO's timely and effective staffing, e.g., teams having multidisciplinary consultants and interns. In line with the project's concern for gender equity, strategies used to enable women to take up staff and internship positions will also be monitored.

Other characteristics of effective capacity building are the retention of trained staff and the provision of training on social, technical and managerial issues. The project should therefore monitor the degree of staff retention versus staff turnover at the appropriate levels.

Monitoring the training should include identification of the training approaches (participatory versus conventional classroom) used.

**Box 16: Indicators for Monitoring Effective Staffing and Staff Training
at the PMU and SO levels**

- **Timely and appropriate recruitment and retention of staff, per professional specialization and sex**
- **Staff selected for specific functions and tasks on the basis of their field experience**
- **Participation of consultants, interns and SO staff in project training events and site visits/field work, by sex and professional background**
- **Increasing number, spread and variety of SOs enabled to enhance users' (male and female) capacities to design and implement participatory water and sanitation projects**

Methods and Sources of Information:

To monitor staff recruitment and retention of trained staff, the PMU will keep an overview table with the help of the Recruitment and Retention Monitoring Tool (Annex A, Tool No. 1). For this monitoring the CVs, job descriptions and the above-mentioned tables and charts will be the main sources of information.

The Training Specialist will keep overview tables on participation of staff and SOs in all training events and site visits, distinguished for level and type of staff, sex and complete or incomplete attendance (Annex A, Tool No. 2). The data on participation will be used for cross-check/ triangulation of the degree to which trainees and staff participate in training events that the Project has organized.

One task is to assess the balance between conventional classroom training and sessions using participatory methods and tools both indoors and in the field. Thus, the training specialist will assess the ratio of conventional sessions versus sessions practicing the use of participatory methods and techniques both at the training venue and during community sessions in the field.

The WID Specialist will check to what extent gender and poverty aspects are included in all training events, not only as separate sessions, but as an integral element of the training (see Box 17). Methods for assessing training methods and gender aspects consist of the reviews of the course curricula and materials, and participant observation while attending the courses.

Since the staff of PMU and RPMUs will be supervising the SOs it is imperative that all (R)PMU officers go once through each training themselves after having joined the project. This will help them to further develop their skills and makes it easier for them to understand and appreciate the work of the SOs that they will supervise. It will also help to build their attitudes and skills as a multidisciplinary project team.

SAs attending training may wish to record the duration of the meetings for an assessment of the training events' value-for-money

In every training course the participants will evaluate the effectiveness of the training in meeting their expectations. This will be done twice, once at the middle of the course and again at the end of the course – for example, with the help of the Expectation-Achievement Bar Chart (Annex A, Tool No. 3).

Box 17: Checking the Gender and Poverty Aspects in Training

- Does the training assume that communities are homogenous or does it distinguish between women and men, better off and poor? Does it address how to deal with conflicts and differences of interest?
- Does the training help participants to be aware of and analyze constraints of women and poor people to take part in decision making and financing and to share equitably in project benefits, such as arsenic-free safe water and better sanitation, training and jobs?
- Does it encourage participants to come up with creative ways to address these problems in the field?
- Is only the disadvantaged position of women addressed or does the training also address the roles and responsibilities of men in achieving more equal development opportunities for women?
- Do participatory tools and techniques used in the training make distinctions in gender and poverty, or are all people assumed to be equal?
- Are figures and statistics collected and analyzed by gender and socio-economic status or are they all gender and poverty neutral?
- Are gender and poverty issues the topic of separate sessions, materials and tools or are they integrated throughout the training?

➤ Users and Use of Information:

The monitoring data will help PMU and SO management to check whether vacant positions are filled on a timely basis and if engaged staff have the right qualifications for the concerned jobs. Data will also highlight any gender imbalances in staffing, training and other opportunities for human development. They will show whether or not SO staff, interns and consultants fully participate in each training designed to help them support communities (for SOs) or support SOs (for PMU) for field activities. Analysis of this data will allow the management of SOs and PMU to decide on improvements in staff composition and management, and in training. The PD will find the data useful for his qualitative reporting

2.2 Selection of “Hot Spot” Districts, Thana’s and Unions:

The PMU will review the data provided by NAMIC and identify the most vulnerable Districts, Thanas and Unions as described in the Operations Manual, Section 2.2.2. Being a member of the Steering Committee the Consortia of NGOs will have the possibility to cross-check this data through their partner organizations in the field and to monitor adherence to the selection criteria.

➤ Indicators:

These include:

- Strong Need and Demand: Overall Arsenic Levels according to available information, based on sample or comprehensive testing
- Relative wealth, health/nutrition status of the District, then the Unions within the District.
- Whether or not the Unions are clustered so work can be undertaken in a cost-effective manner.
- Relative Accessibility for the PMU teams and intensity of prior activities of NGOs in the Union.
- Local Authorities and Broad Public Support will ensure security of project operations
- Evidence of Existing Partnerships and Project that are already ongoing.

(For more information see the Operations Manual, Chapter 3.)

➤ **Methods and Sources of Information:**

PMU staff reviews the latest data from NAMIC on arsenic incidence and seriousness.

➤ **Users and Use of Information:**

The PMU uses the data to make decisions on the selection of the most seriously affected “hot spots” and to announce, including in these areas, the start of the recruitment process of SOs. Consortia of NGOs use the data to inform their members on the SO requests for application and to validate the data through triangulation with their membership. In case of confusion or doubts the Consortia may decide to consult the Steering Committee.

2.3 Selection of SOs/SAs:

During the pre-planning phase the first selection of SOs/SAs takes place. As documented in the PAD and described in the Operations Manual, Section 3.1, and Annex F, the PMU is responsible for selecting the SOs according to the agreed criteria. They can be found on page 14 of the said Annex F. The body that approves the criteria and supervises the PMU is the Steering Committee (see Operations Manual, Section 5.1).

➤ **Indicators:**

One of the aims of the PAD is the building up of widespread capacities for participatory water and sanitation projects in the communities and the support organizations. Hence the project will need to monitor adherence to the selection criteria as well as numbers and types of SOs working with the Project.

➤ **Methods and Sources of Information:**

Sources of information are the application forms and contracts of the SOs.

➤ **Users and Use of the Information:**

The MIS specialist will record the data of the organizations that applied and that were selected into a spreadsheet. S/he will then use this data to analyze the applicants by qualifying characteristics, size and geographic spread

The PD will use the data and overview for selecting the SOs and to present his choice to the Steering Committee for approval.

The Steering Committee will use the data to monitor adherence to the selection criteria. The two representatives of the NGO community, but also the other representatives of government and civic society can bring any signs of deviation from the agreed selection criteria to the attention of the Committee members. The Committee then decides whether to investigate and/or modify the selection

2.4 Assignment of Portfolio Managers

The Project Director assigns each cluster of SOs to a specific Portfolio Manager. The Portfolio Managers have to responsibility to visit these SOs in their locations and later on in the field. For the monitoring of field visits see Section 4.2 of this manual.

2.5 Monitoring of Training - The Pre-feasibility Workshop:

The pre-feasibility workshop prepares the SOs for implementing the participatory assessment. This assessment determines whether a community requires a physical investment project or whether they can address the situation by a participatory education program on arsenic-free safe water use and a user-organized and managed system for better sharing the existing arsenic-free safe drinking water sources.

➤ **Indicators:**

Performance indicators for the training are the full-time participation by all SO project workers (fieldstaff and supervisors), as well as full-time attendance (once) by all Portfolio officers; the quality of the training - with regards to contents, style and methods, and the satisfaction of trainees (and trainer). *(It should be noted that at this time SOs only recruit those staff needed to carry out the studies, consisting usually of one or more teams of one engineer and one social scientist. Other staff are recruited only after SOs sign Planning Phase Agreements, which also reimburse the SOs for the pre-feasibility studies they have completed)*

➤ **Methods and Sources of Information:**

As described in section 2.1 above.

➤ **Users and Uses of Information**

As in 2.1 above. The SOs will use the information (which they will get from their staff and the Training/MIS specialist (regarding full-time attendance and performance of their staff) for staff guidance and for their appreciation of the PMU's training input, as per the terms of their contract.

2.6 Preparation of Pre-feasibility Study: Staffing and Staff Retention

➤ **Indicators:**

Completeness and gender balance of staffing, as well as staff retention (so that training investments are not lost) will be the indicators, similar to those of the PMU staff.

➤ **Methods and Sources of Information**

Sources of information will be data from the SO as well as the Portfolio officers own observations.

➤ **Users and Use of Information:**

The Portfolio officer will regularly share the format of which a model is given in Annex A (Tool No 1) with the MIS specialist. (S)he will take action when the SO does not meet its staff obligations.

The MIS specialist and the PD will use the combined accumulated data of the numbers of female and male staff trained in the PMU and the SOs, and data on the number and types of SOs to assess the training output of the project. This data will give an indication of the achievements of the project in capacity building when combined with data on the number and quality of the pre-feasibility studies and the outputs of the community management work on safe water use. These are discussed in Section 2.7 below.

2.7 Implementation of Pre-feasibility Studies

Monitoring of the implementation of the Pre-feasibility Studies will be a combination of performance monitoring, process, output and impact monitoring

➤ **Indicators:**

Typical indicators for these different types of monitoring are the production of the pre-feasibility studies by the SOs as per the agreed contracts; their verified use of participatory approaches with a gender and poverty perspective; the satisfaction of the different sections in the community with their way of working; the proportion of pre-qualifying communities; the known safety, or unsafety of all tubewells in Batch I through testing of arsenic contents, and its impact on the capacity of women, children and men to identify and use only safe sources of drinking water. Table 2 gives the questions for which the respective types of monitoring will provide the answers.

Table 2 Questions to be answered by the Project's monitoring at the end of the pre-planning phase.

'Are the users satisfied with the SO?'

Performance monitoring	'Have all SOs done the work done as per plan and contract?'
Process monitoring	'Did each SO use participatory, gender and poverty sensitive and demand-responsive methods as is the project strategy?'
Output monitoring	'Given the project's inputs, what number of quality assessments, and Type A, B, and C villages and SOs qualifying for the planning phase have resulted from the pre-planning phase?'
Impact monitoring	'Have all wells in Batch I villages been properly tested and marked safe/unsafe? 'Did the testing, and the accompanying awareness campaign and participation process, impact women's, men's and children's understanding and practices of drawing drinking water from only safe sources?'
Sustainability monitoring	'Are arrangements in place to assess the continuity of these practices over time?'

Together with the earlier mentioned data on staffing and training this data will give the total results of the Pre-planning Phase of the project.

➤ **Methods and Sources of Information:**

The following sections describe the monitoring procedures in detail.

1. At the end of the pre-feasibility phase the PMU will determine how many of the planned feasibility studies the respective SOs have been able to complete and with what quality of data and degree of participation in the process. For this purpose the Portfolio Managers will check the number of water sources checked against the data provided on the map.
2. Subsequently they, and the appointed SA in case there are many villages, will visit minimally one sample village of each SO. In the sample they will cross-check, by observation and probing, the quality and correctness of the data collected and verify the data on arsenic contamination. They will also assess whether the SO used participatory methods and consulted women and men on their needs and demands, including in poor households. This will ensure monitoring of the SO work on authenticity and participation.
3. To assess the satisfaction of the users with the approach and products the Portfolio managers/SA will use a suitable participatory tool from the Toolkit (e.g. the Smiling faces/Warning chart, Annex A, Tools No. 4 and 5). It is recommended that the SO chooses the indicators together with the community. Consultations should be with men and women separately and involve a special session with poor sections of the community. SO supervisors can use the same tool for insight into the performance of field staff.
4. The STAC, which will represent all project level stakeholders, including the NGOs, will classify and rank the proposed subprojects as per criteria in a transparent process. The Portfolio managers will inform the SOs within one week after the decision has been taken. Feedback will be given on outcomes as well as reasons for non-acceptance together with suggestions for improvements
5. The PMU will complete the overall process within a pre-determined time period. Previously the PMU will have informed the SOs about the final date by which they should have received the decision. The SOs will be informed that In case they fail to hear from the PMU on this date they can contact the PMU and, in case of delays of over one month, the Steering Committee.

6. The SOs will similarly inform the communities that took part in the pre-feasibility study within one week after receiving the decision. They will have informed the communities about their rights (same as those of the SOs) to either contact the PMU or the Steering Committee in case of delays.

7. At the end of this process the Portfolio Managers will have monitored the number of studies prepared and accepted by the Staff Technical Appraisal Committee (STAC, see Operations Manual, Section 2.2.7) for each SO. Records will be maintained which also record the reasons -quality versus other reasons- for non-acceptance of studies.

➤ **Users and Use of the Information:**

The communities will use the information to decide on whether they want to apply for the planning phase and continue with the SO, so that they can go ahead action planning of their schemes. The SO will use the pre-feasibility study experience to decide if they want to go ahead with the PMU and the communities in case the latter are selected. The STAC will use the data to make decisions about communities and SOs for the planning phase and to report quantitative and qualitative results from the pre-planning phase.

2.8 Monitoring of Outputs at the End of the Pre-planning Phase

At the end of the pre-planning phase the project will have several outputs in hand. One set of outputs is:

- The verified and classified pre-feasibility studies;
- The list of STAC-agreed villages for including in the planning process;
- All communities informed about their selection or non-selection and the underlying reasons;
- Contracts signed with SOs, based on the submitted and negotiated proposals for the planning stage.

A second set of outputs is:

- All hand pumps in all pre-feasibility communities classified and known as either safe or unsafe;
- A community-based system for arsenic testing established and functional.

Note The need for and frequency of this testing depends on the outcomes of the study of the British Geological Survey and may necessitate adjustments to the present text.

➤ **Indicators**

The indicators for the second set of outputs are given in the box below.

Box 18: Indicators for Monitoring the Community-based Arsenic Monitoring System

- At the end of pre-planning period all pumps in the village/cluster/batch are either red or green (indicating contaminated and safe respectively)
- Community members are aware of the color code
- A system of continuous community-managed testing of water at source (monthly/bi-monthly) is functional and its work and benefits (enhanced status/income) are equitably divided (i.e. do not go exclusively to already advantaged categories);
- A system of constant up-gradation of the source maps is practiced by the CBO

➤ **Methods and Sources of Information:**

The SO will involve the community members, of either sex or all locations, during the pre-feasibility study to mark the wells with different colors to distinguish between safe and polluted wells. If higher than the accepted levels of arsenic are found in a well, it should be painted red. If a well is free of arsenic or has arsenic within the accepted range, the well should be painted green. The SO, with the help of the community members, and using participatory techniques, will prepare a village map on which the water sources will be marked with red or green. The clusters depending on specific wells will, if possible, also be identified. To accomplish this, the SO, using PRA social mapping techniques and locally established indicators for wealth ranking, will, with the help of the community members, mark the households depending on the sources in low and high status areas (Example in Annex A, Tools No. 6 and 7).

The CBO may involve the women's group or representatives of the group (preferably from the lower income category and/or women who take care of the wells in the implementation phase) to test the water at the sources on routine monthly or bi-monthly basis. The CBO/SO will arrange for appropriate compensation for the testing between the monitoring agents and the households, clusters or village, as preferred. The agreement will be documented in the CBO minutes. The monitoring agent/CBO will use the result of the monitoring tests to change the status of the village map, if changes are observed.

During their scheduled site visits, the SO community facilitators, community workers and the RPMU community development worker will test the water of at least 10 randomly selected wells. They will check the validity of color codes and mapping every 1-2 months. The technical experts may also advise on shifts in arsenic levels. The SO will also collect the test results from the water log (Tool No. 8 in Annex A) and prepare a quarterly report, indicating the percentage of the total wells with arsenic pollution, plus the average level of arsenic pollution in its project areas. The testing of wells by the RPMU, will initially be carried out after the SO have submitted the pre-feasibility studies to see if all the wells have been marked and identified correctly on the map. In addition, the zonal laboratory coordinators will prepare zonal reports on the arsenic situation for each of the four zones.

During Pocket Chart voting sessions (Annex A, Tool No. 9), peer correction will be held regarding the color codes. To support this, the RPMU and the SO staff, during site visit should also interview community members of different age, gender and economic status on the color code.

➤ **Users and Use of Information:**

The data will be used primarily by the SOs to prepare the planning phase proposals and by the communities to prepare the CAPs. Later the monitoring data will ensure that the community members have access to information regarding arsenic pollution in their localities.

For the PMU, the monitoring will provide detailed information regarding the hot spot areas. The proposed monitoring system will also provide aggregate data on the level and extent of arsenic pollution in the entire project area. The information concerning the users' knowledge regarding the color code will provide insight into the effectiveness of the awareness-raising campaign. As such, the monitoring will develop from output to performance monitoring.

During community action planning, which takes place in the next phase, monitoring will focus on the process and outputs of preparing Community Action Plans, and the performance of the SOs and the Portfolio officers in supporting these processes and outputs.

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Chapter 3 Monitoring the Community Planning

In the planning phase, the major responsibility of the SOs and the selected communities is to prepare Community Action Plans (CAPs). The scope and purpose of the plan varies depending upon the type of community.

In type A communities the problems are confined in size and will be addressed by user arrangements for sharing the safe sources and by promoting and monitoring arsenic and bacteriologically safe water use and improved sanitation and hygiene. During the 4-6 weeks of the planning process these communities or clusters will prepare their action plans for source sharing as well as other self-improvements. They will then receive no further support from the Project. The expectation is that by the end of six weeks of participatory planning the support for raising awareness and planning source sharing will be sufficient to bring the expected changes.

[Note: the authors of these manuals think this assumption is over-optimistic and are of the opinion that a longer and gradually declining input from SOs will be needed to achieve the project goals. Monitoring and evaluation will provide data to support or reject this assumption]

Type B and C communities will be entitled to technical interventions, provided the users contribute to the capital costs and agree to take onto themselves all O&M tasks and costs of the solution(s) of their choice. In these communities the planning phase will be longer and include the choice of technology with a more comprehensive plan for construction, maintenance, management and financing, together with plans for sanitation and other environmental aspects (Details on the CAP process and outputs in the Sourcebook, Section ...).

3.1 Contracting and training SOs - First payment

SOs whose communities have qualified for more detailed planning will have submitted a proposal for the planning phase at the closure of the pre-planning phase. If the proposal is found acceptable, they will be given a contract negotiated by the Portfolio officer of the PMU.

The contract will include the duties as well as the rights (e.g., rights to training, support, participatory materials, timely payments and feedback) of the SOs vis-a-vis the PMU (see Operations Manual, Annex M). The PMU will give the SOs a first installment for acquiring the necessary staff and making other preparations. The installment is recorded into the financial monitoring system (see Operations Manual, Annex P).

➤ Indicators:

The portfolio officers will monitor their own satisfaction with the performance of the SOs with respect to the following aspects:

- contract management, including physical progress
- financial management
- timeliness and quality of reporting
- quality of work

Indicators for staffing and training of SOs are the same ones as those given for the PMU in Sections 2.1 and 2.2 of this manual.

➤ **Methods and Sources of Information:**

Monitoring of the first three indicators will be done with the help of the 'Monitoring Calendar' tool. The monitoring calendar is a simple tool that enables the involved parties not only to check how far the plan has been executed within the estimated time-frame, but also enables them to modify the activity schedule based on the comments recorded in the tool. The time-bound monitoring tool may be made specific on the basis of the detail project implementation plan. The Monitoring Calendar should be prepared by involving all the relevant actors so that it is pragmatic and owned by all those whose performance will be later monitored by the tool. The same kind of tool may be developed to monitor financial management (i.e. actual expenditure against planned expenditure) and for reporting performance. The quality of work will be assessed using field visits and through reporting of certain specific data. They are described in other sections of this chapter.

➤ **Users and Use of Information:**

The PMU will use the data from this tool and the field visits, as well as qualitative information to review the contractual and managerial efficiency of the SOs on which payments will be made. The monitoring outputs will be presented in semi-annual reports, which will serve the Bank as well as GOB in providing common framework for reference for analysis and decision (PIP, p # 25, BAMWSP).

The MIS Specialist, with the help of the Training Specialist, will maintain the information on SO staffing, training and staff retention.

Based on the SO staff information (Operations Manual Annex E), the Portfolio officer will recommend the first payment for the planning phase to the SOs.

The PMU and RPMU will maintain records, which reflect the guidelines on financial reporting and auditing of World Bank projects, to identify physical progress and financial transaction relating to project (for details see Annex 18, PIP, BAMWSP). For these records, the PMU/RPMU will have been able to identify the problems with specific SOs, staff or activities (See the Warning Charts, Tool No. 5 in Annex A) and accordingly take measures.

The SOs may use the monitoring data to evaluate the performance of their staff and to identify training needs. The data generated will also guide the SO to plan its activities and identify areas of concentration.

3.2 Preparation of the Community Action Plans

In the planning phase the SOs assist the communities to map and analyze their situation, needs and potentials and come up with an 8-component Community Action Plan (Sourcebook, Section...):

➤ **Indicators:**

Important performance indicators for both communities and PMU to gauge the performance of the SOs are:

- The length of time their staff spend in the communities; and
- Lengths of time spent on which activities with what sectors of the community.

➤ **Methods and Sources of Information:**

Two tools will help the monitoring of the time and activities in the field: the visit journal of the SO workers and the CBO logbook once CBOs/VWSCs are functional in the communities or neighborhoods.

In the visit journal the SO worker will keep track of the number and date/time of visits to each cluster in the planning communities that (s)he is responsible for. Purpose of visit, activities and participants - by gender- will also be recorded (see Annex A, Tool No. 17 for a draft format). A member of at least one household will acknowledge the cluster visit by signing or marking the journal entry. To enable the various clusters of the community to know how the visits are spread over the community, a summary sheet on the visits can be kept posted in a generally accessible location.

In the CBO logbook the CBO will record in one section (called the yellow section in Annex A, Tool No. 10) the meetings it has held both with and without the SO worker or workers. Purpose, duration, outcome and participation, by women and men, will be noted. In the so-called 'blue section' the CBO can record the more usual narrative minutes of the meetings.

SOs and SO supervisors may assess the satisfaction of the users, including women and poor with the SO's work in planning by using a suitable tool from the Tool Kit (e.g. the Smiling Faces/Warning Chart, Annex A, Tools No. 4 and 5). It is recommended that the SOs choose the indicators together with the community. Consultations should be done separately with women and men and should involve a special session in a poor and outlying section of the community.

➤ **Users and Use of the Information:**

The data in the visit journal will help the SO workers monitor the amount of time they spent in the field and the distribution of this time over various activities and clusters. Using their entries, they can easily see if they have not, or long ago visited certain clusters, or if they have paid less attention to certain issues in their sessions, e.g., health aspects, technology choice, or financing. They will also find out if the villagers are satisfied and can help him/her improve his/her work.

SO Supervisors can use the data to monitor time spending and activities of SO workers in the field and gauge the villagers' appreciation of their staff. The tools will give them some 'hard' data on staff performance, which will the supervisors recognize good performance and give them an early alert to problems, which they can then try to solve.

In Focus Group Discussions the SO Supervisor and Portfolio officer can cross-check the data during their field visits and in meetings with the fieldworker(s).

In the long term the data will be useful for impact studies. They can be used to assess the time inputs of local women and men in planning and be of use for assessing the community's total contribution to the investment costs. Since this time has a value which can be calculated, it is possible to estimate at the end of the planning and construction phase the value of the total amount of time which the local women and men have contributed to the project.

The field visits of the Portfolio officers (0.5 day/community on average) during this period serve to:

- Check if the SO has started
- See what their progress is in implementing the process
- Assess what the quality of the work is, in using participatory methods, techniques and tools, and in addressing gender and poverty issues related to the planning
- Get an indication how satisfied the community, women and the poor are with the SO

- Provide support as per the demand of the SO and the community
- At specified points, determine whether the SO can be paid (see Operations Manual, Annex E for times and conditions).

A checklist of activities prior to and during field visits is given in Annex A, Tool No 10.

The MIS Specialist will maintain records of the total time each Portfolio officer spends on visiting the field to indicate the extent and quality of monitoring of project implementation by the Portfolio officers.

3.3 Monitoring Community Management Capabilities - Outputs and Performance

In the Project Implementation Plan of BAMWSP, capacity building is part of the community mobilization process. The project therefore facilitates a process to build community-based organizations (CBOs). It helps the community members to elect representatives of the various clusters and user categories (women, men, better-off, poor, etc.) for the planning and management of the local water system(s), and the sanitation and hygiene activities. A guidance sheet on CBO assessment and formation is given in Section of the Source Book

The PIP articulates that communities “would develop capacity, assess situations, and plan their own schemes, including choice of technologies, distribution approaches, operation and maintenance, environmental protection measures, hygiene and sanitation activities, gender balance, and other related capacity building “ (BAMWSP, PIP, P. # 31).

➤ Indicators:

A major aspect to monitor as part of the monitoring of community processes and of the SO performance, and also as a project output, is:

- The presence of well functioning CBOs for water supply, sanitation and hygiene in all project communities. (The main indicators are given in Box 19.)

Box 19: Some Indicators for Monitoring Community Management Capabilities in the Planning Phase

- **Representative CBOs (i.e. representing the various groups and clusters) formed in an accountable manner, meeting regularly as an organization and with their constituencies**
- **The extent to which the CBOs are functioning as self-reliant organizations (e.g., how often they meet on their own vs. at the initiative of the SO)**
- **Tasks effectively undertaken by the CBOs (e.g., mediation and conflict resolution, fund raising, organizing and facilitating participatory sessions on their own)**
- **Submission of a planning phase proposal by the SO which is gender-sensitive (in contrast to dealing with only the involvement of women) and that reflects the interests of the poor**
- **Whether specific support activities from PMU to develop the capacity of the SOs for local management training and CBOs for local management have been started.**

Where possible, the project will strengthen existing organizations rather than establish new ones, but this will depend on whether the existing CBO is interested and appropriate to take on water and sanitation and represents (or is willing to adjust to represent) the various types of users. The SARAR tool on functions and formation of water and sanitation management committees may be of help (Sourcebook Section ..)

CBOs may function at cluster level and/or at community level, depending on the preferences of the people and the type of water supply and sanitation and hygiene programs that the householders have decided on. Representativeness in this case means not only that the CBO has members representing the different user groups, but also that these members are all invited to and attend the meetings and take part in decision-making.

The SO technical and community development staff will use the Scheme Selection and Financing Flow Diagram and Selection Matrices (Sourcebook, Section...) and visual sets of "options cards" based on these matrices to facilitate community managed planning. The matrices used will be included with the CAP for verification. All meeting minutes will indicate the gender breakdown of the participants and also state whether poor households participated. Records will be available of the total number of sessions held during the CAP phases (indicating the gender and indications of class of the participants).

➤ **Methods and Sources of Information:**

The CBO logbook (Annex A, Tool No. 10), and informal talks with its members are the first source of information. SO workers, Supervisors and Portfolio officers can validate the information by contacting in particular the lowest status members and asking them about their being informed and invited to meetings, their attendance and their share in decision-making.

➤ **Users and Use of the Information:**

The SO staff will be particularly interested in seeing how well the CBOs begin to function on their own - consulting their constituency, organizing meetings internally as well as with others, undertaking and succeeding in specific tasks. They will also be interested in searching for underlying reasons of good or poor functioning, so that they can better help strengthening other CBOs.

The Portfolio officers will wish to monitor and also report data on representativeness, gender and poverty, as these are important elements of the development strategy pursued by the Project. The PD will use this data in his report on the qualitative aspects of the Project.

3.4 Monitoring the participation process

Responding to the needs and demands of the users are key principles in this Project. The Project Implementation Plan of BAMWSP clearly states that for sustainable solutions the project “requires that communities are actively involved in assessing a range of causes, issues and options to determine solutions on a site specific basis with appropriate guidance and technical assistance (BAMWSP, PIP, P. #18). Hence, the processes through which the project operates are a crucial component of measuring the project’s success. In addition, the level of participation of poor and female vis-a-vis male members of communities has also been identified as one of the major process elements ensuring equity in a bottom-up approach.

➤ Indicators:

The proportion and characteristics of the future users who participate in meetings of the CBOs, cluster sessions and village assemblies are useful indicators for assessing the degree of user participation in the project planning process. This goes in particular for the users’ participation in the key choices concerning technology and maintenance, management and financing systems.

During the preparation of the CAP the SOs will involve community members, with special attention to women and the poor, in a participatory review of the technical, managerial and financing options. The review will address the local needs and appropriateness of the options based on environmental, technical, financial and social considerations

➤ Methods and Sources of Information:

The data on participation at the cluster level will be found in the CBO’s logbook and can be cross-checked during field visits. The SO worker’s journal also provides data on the SO’s use of participatory activities and methods in planning, on the range of options discussed with the CBOs and community groups and how many and who take part in these sessions. All meeting minutes should indicate the gender representation of the participants and general observations on representation of socio-economic levels. Again this information can be cross-checked during field visits. During these visits it is useful to not only stay in the center of the community but to go to a para on the outskirts and talk with the more disadvantaged groups.

To ensure that each community selects the appropriate least-cost technical option to arsenic mitigation, the SO will facilitate the process with the aid of the Scheme Selection Flow Diagram (See Source book, Section 4.1) and Community Choice Matrix (see Annex A, Tool No. 12). For the review of each of the technical options the Community Choice Matrix may be used as a primary tool. Thus, all locally feasible technologies may be reviewed, compared and scored in terms of their advantages, limitations and expenditures, to identify the least-cost appropriate choice.

In monitoring, the SOs will review the minutes, note who takes part in these consultations and whether the comments of the more marginalized participants (i.e., women and the poor).

➤ Users and Use of Information:

The SO workers will record cluster activities and participation cumulatively. This will help them note strengths and weaknesses and strengthen local participation and management processes. The data will further help the SO in reporting progress in quantitative as well as qualitative terms. (N.B. Sample forms remain to be developed).

The SOs will include a copy of the community matrices with the CAP for verification. For a general overview, and to report progress, the Portfolio officers may keep a summary table on options presented and reviewed as well as other data on the participation process. Based on the outcome of the aggregated report data and the field visits the PMU may reconsider technical options and training needs of the SOs for the next batch.

The Portfolio officer will use the records and cross checks in the field in his/her decision to make the second payment to the SO. S/he can also use the data to consult with SOs and staff that have low levels of user participation, so as to find out the reasons. The project may then decide to undertake certain actions, such as extra support in difficult cases, or refresher training when SOs feel they need more skills and knowledge.

3.5 Contributions and Equity

For the project, outputs of the capacity building process include “electing the Standing Committees (SC)/CBO management, establishing a community account, collecting funds for capital costs and holding important agree-to-do community meetings” (BAMWSP, PIP, P. #22). As such, the CBO with their representative bodies elected/selected by the users are the key for success. In the CBOs it is important that women can choose their own representatives, that the bodies are not dominated by the elites with their own interests, and that female members and members belonging to the poorest groups have influence on CBO decisions.

Gender Balance

A key project strategy is to involve women in all activities of the project. While this is very beneficial to mainstream women in village development, it will be important to ensure that it does not lead to overburdening women and men not taking up/fulfilling their responsibilities. To this end, it will be important to monitor time investments, divisions of benefits (such as access to training, functions and paid jobs) and physical workloads (e.g., participating in meetings, collecting funds, monitoring and improving hygiene). This will ensure that burdens are not allocated to women alone, thus adding to their already heavy workload. (See Sourcebook Section ...) The following indicators will give data to monitor gender aspects and mitigate imbalance, as per the demand of the communities and the project.

Box 20: Indicators for Monitoring Contributions and Equity

Quantitative Indicators

- No. of SOs submitting planning phase proposals with gender and poverty perspectives
- Proportion of CBOs with a gender and poverty balance in composition and formation
- Who is being guided/trained in what (e.g., are men and women being trained in gender-conventional skills or also in new skills?) and the percentage of women and men having access to *new* skills and technology
- Presence of women and men in various meetings and CBO positions
- Time contributions in women vis-a-vis men in the various meetings (CBO meetings, health meetings, project-related village assemblies, etc.)
- Percentage of paid and unpaid jobs by women and men, per stakeholder level (community, SO, RPMU, PMU)

Qualitative Indicators

- Who has taken what decisions, by gender and class
- Level of satisfaction with the SO on its facilitation of gender and poverty-sensitive participation – as measured already under performance monitoring

➤ Method and Sources of Information

Based on local participant observations, the SOs will monitor the processes and outcome, and report on the following characteristics of CBOs:

- newly formed vs. already established
- process of leadership selection (i.e., leaders are elected or selected by the users themselves vs. the leadership has been appointed someone else)
- whether women could select their own male and female leaders or whether this was decided for them
- background of leadership (male/female, rich/poor, etc.).
- presence and voice of poor women and men in meetings
- influence of women and poor in decisions

Qualitative observations from the SOs (e.g., who attend the meeting?) and informal questions during field visits from Supervisors and Portfolio officers to (poor) women and men will help assess whether these groups actually had a voice and whether their views were taken into account.

Tools for monitoring and evaluating participation, such as the participation meter may be used. This is a matrix for self-monitoring that allows the stakeholders to decide exactly what they want to monitor, (e.g., participation in technology choice, choice of management organization, choice of tariff and fund raising mechanism, siting decisions). It can be found in Annex A (Tool No. 13, Voice and Choice).

Monitoring on training will show who is trained in what and if men and women learn old or also new skills (e.g., new skills for women would be technical, and for men would be in health and hygiene).

Simple matrices scored with local materials, such as beans, or symbols on village social maps showing who got functions, training and jobs (See e.g., Tools No. 6 and 12 in Annex A) make it clear 'at a glance' for the villagers as well as the managing CBOs how burdens and benefits are divided. Scale scoring ("ladders") and the "100 beans scoring" have the additional advantage that its outcomes can be quickly reverted into simple bar diagrams and show where progress has been achieved and where extra efforts are needed.

Sharing payments

A particular issue to monitor is the sharing of payments for construction between the local households, and who provided the funds for payment within the households. In rural villages not everyone has the same economic position. Even when all are poor, some are poorest, some are less poor and some are least poor. The decision on how the 10% community contribution, and later on the full O&M costs are shared within the community is therefore an important one.

The Sourcebook (Section ...) gives some information on how costs may be shared between households. The SO workers will guide and monitor these decisions, and by whom they were made, and report on them in their records and reports. The final outcome also gets inserted in the CAP and is part of the selection criteria for co-financing the implementation. Annex A contains a sample monitoring tool (Tool No. 14) for CBOs to monitor household payments.

Within households payments are generally made from the combined resources of the family, but sometimes women contribute disproportionately, or even all of the payments (e.g., in cases of a savings and loan society for women), while men share benefits equally. In such cases the CBO and SO may raise the issue of co-financing with the women and men.

➤ Users and Use of Information:

The primary users of the information are the villagers and the SO workers. The method and tools in the previous section visualize very clearly who participates in what and how benefits are divided. Used in other projects, the tools have served as an eye-opener to village leaders and people, as well as to SO staff. They have helped the communities take decisions that have led to a greater equity in participation. The tools also enable communities to monitor and evaluate change over time. Use by the SO workers includes: monitoring, identifying and analyzing imbalances, and giving support to improve participation.

For the SO supervisors and Portfolio officers the tools provide a quick and systematic way to do a rapid assessment of the level of participation achieved on participation in decisions, functions, training and services. The tools give them an idea how well SOs are doing in villages.

If the score is low in what the SO workers rate as their best village, participation will consequently be weak in the whole area. The portfolio officer and SO supervisor will then use the information to analyze underlying reasons and decide on further action, such as better support to the SO concerned, strengthening of training with regard to community participation, gender and poverty, or in the worst case, when the weakness is part of a wide range of weaknesses, a change of staff or SO.

When several portfolio officers use the same tools in their field visit, they also lend themselves to comparing the performance of the respective SOs on this aspect.

3.6 Monitoring the Balance between Water, Sanitation and Hygiene

A water supply project without appropriate sanitation and hygiene can contribute little, if at all, to improving the health situation. This being the case, the BAMWSP Project also includes the promotion of sanitation and hygiene improvements.

➤ Indicators

Indicators for monitoring the immediate output and the performance of the communities in their promotion during the planning phase are given in Box 21.

**Box 21: Indicators for Monitoring the Balance between the Water and the Sanitation and Hygiene Components
(To be elaborated further during the Implementation Phase)**

- Presence of sanitation and/or hygiene components in CAPs
- Regularity of people's activities relating to promoting and monitoring better sanitation and hygiene

➤ Method and Sources of Information

Monitoring and data recording will be done primarily in the CBO logbooks and the SO visit journals. The SO supervisors and the Portfolio officers will also visit, observe and report on the situation. The outcome will be reflected in the CAPs. Impacts will show up in the community's own monitoring of selected key conditions and practices in clusters and in the community at large. This is addressed in the chapter on impacts monitoring

➤ Users and Use of Information:

The villagers will use the data on their local sanitation and hygiene conditions and practices to plan and manage their own improvement plans. Good results have been achieved in other projects where local leaders and CBOs stimulated each cluster to make their own improvements led by their own cluster organization. For example, a team of a woman and a man are asked to record the changes in their maps. Regular meetings with the overall villager leadership or CBO allowed the latter to monitor overall progress in the community.

The information in the CAPs and from the meetings on hygiene, as well as from their own field visits will give SOs, Portfolio officers and the Project Director an indication of the degree to which hygiene and sanitation activities are given priority. In addition to monitoring the health consequences of arsenic poisoning through improved water systems, some attention should also be given to monitoring changes in key risks of transmitting diarrhoeal diseases. Monitoring the health statistics for diarrhoea is only relevant once a significant reduction in key risky transmission routes has been achieved. The latter are mainly:

- unhygienic disposal of human excreta at home, in schools and of infants and babies
- lack of handwashing of both hands with soap, ashes or firm rubbing and plenty of water, and at critical times

3.7 Preparations for Impact Monitoring: Baseline Studies

To allow the later assessment of the impact of the program, baseline studies are required that supplement the information contained in the pre-feasibility study. An example is the improvement in knowledge about arsenic contamination and the change to safe sources at least for drinking water (Annex A, Tool #5). Other baseline data are the current access of the poor to water and sanitation facilities, and divisions by gender and poverty in access to training, decision making functions and jobs. Table 3 provides an overview of indicators that villages and project may wish to use in their baseline studies

Table 3 Indicators, Methods and Tools for the Baselines for Impact Measurement

Indicator	Method	Tools
<ul style="list-style-type: none"> • User knowledge of arsenic-free and bacteriologically safe sources of drinking water • Access to safe drinking water sources for rich/middle class/poor • Use of safe water sources for drinking, by rich/middle class/poor 	<ul style="list-style-type: none"> • Users' rating of local water sources, by women and men (distinguish) • Village/Cluster assessment 	<ul style="list-style-type: none"> • Pocket Voting • Social Map • Transect Walk in cluster/ village • Village/Cluster Social Map
<ul style="list-style-type: none"> • Environmental sanitation conditions, by rich/ middle class/poor • Participation by men/women, rich/poor • System for time requirements (as part of community cost sharing) • Quality and quantity of drinking water sources 	<ul style="list-style-type: none"> • Users' reported habits of source selection for drinking water over seasons, per cluster • Community/cluster self-survey by male/female team • People's scoring • CBO and SO monitoring of meetings and labor days • Quality and quantity tests, Users' perceptions on quality and quantity 	<ul style="list-style-type: none"> • Focus Group Discussion • Pocket Voting • Mapping • Healthy Homes Survey • Participation Matrix • Social Map • CBO Logbook • SO Journal • Tests for arsenic and bacteriological contamination, pump discharge, Focus Group Discussion

➤ **Method and Sources of Information**

For reasons laid out in the Introduction baseline studies will *not* be extractive studies of the KAP (Knowledge, Attitudes, Practices) type, but use participatory learning tools of the types given in Table 3 above. (Villagers and SOs may wish to develop their own tools as well, which is to be widely encouraged).

A copy of the proposed tool on knowledge and behavior change (Recording Format for Increased Arsenic Knowledge) is given as Tool No. 14 in Annex A. (NB: As mentioned, training of Consultants and SOs in this type of study is required, when they have had no or little exposure to participatory investigations).

An independent study in a sample of communities will be needed to cross-check the findings on behavioral impacts.

In the Type A villages, the CAP signifies the end of direct project support. In these villages the end outcome of the project is the sustained knowledge achieved on the recognition of risky water sources in terms of arsenic and bacteriological contamination and the adoption of mitigating practices, such as sharing of safe sources.

Whether the inputs of the project have been adequate to achieve and sustain these practices will have to be shown up through the monitoring and evaluation of the immediate and longer term (sustained) effects on the practices of men and women, rich and poor. The participatory tool developed for this assessment is Pocket Chart Voting (Annex A, Tool No. 9). New and different tools should be developed for post-measurement to avoid that familiarity with voting leads to giving desired rather than true answers. Probing also helps to assess the credibility of the found results.

➤ **Users and Use of Information:**

With the use of the above-described tools and techniques, villagers and SOs can assess the baseline and then end situation in type A communities.

The SO supervisors and Portfolio officers will prepare aggregated tables on the number of women and men who corrected their knowledge with the help of the Recording Format for Increased Arsenic Knowledge.

The information required to maintain this data is generated from the reports sent by the SOs on the Pocket Chart Voting Score Sheet (Annex A, Tool No. 9). The data will serve to report on the impact of the project intervention on local awareness and practices regarding safe water use.

When the results are not satisfactory after six weeks of CAP preparation, and this data is confirmed by an independent external study, the Project Director may decide on a longer intervention program in Type A villages.

3.8 Community Decisions on the Local Monitoring System

Monitoring is an activity and a management tool for all levels: community, SO workers, SO management, RPMUs and PMU. A considerable part of the monitoring is done with and by the communities and they will only monitor and continue to monitor when the collected data is useful to them and benefits warrant the work involved.

Issues which communities may be most interested in to monitor may include:

- Baseline situations regarding water supply, sanitation, hygiene, community organizations and their membership, building of local capacities
- The differences in conditions and participation for women and men and the economically disadvantaged - in relation to access to water and sanitation, decision making functions, training - and whether this situation is changing
- People's participation in planning and authorizing the CAP
- Payment arrangements and their implementation
- Accountability for the planning process and its management by the CBOs
- Satisfaction with the work of the SOs (as in the pre-planning phase)

Helping communities make decisions and arrangements concerning what they will monitor, how and through whom, and how they will use the information, is part of the work of the SO field team. A community monitoring plan is part of the project outputs under the CAP (see Operations Manual, Annex C).

The development and implementation by the community of its own monitoring system with its own participatory tools and techniques is an important mechanism to strengthen and focus community management capacities. Today many tools are available whereby also non or low literate community members can monitor the various aspects of their choice. The project will have to find an experienced trainer who can train SOs in a community setting - that is, together with a pilot community- in the development and support of community-based monitoring systems which are both relevant and viable for the men and women concerned.

3.9 Review of CAP and Second Payment to SOs

At the point in time when a cluster of communities has set up their CBOs, opened their accounts and have completed their cluster sessions and Community Action Plan, the Portfolio officer will make a field visit and check in the field whether the requirements for the second payment to the SO have been fulfilled

➤ Indicators:

A list of the conditions that the SOs will have fulfilled at this time is given in the Operations Manual, Annex E.

➤ **Methods and Sources of Information:**

The Portfolio Officer will review the documentation to see whether s/he has received all the information required and to check upon the quality of reporting on the qualitative aspects. S/he will then visit the area and, making use of some of the tools described above, monitor whether all process requirements have been met in the field. A checklist of activities prior and during the field visit is given as Tool No. 10 in Annex A. If a visit to all communities is not feasible, a mix such as one village with strong participation and one with weak participation may be visited. Informal contacts and Focus Group Discussions will include meeting with the most disadvantaged section (usually the most outlying, but this should be checked) and groups.

➤ **Users and Use of Information:**

When the requirements have been fulfilled (see also Operations Manual, Annex E) the Portfolio Officer will recommend that the PMU makes the second payment for the planning phase to the SO. S/he will further use the data from her/his visit when reviewing the CAP and project proposal and in the internal negotiation process for the selection of the qualifying proposals. (For details on negotiating body and procedures, see the Operations Manual, Chapter 2 and Chapter 5).

3.10 **Review and Selection of Qualifying Proposals and Third Payment to SOs**

After the CAP has been completed the SO will help the community to make the Implementation Proposal. At this stage in the project cycle the project will monitor the performance of the communities and the SOs on completing and submitting all underlying technical designs and plans of financing, management and monitoring of the system, as well as other improvements the communities may have decided on.

➤ **Indicators:**

Indicators for the Portfolio officers, the Project Director and the Steering Committee at this point in time will be:

- Number of CAPs submitted in time and complete
- CAPs adopted in a representative village meeting
- The various stakeholder groups in the community (men, women, poor) know the main contents, have had opportunities to voice concerns and see these addressed and agree with the final plans that have been submitted
- CAPs with the least-cost appropriate proposals have been adopted in a transparent process and within the set time period
- Portfolio officers have informed the SOs and communities of the outcome within the agreed time period.

For the SOs and the men and women in the communities timeliness, completeness, transparent and broad acceptance and timely information of the outcome will probably be the monitoring points with the greatest interest.

➤ **Methods and Sources of Information:**

For the Portfolio officers the methods and sources of information will be the same as for the second payment, namely a review of the proposals (now with technical designs) and a field visit using review of local monitoring data and Focus Group Discussions.

The SOs and communities also will use the methods and tools described in the sections above to monitor progress and quality

➤ **Users and Use of Information:**

The Portfolio officers will use the information to review the individual proposals and to negotiate their being included in the STAC's selection for Batch I. This selection will consist

of those proposals that combine the greatest need with the lowest cost and whose combined cost will fall within the total budget for Batch I.

SOs and the Steering Committee will use the monitoring information to assess the transparency of the process and the adherence to the selection criteria for qualifying proposals. SOs can appeal to the Steering Committee when they consider they have a genuine case of under-scoring.

Taken in their totality, the above described monitoring activities will help the PMU and the SO management to check how the SO staff perform; whether in the CAP process and outputs the needs of poor women and men were brought up in the CAP Process and considered; and whether schemes have been selected which combine the greatest need with the least-cost appropriate solution(s).

Communities will get insights into their conditions and practices. They may use the information to strengthen local management skills and may decide to make changes in internal arrangements, e.g., on participation or cost-sharing.

SOs may decide to alter their methods and techniques for involving the communities in the planning as well as alter/modify/prepare new tools to facilitate participation.

The PMU may use the data to assess the quality of the SOs and their own staff (e.g., in field visits and in feedback to SOs) and decide to strengthen training and guidance to staff and SOs. In some cases the PD may decide to offer no new contracts.

3.11 Outputs at the End of the Planning Phase

At the end of the planning phase, the project will have a new set of quantitative and qualitative outputs. These will include:

- Participatory baselines used for CAP planning and providing a base for self-monitoring and impact evaluation;
- Completed and reviewed CAPs in all or most communities;
- A list of sub-projects agreed as per criteria in a transparent manner;
- SOs selected on the basis of previous performance and satisfaction of all parties, including the communities and implementation proposals negotiated on the basis of defined tariffs;
- SOs and communities timely informed and SOs paid;

Monitoring will then continue in the construction phase in type B and C communities. In Type A communities, monitoring will be limited to assessing the sustenance of safe water use habits, the continued monitoring of sources on arsenic (including the management and financing of this monitoring) and the implementation of the community plans for sanitation and hygiene.

Instead of, or in addition to its own monitoring the Project may also decide to have an independent evaluation study done. Based on the results, the Project Director may decide that insufficient impact and sustenance of impact have been achieved over time and that SO support should continue on a declining base until sustained improvement has been achieved. At that moment a cost-benefit study may be done to assess whether the results have been worth the costs. (For a social cost-benefit study, see this Manual, Chapter 6, Impact Monitoring and Evaluation).

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Chapter 4 Implementation Phase Monitoring

The implementation phase can be separated into two major stages:

- Pre-construction and construction stage
- Post construction stage

Monitoring in the first stage deals with the standard of community management in the preparations for the construction, as well as the quality of the construction itself. It further deals with the effectiveness of human resource development needed for construction and for the operation, maintenance and management of the completed schemes.

Monitoring of the post-construction stage deals mainly with the performance of the schemes in supplying arsenic free water to the villagers and the utilization of water sources by women, children and men. Apart from these primary concerns, post-construction monitoring also deals with long term sustainability and impact of the project. Post-construction monitoring provides information regarding organizational and technical set-ups. It helps to bring about changes in structure, technology and policies in the long term and to take corrective measures in the short-term. Post-construction monitoring also deals with the effectiveness of human resources development needed for the proper operation and maintenance of the completed scheme(s).

Both pre-construction and post-construction monitoring focuses on processes (i.e., how the work is being done), performance (i.e., whether measures are met) and outputs (i.e., what are the immediate results).

Pre-construction and construction monitoring as included in this manual involves the involves aspects:

- Monitoring of Workplan Preparation;
- Monitoring of Procurement;
- Monitoring of Construction;
- Financial Monitoring;
- Performance of SOs in Construction Support

4.1 Monitoring of Workplan Preparation

The CAP and the workplan prepared by the CBO for the implementation phase are the key sources of indicators for community level monitoring during the pre-construction and construction stage. As such, the process of development of workplan is of vital importance for the villagers.

➤ Indicators:

Process and performance/output indicators to measure workplan preparation and implementation are given in Box 22

Box 22: Monitoring Indicators for Construction Workplan

- **The workplan is prepared in a participatory gender and poverty sensitive way**
- **Complete (as well as technically viable) and equitable (in terms of division of labor and cost sharing among different sexes and classes) workplan is in place**

➤ **Methods and Source of Information:**

To make sure that women and the poor have had a say in workplan preparation, the key monitoring questions facing the CBO and SO during the preparation of the workplan are:

- Whether the women and poor have participated in the discussions
- Whether the women and poor have participated in the decision making

There should be adequate participation of poor and women in the workplan preparation meeting(s). The workplan should be reviewed in a meeting prior to its finalization. In these meetings poor women and men will have attended, expressed their views and have seen these reflected in the final plan. Monitoring this process is primarily a responsibility of the CBO management committee and the SO. The SO worker may attend some of the meeting(s) and the portfolio officer can check the Village Log (meeting minutes) to see which issues have been discussed and who have attended those meeting(s). The portfolio officer (RPMU) can also have discussion with the SO workers, the CBO members and poor women and men during the site visit.

Moreover, to check whether the workplan has distributed the work load (paid and unpaid work) equitably among different classes and sexes, it is also important to monitor:

- Who is doing what and when
- How much money will be spent by whom
- How contributions will be monitored

In this regard, the SO worker and portfolio manager during site visits can compare the workplan against the social map (Annex A) to check which class (i.e., poor/middle class/wealthy households) is performing which responsibilities. A workplan may be found to be inequitable if:

- Poor households or women are burdened with a greater share of unpaid labor (e.g. digging, transport, cleaning, tariff collection work) than that of rich households or men
- The executive decisions of CBO are taken mainly by the rich members
- Actual contributions are not properly monitored or no action is taken against the defaulters

The CBO members will monitor these aspects in their meeting(s) before finalizing the workplan. The CBO members may mark the households on the social map according to the responsibilities delegated to them in the workplan. This will reveal if there is any bias towards rich or any discrimination against women.

For the SO there will be an additional responsibility of assessing the technical feasibility of the workplan and servicing the CBOs accordingly. This can be done by the technical staff of the SO while attending the workplan preparation meeting(s).

➤ **Users and Use of Information:**

The CBO members will use the findings of the Community Review Meeting to modify, cancel or adopt a workplan. If the workplan is found inequitable, it will be modified or a new, more equitable workplan will be prepared. A workplan will be finalized by the CBO only if it is prepared in a participatory manner by involving poor wo/men and if it is found to be equitable. A workplan will also not be accepted by a CBO until the majority of its members regard it as technically feasible and efficient. If the SO official is not satisfied with the quality of the workplan prepared by the CBO, s/he may call for another review meeting in which a third party may be invited for external assistance (SA or Portfolio Officer). However, the CBO holds the final decision regarding workplan.

Box 23: Constraints of Women and Poor to Attend Meetings

General meetings such as the community review meeting in the Implementation Plan are important to ensure transparency. At the same time poor people and women do not have time to attend village meetings. Hence SOs may encourage CBOs to come up with creative solutions; e.g., CBO members consult women, poor in smaller meetings in their compound or cluster

4.2 Monitoring of Procurement

In the project there will be two kinds of procurements:

- Procurement of labor
- Procurement of materials

(i) Monitoring Procurement of Labor

The unskilled labor will be supplied entirely by the communities concerned. The skilled labor may or may not be available at community level. If labor comes from within community, the key monitoring questions are:

- Who (poor/middle/rich households and wo/men) are supplying which (paid or unpaid) kind of labor?
- Are wages gender-equitable and paid on time?
- Is the labor division, and its benefits, publicly known?

Box 24: Indicators on Labor Procurement

- **Poor/middle/rich households and wo/men are supplying an equitable share of paid and unpaid labor as per the workplan**
- **In case of paid labor, the wage rate does not discriminate against women**
- **Community members are aware of sources of labor**

➤ **Methods and Sources of Information:**

The CBO members will settle the issue of labor recruitment in the Community Review Meeting and will primarily mark the households that are supplying the labor on the social map or matrix (Annex A, Tool #6). This way labor can be recruited in a participatory way and the choice of families hired become transparent to the villagers. Hence, if disputes arise they can be resolved through discussion. The same meeting also decides on if and how voluntary contributions will be monitored, and with what monitoring tool.

Monitor whether the community members are actually contributing in supply of physical labor (e.g., digging and transport) can be an important component at this stage. There may always be a risk that the wealthier section of the village may not personally provide labor. In such case absentee wealthier households may be made to pay the wage of a proxy laborer. To monitor this, the CBO may in the community review meeting note which households do not wish to supply labor. The meeting may then set the monetary compensation for hiring replacement labor. It may also decide at this stage on any exemptions from contribution (e.g., in case of old age or disease). The CBOs may list these households along with the ones that will contribute labor, monitor all constructions on site and register compliance as per the system of their choice (list, barchart, map, etc.).

Note: All the wage payments (if so decided), should be set at the prevailing market wage rate for men. The same wage should then be paid to both female and male workers without any discrimination.

➤ **Users and Use of Information**

The information collected through monitoring the supply of labor will enable the CBO to ensure an equitable distribution of labor and wages among the different classes (i.e. poor/middle/rich households) and sexes (i.e. women and men). SOs will use the monitoring data in their Scheme Completion Report. The PMU will use the monitoring data to appraise the Scheme Completion Report submitted by the SO.

The CBO's monitoring system will be used by SO official and portfolio officer/WID specialist of RPMU to crosscheck during site visit(s), e.g., on functional monitoring and actual contributions and gender balance. A separate account of wage payment should be maintained by the CBO that serves as another source of monitoring. The regularity of wage payment can be verified in CBO meeting(s) by SOs and in PMU site visit(s). Through FGD they may also inquire who in the CBO are aware of the situation of labor supply.

ii. Monitoring Purchase of Materials and Storage

There will be two types of materials procured in the pre-construction stage:

- Procurement of local materials
- Procurement of non-local materials

Monitoring of purchase of materials and storage will involve the following indicators:

Box 25: Indicators on Procurement of Materials

- **Materials are available on time (as per the workplan)**
- **Quality materials are purchased at market price**
- **Materials are properly stored (i.e., safety and technically sound)**
- **Community members are aware of the purchase and storage situation**

➤ **Methods and Sources of Information:**

Material procurement decisions will be taken in CBO meeting(s) during the preparation of the implementation and authorized in the community review meeting with participation of wo/men members especially of the poor. To check on prices and monitor quality of goods the community may elect a purchase committee that will be in charge of the acquisition of the materials. To monitor purchases the CBO will maintain all purchase vouchers in a system of their choice. Purchase documents will be verified in CBO meetings to create internal transparency and accountability. During their field visits, the SO will discuss with the CBO management the purchases and review the vouchers. To make the purchase process transparent, the CBO may paint the entire budget of the construction on a village wall (as was done by a CBO in a sub-project Uttar Pradesh, India), or otherwise publicize the information.

CBOs will procure the non-local materials with the assistance of the SO or the SO will purchase the non-local materials on behalf of the CBO. If the materials are purchased by the SO then the SO should keep a copy of the purchase vouchers (attested by the CBO president) and submit the original vouchers to the CBO. RPMU (Assistant Engineer, Portfolio officer)

can check the vouchers and the quality and price of the materials during site visits. The monitoring will create accountability and ensure quality of purchase

Proper storage of the purchased materials is a crucial issue. The CBO members should be stimulated to develop their own methods of safe storage. For example, if there are no separate storage facilities, CBO members can split the materials amongst themselves and store the materials at their respective homes and monitor and maintain account of their use. This decision has been found to work in other parts of the world. In any case the total amount of materials and types and the storage location should be known and monitored for transparency and accountability, for example in a storage ledger. This helps the CBO to monitor the location of the materials, the amount used and the amount remaining by date.

Box 26: Enhancing Transparency

During the visits the Portfolio Officer and SO official may try to share their monitoring findings with a larger group than the CBO management committee. This way it can be ensured that monitoring activities and information is not always confined in a small group of executives.

➤ **Users and Use of Information:**

The CBO uses procurement monitoring to ensure that materials are properly stored and used. The purchase documents/voucher preserved by the CBO cashier will be needed for financial monitoring as well. This monitoring helps to create transparency and encourages accountability of the CBO.

The stores and storage ledger will be used by the Assistant Engineer, Monitoring and Portfolio officer (RPMU) and SO worker to verify the storage. The CBO members will explain the storage situation to the Portfolio Officer and SO personnel during their visits. After end of such visits of the CBO, the Portfolio Officer or SO officials may share their findings with the CBO management and larger community to ensure a wider flow of information and create collective accountability.

The SO will use the monitoring data in its Scheme Completion Report. The PMU will use the monitoring data to appraise the Scheme Completion Report submitted by the SO.

4.3 **Monitoring of Hardware Construction**

The construction of the hardware (scheme) is the main component of the implementation workplan. The CBO members monitor the quality and progress of the construction process against their workplan. The indicators of construction monitoring are given in Box 27.

Box 27: Indicators for construction

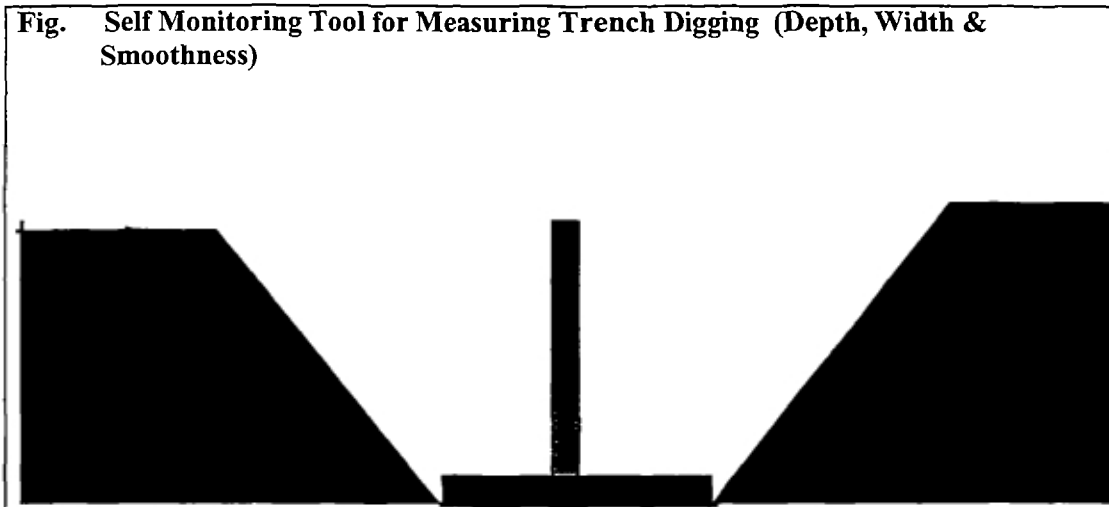
- **Progress of construction as per the workplan**
- **Quality of construction (physical and technical)**
- **Quality of unskilled labor**
- **Voluntary labor contributions monitored and actions taken against defaulters**

➤ **Methods and Sources of Information**

For monitoring progress, the villagers may use a simple Progress Monitoring Tool to check progress to date with respect to specific expected level of construction and payment.

The community members, and especially women households who live near water sources/taps/pump sites, can be trained on simple qualitative aspects of construction such as platforms, cement mixing ratios, etc. Measuring depth and smoothness of trenches dug for piped system are aspects that a CBO can monitor. Community monitoring enables the users to monitor the quality of both skilled labor (such as the work of the plumber, mason, etc.) and unskilled labor (such as the trench digger, the well digger etc). This may require suitable self-monitoring tools.

Fig. Self Monitoring Tool for Measuring Trench Digging (Depth, Width & Smoothness)



Participation of community members in environmental monitoring during construction encourages the proper disposal of construction wastes. This can be done through whatever system they prefer. Villagers, CBO, SO officials and RPMU officials may easily crosscheck the effectiveness.

For the SO technical officer and RPMU Assistant Engineer (Monitoring), progress monitoring involves monitoring of

- Technical quality of construction (e.g., if the design has been followed properly, standard material has been used, etc.);
- Timeliness of progress (if the workplan has been followed)
- Equity of contributions

For these, the SO and RPMU technical official need to focus more on the construction site and on the CBO's monitoring of household contributions during their visits in the construction stage.

➤ **Users and Use of Information:**

The progress monitoring will keep the community members informed about the rate of progress in scheme construction and helps to keep the construction process on track. The latter is also important in order to avoid that peak periods in voluntary work coincide with the planting and harvesting seasons.

CBOs will use the monitoring of the quality of materials and workmanship to avoid that poor quality of either or both aspects impacts negatively on the subsequent functioning of the systems. The data collected in the monitoring will be used by the SO official to assess what technical assistance is required by the CBO from the SO to deliver a quality system in time. For PMU the monitoring will ensure the same.

4.4 Financial Monitoring

The CBO members should monitor the financial aspects of construction carefully. This will involve monitoring of:

- Actual expenditure against projected expenditure at different stages of construction
- Available funds and resources against required funds and resources at different stages of construction
- Timeliness of payments
- Proper maintenance of accounts and vouchers
- Accountability of the financial management to the contributors

The indicators of financial monitoring as such will include:

Box 28: Indicators for Financial Monitoring by the Community

- **Internal financial monitoring in place and used**
- **Accountability in place and working**

➤ **Methods and Source of Information**

The CBO may monitor the financial contribution by using the participatory tool designed to monitor progress of construction. The tool (or other such tools) helps to keep accounts on incomes and expenditure and produce regular financial overviews. The findings should be made public in regular meetings of the CBO to its members. Public display of the budget (e.g. on a village wall) will also enhance community accountability of CBO management and transparency in transactions. This will lead to better management and utilization of funds. The SO official will monitor the quality of account keeping by the CBO and assist it to improve its performance.

Box 29: Enhancing Financial Accountability

The CBO may introduce village auditors (as practiced in UNOPS, UNDP, Kishorganj). Village auditors will be local educated women and men trained on reviewing CBO accounts. The village auditors will act as informal third party in annually reviewing the account of the CBOs. Periodically, e.g. every two years a new team of auditors will take on the task of independent accounts' review.

An officer from the RPMU will check the accounts on a sample basis during the site visit brought to verify the Scheme Completion Report as submitted by the CBO.

➤ **Users and Use of Information**

Financial monitoring will make the financial account of the CBO transparent and lead to better fund management. Use of the monitoring information will lead to better quality of bookkeeping by the CBO and will also help the SO to prepare its Scheme Completion Report.

For the RPMU the data will provide information against which to review the Completion Reports of the Constructed Schemes. Financial monitoring will provide the PMU with the overall picture of fund utilization by the communities for different types of schemes at different localities. This information is then used to prepare the financial plan for the next batch.

4.5 Monitoring the Performance of the SO in Construction Support

In the construction stage the SO will provide the community with training and technical assistance relating to materials purchase, construction and construction monitoring. The SO will also assist the CBO in keeping documents and accounts. As such the performance monitoring of SO will include the following indicators:

Box 30: Indicators for SO Performance in Construction – The Community’s View

- **Satisfaction of users with performance SO in imparting training and support**
- **Delivering the community with a good Scheme Completion Report**

➤ **Methods and Sources of Information**

The community members will also assess the performance of the SO in assisting them in construction with the help of the warning chart or any other tool of their choice. The SO worker can conduct the first participatory review of this type at the middle of the construction process so that there is enough time to utilize the monitoring data to improve her/his performance. At the end of the construction of the scheme(s) the SO worker should also conduct a final review of its performance by the villagers. The result of this user-evaluation should be put in the Completion Scheme Completion Report. The latter is the pre-condition for the second payment of the SO. The Portfolio officer can conduct the same kind of participatory evaluation during his/her post-construction appraisal of the Scheme Completion Report.

➤ **Users and Use of Information**

The monitoring data on SO performance will provide the CBO with information regarding the areas where the SO have performed well and the areas in which the SO have to work harder. The monitoring will create accountability of the SO to the CBO and provide the SO with feed back on its performance so that it may improve on it. At the end of the construction, this monitoring will generate information needed for the SO to submit the Scheme Completion Report.

The (R)PMU will use the information to evaluate a sample of Constructed Schemes by the portfolio officer and/or a third party evaluation. The submission and acceptance of the Scheme Completion Report by the community, SO and the PMU signifies the end of the construction phase.

4.6 Post-Construction Monitoring

Post construction monitoring provides information on:

- Effectiveness of the newly constructed schemes in delivering arsenic-free, safe water;
- Utilization of the newly constructed (as well as the old) water sources for different purposes by villagers of different income groups and sexes,
- Participation and influence of poor wo/men in the decentralized management structure;
- Distribution of benefits of the constructed scheme(s) among villagers of different income groups and sexes,
- Quality of operation and maintenance of the constructed schemes;
- Effectiveness of human resource development in coping problems at local level.

The post construction monitoring is done under (a) impact monitoring and (b) sustainability monitoring. Possible models for these are presented in the next chapters.

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Chapter 5 Sustainability Monitoring

The test of success for a project is not limited to the timely construction of good quality facilities and the low unit cost. Success entails that the assets are used and are used by all, rather than a select few. It also entails that they give good service and that capabilities have been built up that maintain this good service and continue to improve village sanitation and hygiene.

5.1 Key Aspects for Sustainability Monitoring

Based on the above the following categories (domains) of sustainability monitoring are suggested for the BAMWSP Project:

- a. Quality of Service of the Water Delivery System
- b. Human Capacity Development for Service Management
- c. Community Management of Sanitation and Hygiene
- d. Upkeep of Gender and Equity Approaches

a. Monitoring the Quality of Service of the Water Delivery System:

Communities better sustain schemes that offer reliable access to safe water on a reliable and predictable basis throughout all seasons. The reliability of the delivery system is important, because if the delivery system behaves erratically, the users must use other and often unsafe sources to meet their water needs. On the other hand, efficient functioning of the water schemes in delivering quality water at source encourages a community to use and financially and otherwise support a safe water supply.

Sometimes a 24-hours availability of water, which in *pipied systems* is important to avoid water contamination, cannot be ensured. It is then at least essential that the service hours are predictable and have been fixed in consultation with the main users (=women). This allows the women to manage their water collection work in accordance with the operating hours. This often means that then they have more time for their other tasks and do not have to send children (often girls) to wait at public taps till the water arrives in the taps.

In other words the continuation of safe water use presumes the reliability of water systems which can be achieved by ensuring the proper:

- Technical functioning of the water supply
- Operational management of the system
- Maintenance and repairs

➤ Indicators

To measure whether an installed supply of safe water is being sustained as a condition for continued safe water use, two sets of indicators can be used. The first set deals with the actual functionality of the water supply system over the year; the second with the O&M and Management system that keeps the service functional.

Box 31: Indicators for Measuring Quality of Service of Water Delivery System

- **Functionality of the Service**
 - No. of days safe handpump wells, taps, etc. give water
 - Quality of water acceptable to users and health authorities
 - Amount of water available against demand for water
 - Times, periods and predictability of supply throughout the day
 - Degree and reasons for waiting, queuing
- **Functionality of the O&M System**
 - O&M system in place; Quality of performance and reasons
 - Length and change in 'mean time before failure'
 - Length and change in average down time

➤ **Methods/Sources of information**

Information may be collected on these two sets of indicators through site visits, visual inspection, water quality testing at the source and through open-ended, in-depth and separate interviews with women and men in households living close to the sources. Separate interviews with women and men are needed as in mixed interviews the men often then to answer for the women, also on aspects where the latter may have the more accurate information. Separate interviews bring out gender differences in knowledge and allow triangulation

For monitoring of quality of service questions can be asked like:

- How does the supply work?
- How often in a (Use locally used timespan) is it not working?
- In general, how long does a breakdown last? Does it vary?
- What do people do when the pump/tap, etc. is not working?
- When the pump/tap, etc. works, do people queue? Why?

For monitoring of ongoing maintenance the key questions to ask will include:

- Is a person (note sex) for maintenance in place?
- Has s/he been trained? When? In what?
- Does s/he have the required tools (observe)?
- Are spare parts available? Within 1-2 days?
- Is financing for repair available/raised within 2 days?
(When longer than 1-2 days users have no other choice than go to another and often unsafe source).

The data should be collected from both ends: the CBO, the caretaker and the users. This way more triangulation can be ensured. The caretaker and users monitor the individual facilities. Monitoring of the service as a whole is by the CBO, or whoever manages the community service and the manager/managing body formally reports on the service and accounts for operation to the users at an annual or bi-annual meeting. Informally, and especially in smaller communities, accounting for service may happen more frequently, in particular at times of breakdowns.

It is very important to have some kind of recording of the times a safe source is not giving water. This is an important aspect to deal with when planning the community monitoring system for the post-construction phase. Otherwise one can only measure a percentage of the sources out of order at the time of a visit and the approximate duration and reason for this last downtime. Recalls for frequency and duration of downtime are notoriously unreliable and seriously limits functionality assessments.

A good recording tool for self-monitoring is yet to be found in Bangladesh. Earlier experiences with a calendar on which the caretaker household noted the days a handpump was out of order and the reason for the breakdown have not worked. Perhaps the breakdowns did not happen often enough to make the tool useful. It seems therefore worthwhile to try using the tool in the opposite way, that is, marking the weeks in which the pump has been operational and filling in the type of problem and the days that this wasn't the case in a separate section of the tool. More experimentation is needed.

➤ **Users and Use of Information**

The users, caretakers and CBOs will use the monitoring to deal quickly with any problems, either by solving issues within their power themselves, or by reporting to and calling in the help from others. The CBO also needs the data to analyze the problems and decide on improvements, and to account for its performance as manager to the users/tariff payers.

The SO will see from the data what its effectiveness of facilitation and skills development has been, and if there is anything they could do better in other communities. The data will also help them give focused support during the aftercare.

For the PMU the data are an important learning tool on the validity, strengths and weaknesses of the project approach. They will use the data to evaluate their performance in building up human capacities in communities to maintain and manage quality water supplies. Based on the incoming data the PMU makes decisions on in-depth studies (where more needs to be learned) and adjustments to training and support (where gaps show up).

The monitoring altogether contributes toward building up technically and managerially sound, demand-responsive and well-functioning water delivery systems

b) Human Capacity Development

In case of BAMWSP, although “the main thrust of the Project is to build local level capacity at the community level through mobilization and participation in decision-making, very little prior experience is available in the rural water supply and sanitation sector and therefore little capacity to implement the Project (exists)” (PIP, BAMWSP, pg # 93 of Annex 8). However, the project can learn from the experience of the NGOs (as mentioned in the PIP) and also from the experience of implementation of participatory water and sanitation programs in other countries. The PIP also elaborated that the CBOs and SOs should receive proper training for better operations, maintenance and financial management (PIP, BAMWSP, Annex 10, pg # 86).

The following are some typical questions when monitoring whether participation and training have indeed built up the necessary human capacities and capabilities:

- Does the CBO continue to monitor and manage service performance and user payments?
- Do male *and* female members of the CBO meet regularly on monitoring and other management aspects of community water supply, sanitation and hygiene? Do they take actions to consolidate achievements/improve weaknesses/solve problems?
- Does the CBO regularly account for its financial and service management to (a quorum of) the male *and* female users/tariff payers?

At the same time, it is important to acknowledge that capacity development does not only contribute to expanding specific knowledge and skills, but also instills creativity and confidence in dealing local development in the users and the CBOs. Indicators proposed to monitor the capacity building are illustrated in Box 32.

Box 32: Indicators for Human Capacity Development

1. Management Ability

- **Regularity of monitoring quality of water service, environmental sanitation and hygiene ; problem solving action**
- **Regularity of accounting for service and management (including financial management) to (a quorum) of male and female users**
- **Upkeep of gender and equity approaches in participation and payments**

2. Confidence and creativity

- **Taking initiatives**
- **Changes in self-confidence and self-image**
- **Developing own systems and tools**

➤ **Methods and Sources of Information**

Review of CBO minutes, Focus Group Discussions with the CBO and users (males and females separate if needed) and Focus Group Discussions (FGDs) with participatory monitoring tools are some of the methods for monitoring if capacities for sustained improvements have been created and are in use. Data in minutes on female participation in meetings and from FGDs and the matrix tool on access to HRD provide ongoing insight in sustenance of equity approaches. For methods to monitor financial and other contributions and their equity, see Chapter 4, Section 4.4.

Self-rating on scales are another method to assess where communities are regarding sustainability. For example the PLA project on the links between sustenance of services and participation, gender and demand responsiveness helped CBOs and users rate their performance on simple, four point scales (“ladders”), such as on upkeep of service:

- Level 1: community has made no repairs;
- Level 2: community has made small repairs,
- Level 3: community has made large repairs,
- Level 4: community has enlarged the system/built more facilities to keep up service levels

‘Small’ and ‘large’ were defined according to the type of technology and as locally appropriate. In the same way also other aspects of the service were scored, resulting in an overall strength-weakness picture for the management of the service.

A method to identify strengths and weaknesses without scales is to ask CBOs to sort pictures with reasons for high and low sustainability. To do this, the CBO members place appropriate smaller-size drawings relating to strong or little maintenance, catchment area protection, O&M, financing, etc., under two larger size drawings - one of a para with a working and centrally-located handpump, the other of a para with a

non-working and decentrally located handpump. (*Material developed by J Pfohl, Nepal, 1993*). The CBO or users thereafter analyze what the situation is in their community and decide on remedial actions.

Self-rating of self-confidence by women and of attitudes towards women's participation by men have been used to assess changes in concepts on women over time. To do so, women may be simply asked "Do you feel more, less, or the same amount of confidence as you did ...? (add timespan using local concepts). Men may be asked if women have the same, less or more confidence as before, and to give examples. They may also be asked if they feel good, bad, or indifferent about the changed position of women. Instead of being asked directly, simple scoring systems may be used, such as half a roti or stick ("less", "worse"), a whole roti or stick ("same") and one and a half roti or stick ("more"). Participants will then give their view by placing their matchstick, stone, etc., in the category of their choice.

Alternatively, projects have used pictures to help local women and men express changes in the position of women (e.g., a woman too shy to enter a group; a women in a group, but sitting aside and too timid to ask questions -holding her hand over her mouth- and a women sitting in the group and bold enough to raise her hand to ask questions and give her views (Participatory Evaluation, Narayan, 1993, p. 50).

Other similar tools for monitoring change in a creative manner are available or can be thought up by the communities and the SOs.

➤ **Users and Use of Information**

The users and CBO will use the data mainly to see how well they are doing and where they need to improve. Having identified their areas of weakness and analyzed underlying reasons they make decisions for improvements, for example, in service coverage or tariff collection.

The SOs will use the data to compare communities on performance and to analyze what explains these differences: local forces, external inputs (including how they deal with local forces) or a mixture of both. The information also helps them decide on focusing remaining support to those communities and subjects where sustainability is a problem.

For the PMU the information is important to monitor the overall effectiveness of the approach. They will also use the information to assess the adequacy of the training and support and for learning how well communities do in different regions and with different SOs. The data is a base on which to decide on improvements in the approach and inputs in subsequent batches. The MIS specialist will use the data to record sustenance in served villages and update records on performance of SOs.

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Chapter 6 Impact Monitoring

Through impact monitoring the project, and the users, determine what differences the project as a whole has made for the lives of the people in villages that are heavily affected by arsenic contamination of the drinking water. Issues for monitoring under this heading are:

- The coverage and spread of access to, and benefits from, arsenic free drinking water
- The quality and quantity of the water supplied after the project intervention
- The impact of the project on people's water use and most essential sanitation and hygiene condition and practices
- The changes in gender conditions and relations
- The impact on the environment
- And in the longer term, the impact on people's health

6.1 Monitoring of Coverage and Access To Safe Water Sources

According to the PIP of the BAMWSP Project, in four years 1600 villages will have physical sub-projects implemented in their localities. As the coverage of the villages increases over time, the number of users of arsenic free water are also expected to increase. Construction of schemes alone is not enough to achieve impact; the facilities need to be used effectively to achieve the intended effect. To ensure full coverage of the affected population and use of the facilities by all, the safe sources must be well spread over the communities and located in places that can be easily accessed by the villagers (especially women). There must also be an ongoing process of ensuring that the sources are safe. Arsenic is not the only cause of health hazards; bacterial contamination is the major cause of the spread of water borne diseases in Bangladesh. Therefore:

- The sources must be free of arsenic; and
- The bacterial contamination of the wells must be within an acceptable range.

Box 33. Indicators for measuring increased coverage include:

- **Proportion of population having access to new (arsenic-free safe) water sources in all seasons at preferred locations**
- Proportion of sources that were tested over one year/two years duration

➤ **Methods/Sources of information**

Coverage and access can be monitored over time to measure the proportion of users in the served villages that have access over a given time (e.g. at yearly or two-yearly intervals.). The major monitoring questions will be: Does each cluster in the served communities continue to have an arsenic and bacterially safe source of drinking water within easy access? What proportion of the sources were tested since the last scheduled visit?

The monitoring and evaluation may be conducted by:

- CBO/user committees
- SO, RPMU community organizers
- PMU specialists / Local/external consultants (annually/ two yearly)
- Zonal laboratory coordinator

In measurement the Social Map (Annex A, Tool No.6, pre and post intervention period) and Water Testing Log (Tool No. 17) may be used, or any similar tool developed or chosen by the project or the community

➤ **Users and Use of Information**

The data collected through this process will enable the CBOs to judge the appropriateness of the locations of the source and the safety level of the sources. The SO and the RPMU will have information on the portion of the clusters in the served communities that have arsenic free and bacteriologically safe sources of drinking water within easy access.

6.2 **Monitoring of actual use of safe, arsenic-free drinking water**

Creating access to safe drinking water is not enough. It becomes meaningful only if community members also take advantage of that access. There are factors that will result in people still using unsafe water, e.g., when systems with safe water are out of order, there are long waiting times, when social problems bar people from use, or when disasters such as floods affect the sources. So it is important to know what role safe and unsafe sources play in meeting the water needs of the communities. This can be monitored with the help of the following indicators:

Box 34: Indicators for Actual Use of Arsenic Free Water

- **The proportion of households that use and continue to use only the safe sources for the purpose of drinking and cooking at all seasons**
- **The proportion of drinking and cooking water coming from unsafe water sources**

➤ **Methods/Sources of information**

Using participatory tools and surveys, data will be collected on the percentage of the households that use and continue to use only safe sources of water for the purpose of drinking and cooking, throughout the year. This will be done through follow-up studies at annual intervals. Tools that can be used include Pocket Chart voting, Social Mapping, and Focus Group Discussion (FGD) on whether the reported behavior is reliable, etc.

Moreover, it is possible to assess for what the other water sources are used, as a crosscheck. For example, one can determine such usage with the help of the Social Map, check if the sources are unsafe, and then get an idea of how widespread and common their use is.

➤ **Users And Use Of Information**

The monitoring will indicate the actual behavior of the users regarding water use. Doing the assessment together with the users and CBOs will facilitate the process of peer correction. Learning about the actual use pattern will contribute to understanding the effectiveness of the project in bringing about behavioral changes. This will help the CBO, SO and PMU to identify gaps and decide on the areas of further concentration.

The PMU will learn from the monitoring if the followed strategies have been effective.

If this is not, or not fully the case, PMU may decide to increase inputs, adjust strategies or do a combination of both.

6.3 Perceived And Measured Acceptable Quality And Quantity Of Drinking Water

The objective of providing the people of the hotspot areas with arsenic-free, safe drinking water is the crucial aspect of impact monitoring. The effectiveness of the project significantly depends upon the quality of the water supplied and used. However, it should be kept in mind that as the project aims at initiating decentralized management, the users should be provided with opportunity of assessing not only if the targeted impact has materialized, but also if the target set meets their preferences and requirements. These two aspects can be monitored by the indicators shown in Box 35.

Box 35: Indicators for Measuring Perceived and Measured Acceptable Quality and Quantity of Drinking Water:

- **Standard achieved continue to be at least 5 l/c/d of arsenic free water within an acceptable bacterial range (acceptable to be defined)**
- **Satisfaction level of the users (poor wo/men) with the perceived and actual quality and quantity of water**

➤ **Methods and Sources of Information**

The delivery amount should preferably be measured in the dry season. The following agents may be engaged in collection of data:

- (R)PMU specialists/ staff
- SO community organizer
- CBO in meeting
- Local/external consultants

Well water will be checked, and previous reports will also be reviewed to evaluate if the standard achieved continues to be at least 5 l/c/d; water free from arsenic and within an acceptable bacteriological range. Checks will also be conducted with users (women) to see if the *perceived* quantity and quality for drinking are also acceptable. For the later, a transect walk with FGD and in-depth interviewing may be needed. The CBO in its regular meeting can also monitor both the issues at community level.

➤ **Users And Use Of Information**

The monitoring will reveal whether the quality and quantity of water meets the previously set level and what is the presently perceived acceptability of the quantity and quality of drinking water among the users. This information can be used by all the parties to modify targets as well as strategies to respond to the technical requirements and to the demands of the users.

6.4 Monitoring Access to Safe Excreta Disposal Facilities

For the BAMWS Project, " a human waste disposal program would be mandatory for all the communities. If the communities opt for surface water, then proper waste disposal is imperative" (PIP, BAMWSP, pg. # 23). Indicators for this follow in Box 36. Having, and using, latrines and hand washing facilities in school are as important

as having and using them at home. In fact, unsanitary conditions in schools bring extra risks, as this is a place where many children, at ages where they are very sensitive to infectious diseases stay together closely for a considerable part of each day.

Box 36: Indicators To Measure Access to Excreta Disposal Facilities

- % of households which have access to sanitary latrines, by high, medium and low income groups
- Number of schools with and without latrines for boy and girl students
- Number of students (boys, girls) per latrine at schools

Access to safe and hygienic latrine facilities can be seen as the key to healthier households. At the same time, the latrines and hand washing facilities at the schools should also be monitored. It should be noted that for the school going children school is a prime place for transmitting disease.

➤ **Methods/Sources Of Information**

Comparison between before and after interventions will be made by using Social Mapping (Annex A, Tool no.6). The following may work as the data collecting agents:

- (R)PMU specialists/ staff
- SO community organizer
- CBO in meetings
- Cluster Committees
- School Health Clubs

When local groups collect the data, the gender balance is a point for attention. The (R) PMU and SO may conduct the observation during field visits. For this, both (a sample of) households and the schools need to be visited.

➤ **Users And Use Of Information**

The monitoring data will help the SO, the PMU and the CBO to assess the success of the project in creating improved access to latrines at the community level.

6.5

Monitoring hygienic maintenance and use of latrines

The experience of water and sanitation projects tells us that the physical existence of a latrine is not enough to ensure its proper utilization. The latrines may be out of order, used for some other purpose, such as storage, or simply may not be used at all. On the other hand, if the latrines are used, it does not necessarily indicate that they contribute to a better health situation. An unhygienic latrine may be more harmful than beneficial to health. As such it is very important that the constructed and existing latrines are monitored closely at the start until habits of hygienic use and maintenance have become established. A particular point of attention is further the safe disposal of stools of babies and infants. People erroneously consider these excreta harmless and do therefore often not dispose of them safely. Through the work of the SOs the project can have a considerable impact on these practices.

Box 37: Indicators for Measuring Hygienic Maintenance and Use of Latrines

- % of latrines in proper hygienic/working state (at households and schools)
- % of adults (wo/men) and children (girls and boys) using the latrines
- % of households with children under five practicing safe disposal of infant excreta

During the project cycle information can be effectively collected on personal hygiene related aspects. This may include information on hand washing collected against the indicators provided in Box 38.

Box 38: Indicators for Measuring Hand washing Habits

- No./% of adults (wo/men) and children (girls & boys) able to demonstrate proper hand washing (with soap/ash/firm rubbing and water at critical times: before preparing, eating food, after toilet use, after cleaning baby)
- % of households and schools with hand washing facilities (soap/ash near wash basin/reservoir, etc.)
- % of adults (wo/men and children (girls & boys) with proper knowledge of hand washing

➤ Methods/Sources of Information

To monitor impact on health, the most important changes are:

- (a) Proper excreta disposal (also in schools and of infants), and
- (b) Hand washing with soap/ash/rubbing of both hands at critical times.

In this regard one also will need to check:

- Can women, men, boys, girls demonstrate proper practice and explain when these practices are important?
- Are the means for this hand washing available in
 - (i) The homes
 - (ii) The schools?

To monitor the former, a locally trained group such as a neighborhood committee or a school health club may conduct systematic observations in a sample of households and in the school, to find out not only who has what type of latrines but also how latrines in homes are maintained and where and what type of hand washing provisions can be observed. In FGD discussions, practice related aspects would be checked such as who uses and doesn't use the latrine at various times (adult women, men; boys, girls), and where/how infant excreta are disposed of (safe/unsafe), etc. For site visits, an Observation Scoring Checklist (Annex A, Tool No. 18) may be used. This tool is applicable at household level and at public facilities such as at schools. The community should take its own initiative in monitoring these facilities in the Neighborhood and Health Homes Survey (Annex A, Tools No. 19 and 20).

The (R) PMU specialists and the SO community organizers (during field visits) and local/external consultants (during before/after study) can crosscheck the collection and use of the data and draw upon them for their own information need.

➤ **Users and Use Of Information**

This kind of monitoring, especially when conducted by the community, can ensure that clean latrines are used by an increasing number of individuals at home and schools. From the findings, the SO can identify the need for awareness-raising, motivation and technical assistance.

For the PMU the data may generate data to evaluate the health impact in the longer run. When significant and critical changes in environmental health conditions and practices have been achieved, health impacts will follow, but they will become visible in statistics at a much longer term, see section 1) below.

6.7

Monitoring Change in Gender Conditions

It is assumed that a water supply and sanitation project benefits women most. Moreover, in case of the BAMWS project NGOs are encouraged, on their own initiative and financing, to include a component for a Women's Development Initiative, under which separate options may be created in the CAP for enhancing access of women in decision-making and economic fora (PIP, BAMWSP, pg. # 23). These initiatives are expected to reduce the prevailing high occurrence of gender inequity. Indicators for measuring gender change are provided below in Box 39.

Box 39: Indicators for Measuring Changes in Gender Conditions

- **Perceived changes in position of women, as seen by women vs. men.**
- **Time, labor and other contributions to project planning, implementation and management by women vis-a-vis men**
- **Improved gender divisions in burdens and benefits (share of male/female in paid and unpaid work, decisions and decision-making functions, control) as perceived by women and men**
- **No. of women having access to income generating schemes, in the form of project jobs, credit etc. Attention is needed not only to changes in income of women, but also on whom controls the investments and decisions on income divisions.**

➤ **Methods/Sources of Information**

The monitoring should concentrate on perceived changes in position of women, as seen by women and by men, and improved divisions in burdens and benefits among the sexes such as, male/female shares of paid and unpaid work, decisions and decision-making functions, control.

Since a community-managed water and sanitation program needs the support from all, women as well as men, it is important that the roles and contributions of men (e.g., in improving family and community hygiene) are also monitored. Impact monitoring may further look at the changes in attitude of the men towards women and in cooperation between women and men. In this respect, giving attention to men's felt benefits can help to prevent them from seeing a domestic water supply or improved sanitation as mainly convenient for the women and not very relevant for themselves

(van Wijk, 1995). For the BAMWS project the arsenic problem may also work as an influencing factor in involving the men in the project. It is also important to look into the role(s) of the project, in particular the SOs, in these changes.

The agents of monitoring can be:

- CBO/user committees
- SO, RPMU-Gender Specialist
- Local/external consultant

For this monitoring the Change Analysis (Tool No. 21) can be used. The tool contains open questions to explore the position of women before and after the project; and whether gender relations have changed. Reference is also made to the section on project-created human capacities for sustainability in Chapter 5, which includes some methods and techniques for assessing the capacity enhancement of women vs. men.

➤ **Users And Use Of Information**

The information collected and analyzed can help to make the project more gender sensitive. It can also help to reduce the resistance of men. It may further contribute to incorporating the perspectives of women and men in the tools and strategies of the project. As such, this monitoring is important both for the CBO and the PMU. Besides, the economic impact indicators can help to gain a further insight in project benefits for the women.

6.7

Monitoring Environmental Management

In the BAMWS project, there is a separate provision for an environmental program. The PIP explains, "This would optimally include a baseline survey of the existing environment and a program for monitoring environmental changes over time. Environmental plans include land use management, resource management, alternative fuel supply (this would be important if communities must boil drinking water), animal waste management, solid waste management, sanitary and waste management and watershed management (especially drinking water catchment area protection). Without an environmental action plan, this project could have serious negative environmental impacts" (PIP, BAMWASP, pg. # 23). As such environmental impact management becomes mandatory for the project. The proposed monitoring indicators are given in Box 40

Box 40: Indicators for Environmental Management

- **Improvement in waste management**
- **Safe disposal of arsenic sludge (if any)**
- **Catchment Areas Protection**

The environmental management aspect should be detailed with respect to the particular schemes and by involving the community members in a participatory approach in baseline studies and impact assessment.

➤ **Methods and Sources Of Information**

The CBO can monitor the environmental aspects through site inspections and transect walks. A special tool is a set of pictures through which villagers can set out their environmental conditions and the water and land uses by which men and women impact these conditions. The tool is used in planning improvements as well as monitoring progress and impacts (van Wijk et al., 1998).

The SO/RPMU community organizers, the PMU Environmental Specialist and local and external experts can also use the same techniques to access relevant information. Joint visits and transect walks of villagers and specialists are a good mechanism for mutual learning. The village women and men know local conditions and habits and underlying reasons from a gender and socio-economic perspective and can judge opportunities for change. External specialists bring new knowledge on focus areas, risks and possible solutions. There are also special mapping techniques for resource management baselines, action planning and impact monitoring, e.g., from IIED in London and AVPH in New Delhi.

➤ **Users And Use Of Information**

The PMU can use the data to calculate the social cost and benefit of the project. The data can also guide the PMU to identify and assess areas for capacity development of the SOs and CBO, the development appropriate technologies and the role (if any) for longer-term contributions from the project.

6.8 **Monitoring Morbidity And Mortality Trends**

The benefits from the BAMWS project "will be primarily health related such as reduced incidence of arsenicosis, reduced mortality and reduction in other arsenic related diseases" (PIP, BAMWSP, pg. # 52) Moreover, as the Project aims to improve the sanitation situation, the schemes may also have some influence on reducing the morbidity and mortality related to other water borne diseases (e.g., diarrhea etc.). Indicators are provided in Box 41.

Box 41: Indicators for Monitoring the Incidence of Arsenicosis, Mortality and Morbidity

- % change in before and after intervention cases of arsenicosis
- % decrease in Diarrhea morbidity
- % change in Diarrhea mortality

➤ **Methods/Sources of Information**

It should be kept in mind that in order to see a reduction in morbidity and mortality (especially regarding diarrheal related morbidity and mortality and arsenic mortality) a time span much greater than the project life may be required. Little impact may therefore be noted on these aspects during the four years of the project.

It is however possible for the clusters/communities to monitor the effects on arsenicosis patients from flushing arsenic from the body by shifting drinking from a source with a high arsenic content to a source free from arsenic. This has as visible impact that the spots on hands and chests will disappear. A community-based system for impact monitoring on affected persons is therefore possible and can be designed with the communities and clusters involved. It appears from reports of NGOs that people affected by arsenicosis have fewer problems in coming forward than people affected by, for example, leprosy. Whether this is so for both sexes at all ages, including girls of marriage age, remains to be looked into.

For a longer-range impact, time studies may be conducted at set intervals after the end of each project cycle. During the project cycle it is more meaningful to monitor reduction in key risky conditions and practices. Expert advice is needed to see to what extent the present system of health statistics leans itself to an impact study and for advice on collecting the baseline data.

➤ **Users and Use of Information**

The PMU can use the data on changes in water use, sanitation and hygiene to monitor and evaluate the project impact on hygiene conditions and habits in the short turn. This data is a good predictor of the impact on disease incidence in the long turn. The data can also serve the purpose of the baseline for future health/sanitation/hygiene projects in the project areas. Data from community monitoring of persons with arsenicosis in a visible stage who now drink arsenic-free water can show the impact of the interventions on the mitigation of this disease, either from water supply alone or from arsenic free water in combination with treatment.

**Bangladesh Arsenic Mitigation
Water Supply Project (BAMWSP)
Dhaka, Bangladesh**

Volume 3: Monitoring and Evaluation

Chapter 7 External and Participant Monitoring

The BAMWS Project will utilize both external evaluation and participatory monitoring and evaluation by the project implementers and users. The participatory monitoring and evaluation have been developed as a built-in management activities to provide continuous feedback to the project implementers. Keeping in mind the aim of the BAMWS Project in initiating a decentralized water management, the major emphasis of the monitoring system has been given towards participatory monitoring by the project stakeholders, in which all the project participants including the users play active roles. This however, does not exclude or undermine the provision of external evaluation; external evaluation is needed to provide a fresh perspective on the project activities, approaches and achievements, and as a crosscheck on internal findings.

7.1 Roles of External and Participant Monitoring

Participatory or user monitoring is planned and executed by the users and it is they who use the information as part of their decision-making process. It may be noted that external evaluations can also adopt participatory tools and techniques. As such the major distinction between these two approaches can still be noticed in:

- Who decides the scope of the evaluation
- Who analyzes and uses the data at the end
- What is the timing of the evaluation

Usually community members determine the scope of the monitoring and evaluation in participatory monitoring (i.e., they set the objectives and indicators). Moreover, it is the community members who collect and analyze the data as well as use the findings to improve the local service performance. This kind of monitoring and evaluation also goes on all through the project duration.

On the other hand, outsiders usually set the scope of the external evaluation. The data may or may not be collected by the users or project stakeholders, but the external evaluator guides and controls the process. In the analysis the users may be consulted, but the outsiders (i.e., the consultants) prepare the final report. The findings of the external evaluation are more useful for the planners, donors and implementing agencies than for the direct users or clients of the project. Moreover, the external evaluation is usually conducted upon completion or at the mid-term of the project cycle.

The distinction of these two types of evaluation can be further identified by the roles they play in the project cycle. The participatory user monitoring is more relevant for the day to day activities of the project, while external evaluations are more concerned with long run strategic implications and effectiveness/impacts of the project.

As the manual has so far dealt in detail with participatory project monitoring, it may be helpful at this stage to set up a guideline regarding external evaluation.

7.2 External Evaluation

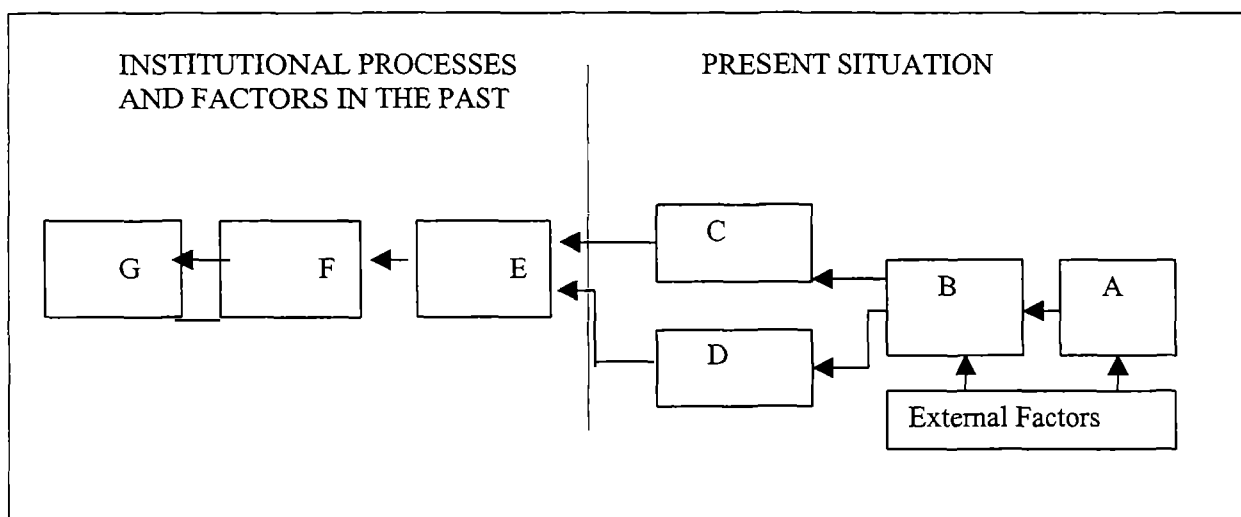
For BAMWSP the minimum evaluation procedures, MEP, as developed by the World Health Organization (WHO, 1983), is a practical guideline. Based on MEP, the major emphasis of the external evaluation may be identified in three areas:

- Functioning of the schemes and overall project in delivering arsenic free water and setting up decentralized management and sanitation system

- Utilization of the schemes by the users (especially by the poor wo/men)
- Impact (health and economic) of the schemes/project on the served communities

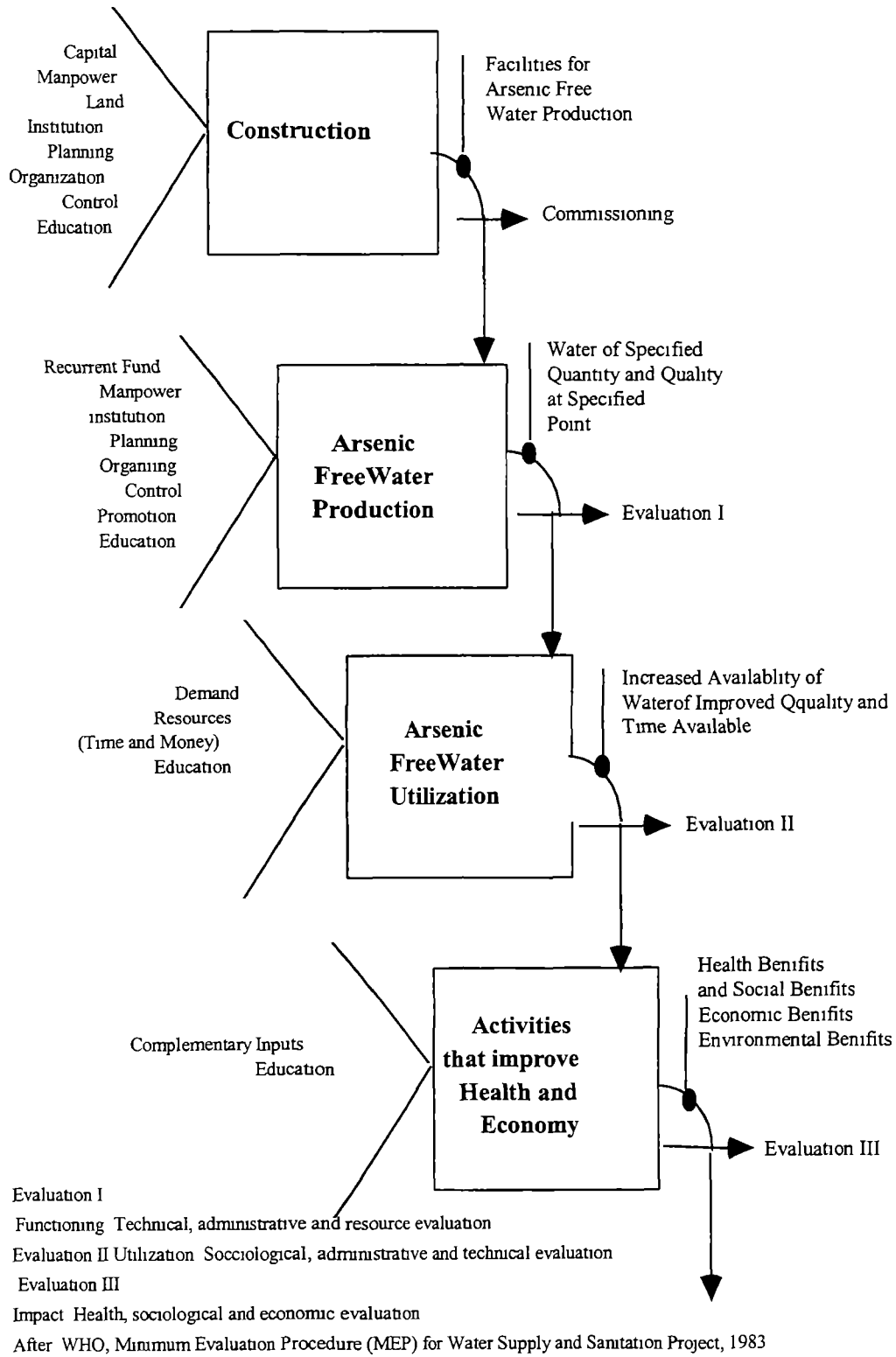
The approach has been schematically displayed in Fig. 4 on the next page. Next to the MEP, a new rapid, and participatory, assessment instrument has recently become available. This links assessment of functioning and use to the assessment of key aspects of local maintenance, management and financing and with the type of user participation practiced in the history and institutions of service establishments (Fig 5). The guidelines for this assessment will shortly become available from the World Bank Water and Sanitation Program, South Asia Regional Group.

Fig. 5: Schematic Overview of Steps for Participatory Learning Assessment of Community Managed Water Supply Services and Sanitation Programmes



- the degree to which a community sustains an installed water supply and/or sanitation service
- the degree to which the population - male and female, rich and poor – uses the service
- the degree to which the service meets the demands of the major population categories –men, women, rich, poor -
- the way in which burdens and benefits of the service and of the participation in its sustenance are divided between men and women, rich and poor.
- the degree of gender and poverty sensitive participation in the establishment of the service;
- the institutional support for demand responsive and gender and poverty sensitive approaches

Minimum Evaluation Procedure



**Bangladesh Arsenic Mitigation
Water Supply Project (BAMWSP)
Dhaka, Bangladesh**

Volume 3: Monitoring and Evaluation

Annex A: Tools List

Tools:

1. **Recruitment and Retention Monitoring Tool**
2. **Training Monitoring Tool**
3. **Expectations-Achievements Bar Chart**
4. **Smiling Faces**
5. **Warning Chart**
6. **Social Mapping**
7. **Wealth Ranking**
8. **Logbook for Water Source**
9. **Pocket Chart Voting**
10. **CBO Logbook**
11. **Portfolio Manager Checklist for Field Visit**
12. **Scheme Selection/Technology Options Matrix**
13. **Voice and Choice Matrix**
14. **User Household Contributions Monitoring Tool**
15. **Increased Arsenic Knowledge Recording Format**
16. **SO Visit Journal**
17. **Village Water Testing Log**
18. **Latrine Observation Scoring Checklist**
19. **Neighborhood Self Survey**
20. **Healthy Homes Survey**
21. **Analysis of Change**

Annex A: Tool #1

RECRUITMENT AND RETENTION MONITORING TOOL

Designation : Community Organizer

Status : Staff/Consultant

Agency : PMU/RPMU/SO

FEMALE

Staff Code	Age	Educational Qualification (Mention Country, Institution, Degree, and Year of completion)	Training (Mention Area of training, Country, Institution, Duration and Year- Note Before and After Joining the Project Team)	Last Position Held Before Joining the Project Team (Mention, department/or ganization designation, Rank, Salary level, Job Satiation)	Reason for leaving the last position	Date of Joining the Project Team	Promotion Received after Joining the Project	Latest Position (Mention, department/or ganization designation, Rank, Salary level, Job Satiation)	Salary (Basic and Gross-Starting and present/ last)	Date of Leaving the Post in the Project Team	Reason for leaving the Post in the Project Team

RECRUITMENT AND SERVICE INFORMATION REGISTER

Designation : Community Organizer
 Status : Staff/Consultant
 Agency : PMU/RPMU/SO

MALE

Staff Code	Age	Educational Qualification (Mention Country, Institution, Degree, and Year of completion)	Training (Mention Area of training, Country, Institution, Duration and Year- Note Before and After Joining the Project Team)	Last Position Held Before Joining the Project Team (Mention, department/or ganization designation, Rank, Salary level, Job Satiation)	Reason for leaving the last position	Date of Joining the Project Team	Promotion Received after Joining the Project	Latest Position (Mention, department/or ganization designation, Rank, Salary level, Job Satiation)	Salary (Basic and Gross- Starting and present/ last)	Date of Leaving the Post in the Project Team	Reason for leaving the Post in the Project Team

Annex A: Tool #2
Training Monitoring Tool

Pre Planning Phase

Time Period : 1 Jan, 1999 to 31 March, 1999

Community Development Training

Area of Training	Types of Trainees	Total Number of Participants		% Completing Entire Training	
		Female	Male	Female	Male
PMU Staff Orientation	PMU Staff/ Consultants	10	10	90	60
	PMU Intern	4	4	100	50
Pre-feasibility Study by SO	SO Staff	100	200	100	90
	PMU Staff/Consultant	10	10	90	60
	PMU Intern	4	4	100	50

Note : PMU staff/consultants are encouraged to attend all the training of the SOs to gain hands- on experience with the SO activities they are expected to monitor and support.

Training Monitoring Tool

Pre Planning Phase

Time Period : 1 Jan, 1999 to 31 March, 1999

Technical Training

Area of Training	Types of Trainees	Total Number of Participants		% Completing Entire Training	
		Female	Male	Female	Male
M & E Training for PMU	PMU Staff/Consultant	10	10	90	70
	PMU Intern	4	4	100	100
M & E Training for SO	SO Staff	100	200	100	90
	PMU Staff/Consultant	10	10	90	60
	PMU Intern	4	4	100	50

Note : PMU staff/consultants are encouraged to attend in all the training of the SOs to gain hands- on experience with the SO activities they are expected to monitor and support.

Training Monitoring Tool

Pre Planning Phase

Time Period : 1 Jan, 1999 to 31 March, 1999

Batch : II

Capacity Development of SOs

Category of SOs	Zone								Bangladesh	
	Zone- 1		Zone - 2		Zone-3		Zone - 4		Total	% of Total
	Total	% of Total	Total	% of Total	Total	% of Total	Total	% of Total		
Chapter 2 Small	60	60	120	60	180	60	240	60	600	60
Medium	30	30	60	30	90	30	120	30	300	30
Large	10	10	20	10	30	10	40	10	100	10
Total	100	100	200	100	300	100	400	100	1000	100

MONITORING HUMAN RESOURCE DEVELOPMENT

Pre Planning Phase

Time Period : 1 Jan, 1999 to 31 March, 1999

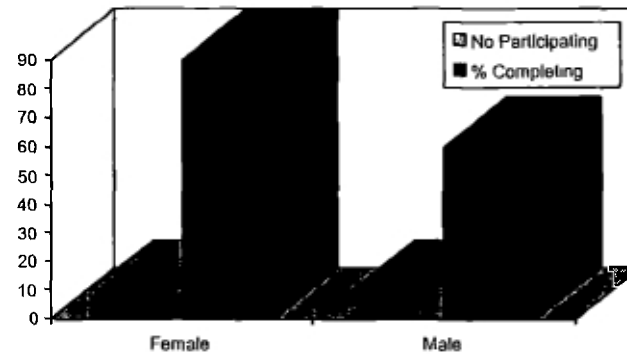
Batch : II

Zone : 1

Capacity Development of SOs

Name of District	Scale of SO			Total	
	Small	Medium	Large	Total	% of Total
	Total	Total	Total		
X	40	15	6	61	61
Y	15	10	3	28	28
Z	5	5	1	11	11
Total	60	30	10	100	100

PERCENTAGE OF PMU STAFF/CONSULTANT



Annex A: Tool #3

Expectation-Achievements Bar-Chart

This is a simple chart that the trainer/facilitator can prepare to evaluate the effectiveness of the training session(s) in meeting the expectation of the participants of the training.

Steps:

1. At the beginning of the training the trainer/facilitator will record the expectations of the trainees from the session(s), with the help of cards
2. Then the trainer/facilitator will create clusters of common expectations and identify the major areas of expectation and present them in a chart in a sex specific manner.

Example: Training on Prefeasibility Study

Expectations:	How to involve the community members with the study process	How to involve specifically women folks with the study process
Number of participants with the expectation	Female : 10 Male : 10	Female : 00 Male : 10
If exception has been met? (Middle of the training)	Female: Yes No Male: Yes No	Female: Yes No Male: Yes No
If expectation has been met? (End of the training)	Female. Yes No Male: Yes No	Female: Yes No Male: Yes No

3. The chart will be put on display all through the training session(s). Twice the participants will be invited (i.e. in the middle and at the end of the session) to mark on the chart, if their expectation(s) have been met. Here caution should be taken to ensure that:

- the participants are given privacy (as and if demanded)
- each of the participants should only vote for the expectation(s) s/he has expressed

4. With the help of the marking on the charts, the trainer may formulate a simple bar-chart to display the progress of the training in meeting the expectations of the trainees.

Example:

Figure 3: Involve the community members with the pre-feasibility study



5. The mid-term evaluation of the training will help the trainer/facilitator and participants to decide how the rest of the session(s) should go. On the other hand, the end-evaluation can be treated as a form of participant evaluation.

Annex A: Tool #7

Wealth Ranking

Purpose:

To agree on a way to classify the community households in three economic categories, using culturally appropriate terms and local criteria for rich, poor and in-between households. The classification is then used to identify these three groups in the community and cluster maps to see who is most affected by arsenic containing pumps, who holds decision making positions, how burdens and benefits are divided, etc. It also is used to monitor developments in these aspects. Wealth classification is also needed prior to other participatory exercises to plan, monitor or evaluate distribution of burdens and benefits over the various socio-economic groups.

Description:

- On an approximately A-4 size paper the community group draws pictures of a rich person, a poor person and somebody in between. This usually produces some laughs and is a good icebreaker. The pictures are placed some distance apart on the ground.
- Using the drawings as a starting point, the group begins to describe the characteristics of each category, one by one. As the answers emerge someone from the group lists them under the picture in question. Starting with the rich person, moving on to the poor person and lastly to the in-between is usually helpful. (The actual terms used for categories may vary, depending on cultural sensitivity about calling people poor). If only men have been drawn, probe into the situation for women: what are the characteristics when the person is a woman, and vice versa if the drawings are of women.
- This activity continues till at least 6-7 characteristics have been identified for each category. (Facilitators may probe to understand fully the reasons behind the stated characteristics)
- The group then divides up a pile of 100 small stones or seeds and distributes them under the three categories for their community. Then they can count off to express their percentage estimate of the population in these three categories.
- The group should record the resulting characteristics and percentages on a large sheet for ready reference during later planning, monitoring and evaluation requiring rich/poor differentiation.

Materials needed

- A few approximately A-4 sized paper sheets
- 3 marker pens
- 1 large wrapping paper sheet for recording results
- 100 small stones or seeds

Minimum information to emerge

- Agreed criteria for classifying households in rich/poor/in between
- Approximate distribution of households in these categories

Use

In social mapping during planning and evaluation to assess access to safe water for the three categories (see Annex A: Tool #6); in choosing the community financing system; in assessing relative access of the three categories to decision-making functions, training, paid and unpaid jobs.

Source: Methodology Guide PLA Initiative on Gender, Participation and Demand

1.1 Annex A: Tool 10

CBO LOG

Name of the CBO : Shibpur Uttarpara Gram Committee

Name of the Village : Shibpur

District: Kushtia

Bangladesh Arsenic Mitigation and Water Supply Project

Meeting Minutes

Name of the Cluster:

Date : _____

Agenda	Decision Taken	Attendance

--	--	--

President

Village Visit Log

Name of the Cluster:

Date	Visitor	Purpose	Activity	Chapter 3 Attendance		
				Women	Men	Children

Annex A: Tool No. 11**Portfolio Officer Checklist for Field Visits
(Pre- Planning Phase)****Activities before field visit:**

- Review narrative report and pre-feasibility study report of SO.
- Look up number of CBOs formed and their manner of formation and composition in the narrative report.
- Check staffing, staff composition and retention with MIS specialist
- Check training participation and completion with training specialist.

Activities during field visit:

- Review journal of field staff on:
 - amount of time in field.
 - geographic spread of activities (including to poor neighborhoods)
 - participation of women and men in sessions.
 - topics of sessions.
 - use of participatory tools.
- Discuss experiences and problems, suggestions for improvements.
- Select villages for field visit, using best/worst, closest/farthest criteria
- Crosscheck feasibility study report and journal data with local CBO and in informal talks with women and men, including in the poorest and most outlying sections
- Enquire/test satisfaction of villagers with input and work style of SO.
- Do a quick matrix analysis with CBO and with as many informal participants as can be gathered in the visit clusters to assess level of information/participation in feasibility study.

(Similar checklists can be made for the first and second field visits of the Portfolio Officers during the Planning Phase and for monitoring visits during and after Implementation)

Annex A: Tool # 12


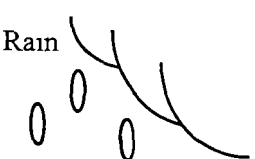
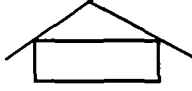

















Scheme Selection Matrix

A Scheme Selection Matrix is a simple visual tool that may be used to outline the technological options open to the community people for supplying arsenic-free, safe water supply on sustainable basis. The tool will be used during community meeting for preparing the CAP. In such meeting the SO staff will facilitate the process of technology selection by presenting the technological option with information regarding financial and technological requirements, maintenance, environmental impact as well as gender and poverty sensitivity. It is important that information on these options are communicated to the community members so that they can take informed decisions regarding technology (i.e., they can choose the least cost site-specific solutions).

Process:

- The community development staff will mobilize the villagers to attend the scheme selection meeting. In these meeting venues and time will need to be selected in such a way that poor women and men can attend and contribute.
- Through participatory need analysis the arsenic problem should be identified by the villagers as a crucial problem to be addressed. In this process the SO will facilitate information sharing and stimulate analysis. This is important because if the need for intervention does not come from within the community the process has high risk of not being sustainable.
- Technological options will be presented and reviewed with the aid of Scheme Selection Matrix.

A Sample Matrix:

Rain Water 	Rain 	Tin Shade 	Tank and pipe 	Money 
Standard Requirement 	Local Condition 	Local Condition 	Local Condition 	Local Condition 
Alternates 	Local Condition 	Local Condition 	Local Condition 	Local Condition 
Advantage /Disadvantage 	Local Condition 	Local Condition 	Local Condition 	Local Condition 

Annex A: Tool No. 13

Voice and Choice: Analyzing and Monitoring Gender in the Project

Purpose:

The purpose of this tool is to make women and men aware of gender divisions in the project. The tool can be used to assess and monitor gender divisions in labor, functions, paid versus voluntary jobs, training, and access to information, etc. It serves as an eye opener to hidden gender bias. The tool can also be used to plan the division of functions, training etc., in the coming sub-project. The same tool can also be adjusted for analyzing the division and benefits between those who are better off and those who are poor, different ethnic groups, etc.

Description:

- Decide with the group what the subject of the gender analysis will be. In this example the division of voluntary and paid labor has been used
- Decide with the group what kind of jobs are done in the community that have a bearing on water, sanitation and hygiene, e.g., collecting and managing water at home, being a member of a water or health committee, or a pump caretaker, a pump mechanic, a latrine mason, a tariff collector, etc.
- Ask the participants to sort these cards into two piles: persons who are paid for their work and persons who work as volunteers.
- Now draw a large matrix onto a large piece of paper or into the sand with as many unpaid and paid positions as there are cards of each, but leave the upper row blank. Divide the matrix into a lower and upper half: the upper half for the voluntary positions, the lower half for the paid ones.
- Place cards with drawings of the symbols representing the work of the listed workers in the column on the left.
- In the upper row, place cards with a picture of a) a woman, b) a man and c) a couple.
- Now ask the participants to mark in the matrix who in their community holds what job, a woman, a man or a couple. For marking, the participants can use pebbles, beans or other local materials. Use two different materials, one type given to the women, the other to the men, if you want to see gender differences in awareness. The results will show how unpaid and paid work (or other aspects) is divided between men and women in the community.

Materials needed

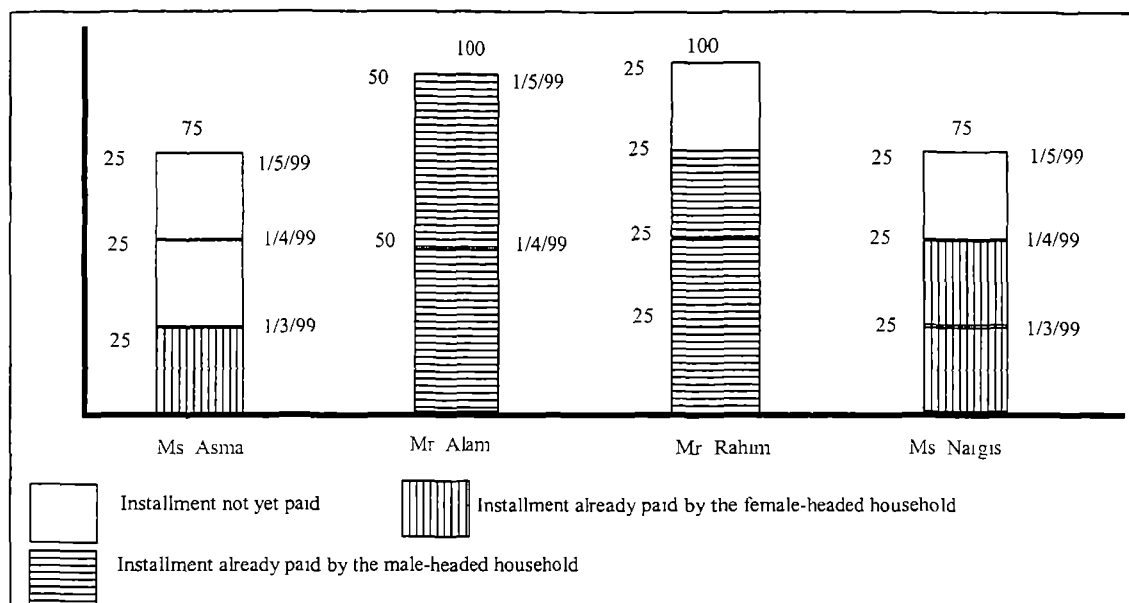
- An area where people can meet, with soil to draw in desired
- A large size sheet of paper (alternatively draw in the soil)
- A marker pen
- Card drawings of a local woman, man and couple
- Cut outs or card drawings of objects symbolizing the different jobs
- 50 or more (as required) small stones or seeds (two different types for showing up gender differences in the scores)

Information to emerge

The outcome will show how gender differences affect division of paid and voluntary work and functions, access to and types of training, access to and types of information, division of burdens and benefits. The tool can be used for monitoring and evaluation (baseline, monitoring of change) as well as for planning.

Source: Dayal, R., Wijk, C. van and Mukherjee, N. (forthcoming) Participation, gender & demand responsiveness: making the links with sustainability and effects of water supply & sanitation investments. A global participatory learning activity. General guide on methodology and tools

Payment Chart of Village



The villagers (who are members of the CBO), if there is an agreement on cost sharing can prepare a simple chart (as demonstrated above) for keeping track of actual payment situation.

- Step 1:** The villagers can decide which household will pay how much (in our example the villagers have decided that the women headed households will pay Tk. 75 and the male headed households will pay Tk. 100 each; all the households could have decided to pay equal amounts as well).
- Step 2:** On a paper board/wall of a school (or any such public place), the members will draw bars displaying the total targets set for the families with the date of each of the installments.
- Step 3:** As the payments are made, area of the bars is darkened.
- Use:** This chart will work as a warning chart for individual members and also create transparency regarding payment situation.

Annex A: Tool #15

Sample Recording Format For Increased Arsenic Knowledge

- Per village:

Type of group/session	women/girls who corrected knowledge	Total no. of women participating	men/boys who corrected knowledge	Total no. of men/boys participating	Total correctors	total participants
women's group	10	40	12	16	22	56
neighborhood session	2	10	6	6	8	16
school session	6	12	7	12	13	24
etc.						
Total	18	62	25	44	43	96

- Per SO worker (for all villages (s)he works in, as monitored by him/her (add table)
- Per SO cluster, as monitored by SO supervisor (add table)
- Per Batch, as monitored by PMU

Annex A: Tool 16
SO Visit Journal

**(SEX DISAGGARTED) CHART TO MONITOR THE PERORMANCE OF
The SO-WORKER BY THE VILLAGERS**

CHART TO MONITOR THE PERORMANCE OF THE SO-WORKER BY THE MALE VILLAGERS

Name	Visit Made	Assistance in Knowledge Building	Assistance in Resolving Problem	Attention to the Opinions of the Villagers	Understanding of the Village Context	Total Score	Rank

CHART TO MONITOR THE PERORMANCE OF THE SO-WORKER BY THE FMALE VILLAGERS

Name	Visit Made	Assistance in Knowledge Building	Assistance in Resolving Problem	Attention to the Opinions of the Villagers	Honesty	Total Score	Rank

CHART TO MONITOR THE PERORMANCE OF THE SO-WORKER BY THE MALE VILLAGERS

Name	Visit Made	Assistance in Knowledge Building	Assistance in Resolving Problem	Attention to the Opinions of the Villagers	Understanding of the Village Structure	Total Score	Rank
X	*****	**	*	*	*	8	2
Y	*****	****	*****	*****	*****	24	1
Z	***	*	*	*	*	7	1

CHART TO MONITOR THE PERORMANCE OF THE SO-WORKER BY THE FMALE VILLAGERS

Name	Visit Made	Assistance in Knowledge Building	Assistance in Resolving Problem	Attention to the Opinions of the Villagers	Honesty	Total Score	Rank
X	*****	*****	****	****	****	22	1
Y	*****	*	**	*	***	12	2
Z	***	*	*	*	*	7	3

Annex A: Tool #18

Latrine Observation Scoring Checklist

Latrine #1		Latrine # 2 etc	
1	Latrine functional (can be used)	1	Latrine functional (can be used)
1	In use for excreta disposal	1	In use for excreta disposal
1	Pit built as per criteria	1	Pit built as per criteria
1	Outhouse offers privacy (door/curtain/screen)	1	Outhouse offers privacy (door/curtain/screen)
1	Pit safely located*	1	Pit safely located*
1	Cover on hole/water in water seal	1	Cover on hole/water in water seal
1	No excreta in pan/floor/walls	1	No excreta in pan/floor/walls
1	Water & soap/substitute in or near latrine, for handwashing (check)	1	Water & soap/substitute in or near latrine, for handwashing (check)
1	Reported use by all household members (probe)	1	Reported use by all household members (probe)
1	No human excreta in yard, on compost heap (check for children)	1	No human excreta in yard, on compost heap (check for children)

* downstream from water source and over 7 m distance

School latrines, per latrine, school and averages per sample

Sample of school latrines installed under external programme		Sample of school latrines installed after external programme	
Score (Cumulative)	Criteria, for boys facilities	Score (Cumulative)	Criteria, for boys facilities
1	Latrine functional (can be used)	1	Latrine functional (can be used)
1	In use for excreta disposal	1	In use for excreta disposal
1	Pit built as per criteria	1	Pit built as per criteria
1	Outhouse offers privacy (door/curtain/screen)	1	Outhouse offers privacy (door/curtain/screen)
1	Pit safely located*	1	Pit safely located*
1	Cover on hole/water in water seal	1	Cover on hole/water in water seal
1	No excreta in pan/floor/walls	1	No excreta in pan/floor/walls
1	Water & soap/substitute in or near latrine, for handwashing (check)	1	Water & soap/substitute in or near latrine, for handwashing (check)
1	Reported use by all boys (probe)	1	Reported use by all household members (probe)
1	No human excreta in yard, along road to school, direct environment (check)	1	No human excreta in yard, along road to school, direct environment (check)

Same table for girls facilities-

A good latrine will score 10 out of 10 or 100%

Annex A: Tool #20***Healthy Homes Participatory Study***

This tool is a household self-assessment focused on knowledge and practices related to arsenic and diarrheal risks

The fieldworker will use the (SARAR) pocket chart voting with men, women, boys, and girls, to allow them to identify the range of water sources in their community and the associated potential arsenic and diarrheal risks.

(S)he will do the participatory activity in neighborhoods, school, women's group, men's groups, mixed groups.

Tentative Steps:**A: Knowledge**

1. Identification of actual and potential sources of domestic water - tubewell, shallow well, pond, dugwells, rainwater.
2. Pocket-voting on sources that may (or do, if tests are known) contain arsenic.
3. Voting by sex and age (e.g. through different types of leaves, beans, cards) in case of mixed groups.
4. Laying out of votes on ground in matrix according to source. Peer education from those who have the correct information to those who have not. Fieldworker records answers
5. Steps 1-3 repeated for knowledge on diarrheas.

Group analysis of knowledge levels. Further knowledge building through discussion if so desired.

B: Practices

1. Open discussion on what practices are used for having safe water.
2. Participants lay out their practices in matrix form.
3. Fieldworker records positive practices.
4. Open discussion on where and how improvements in private practices are possible.
5. Personal commitments made and recorded.
6. Local monitoring system discussed, options reviewed and possible system agreed on; arrangements made for implementation

C: Monitoring by SO:

At end of activity A and again at end of B the SO worker (or later the CBO member if they do this also) record:

- a) The number of women/men/boys/girls that acquired the correct information (wrong knowledge corrected)
- b) The number of women/men/girls/boys that have pledged safe practices

The actual practicing of safe behaviors will require community monitoring and/or external evaluation. NB This activity needs also to be done with men and children as they need knowledge and changed personal behaviour as much as the women do!

Annex B

Monitoring for Effectiveness – Consulted Documents

- **A Basic Guide to Evaluation for Development Workers.** Frances Rubin, Oxfam, UK and Ireland. 1995.
- **Basic Human Needs Field Studies: Evaluation Methodology Workbook.** E.T. Jackson and Associates Ltd Ottawa, CAC International, Montreal. 1997.
- **Community Assessment and Planning for Maternal and Child Health Programs: A Participatory Approach in Ethiopia.** Karabi Bhattacharyya et al. 1998.
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- **Documenting, Evaluating and Learning from our Development Projects;** A Participatory Systematization Workbook. Daniel Selener with Christopher Purdy and Gabriela Zapata. International Institute of Rural Reconstruction. 1993.
- **Effect Monitoring and Impact Evaluation;** Report of a Workshop held on 12-13 November 1989, Islamabad, Pakistan. Georg E. Frerks, Henk Thomas, Leon B.M. Tomesen, 1990.
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- **Evaluation of the Participatory Monitoring and Evaluation System.** NOPEST. 1997.
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- **Gender in Community Water Supply, Sanitation and Water Resource Protection;** A Guide to Methods and Techniques, Christine van Wijk, IRC, 1995.
- **Gender Issues Sourcebook for Water and Sanitation Projects.** Wendy Wakeman, UNDP-World Bank Water and Sanitation Programme/PROWWESS. January 1995.
- **How to Design a Program Evaluation,** Fitz-Gibbon, C. Taylor and Morris, I. Lyons, Sage Publication, London, 1981
- **Introducing Evaluation.** Willem van der Eyken. Berhard van Leer Foundation. 1992.
- **Manual for Field Workers.** UNICEF/UNFPA, Nepal. 1985
- **Minimum Evaluation Procedures (MEP) for Water Supply and Sanitation Projects.** Geneva, World Health Organization, 1983.
- **Monitoring and Evaluation, Made Easy;** A Handbook for Voluntary Organizations. Anne Connor.
- **Participation, Gender & Demand Responsiveness:** making the links with sustainability and effects of water supply & sanitation investments. A global participatory learning activity. General guide on methodology and tools. Dayal, R., Wijk, C. van and Mukherjee, N. New Delhi, World Bank, Water and Sanitation Program Regional Group for South Asia (forthcoming).
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- **Participatory Evaluation.** Tools for Managing Change in Water and Sanitation. Deepa Narayan. Washington D.C., World Bank, 1993.
- **Participatory Impact Monitoring of a Soil and Water Conservation Programme by Farmers, Extension Volunteers and AKRSP in Gujarat.** Parmesh Shah, Girish Bharadwaj and Ranjith Ambastha. Aga Khan Rural Support Programme.
- **Participatory Impact Monitoring;** Booklet 1. Group-based impact monitoring. Dorsl Germann and Eberhard Gohl, GATE.

- **Participatory Monitoring and Evaluation in Flood Proofing Pilot Project, CARE-Bangladesh.** Shawkat Ara, 1998.
- **Participatory Monitoring and Evaluation, A User's Guide.** Jacob Pfohl. New York, PACT 1986
- **Participatory Monitoring and Evaluation.** Handbook for Training Field Workers. Alexandra Stephens and Kees Putman. 1988.
- **Participatory Monitoring and Evaluation.** Handbook for Training Field Workers, Bangkok, FAO, 1990
- **Participatory Rapid Appraisal for Community Development;** A training manual based on experiences in the Middle East and North Africa. Joachim Theis and Heather M. Grady, 1991.
- **Partners in Evaluation;** Evaluating development and community programmes with participants, Maria-Thérèse Feuerstein, 1986.
- **Searching for Impact and Methods:** NGO Evaluation Synthesis Study. Volume I, Main Report, Final Draft. DAC Expert Group. 1997.
- **Taking the Pulse of for Community Management in Water and Sanitation,** New York, UNDP/ PROWESS, 1990
- **The Challenge of Measuring Gender Issues in Water and Sanitation;** Paper presented at the: Workshop on goals and indicators for monitoring and evaluation for water supply and sanitation, Carolyn Hannan-Andersson, 1990.
- **Tools for Community Participation;** A manual for training trainers in participatory Techniques. Lyra Srinivasan, UNDP/PROWESS Technical Series. World Bank Technical Paper No. 207. Deepa Narayan. Washington D.C., The World Bank, 1993

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Dhaka, Bangladesh**

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