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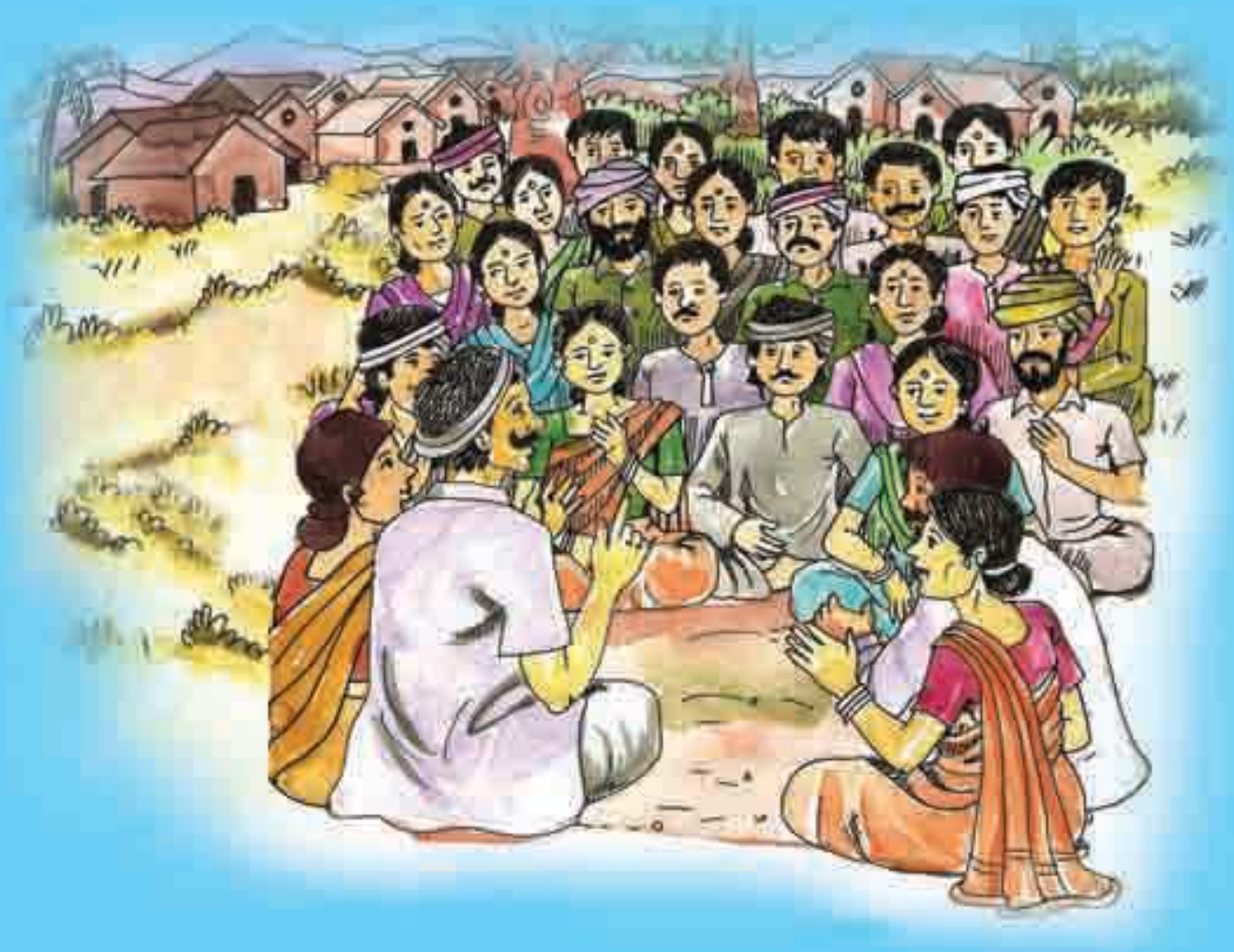

A Handbook for Gram Panchayats

To Help Them Plan, Implement, Operate, Maintain and Manage Drinking Water Security

Ministry of Rural Development
Department of Drinking Water Supply

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ACKNOWLEDGEMENTS

This Handbook for Gram Panchayats has been prepared by the Water and Sanitation Program for the Department of Drinking Water Supply, Ministry of Rural Development, Government of India.

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Peer review was provided by Mrs. Rajwant Sandhu (Former Secretary, DDWS), Mr. N.V.V. Raghava (World Bank) and Mr. Jaipal Singh (Chief Executive Officer, WASMO, Gujarat).

References used in the preparation of the Handbook include:

- Water Safety Plans for Rural Water Supply in India (WSP-SA, 2010)
- Village Water Safety Planning Training Manual (RMDD, Sikkim and WSP-SA, 2010)
- Management of water supply systems by VWSSCs (DANIDA assisted rural drinking water supply and sanitation project, Karnataka: reference manual issued by Karnataka Rural Water Supply and Sanitation Agency, 2004)
- Tantrik Margadarshika (Technical Guide), Jal Swarajya Project, Water Supply and Sanitation Department, Government of Maharashtra, 2004

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FOREWORD

The Department of Drinking Water Supply (DDWS), Ministry of Rural Development, Government of India launched the National Rural Drinking Water Program (NRDWP) on 1st April, 2009. The NRDWP builds on experiences gained through past efforts by many stakeholders and brings all existing rural drinking water initiatives under a single program.

The focus of the NRDWP is to ensure drinking water security for all rural citizens in India. Drinking water security means providing every rural person with enough safe water for drinking, cooking and other domestic needs at all times and in all situations, including periods of drought and flood and for livestock.

The people living in rural habitations and villages have an important responsibility to decide how much water they have and how they use it, and what measures they must take to ensure drinking water security.The NRDWP guidelines recognize this, and make provisions to incentivize states to hand over the responsibility for planning, implementing, operating, maintaining and managing drinking water security to Panchayat Raj Institutions.

The Gram Panchayats (GP), as leaders and representatives of the community, have to take the lead in achieving this goal of drinking water security.The Gram Panchayats, through Village Water and Sanitation Committees (VWSCs), have to mobilize communities, educate them and ensure they get the necessary training and technical support to achieve drinking water security. The Gram Sabha is the main platform for taking decisions and approving plans.

It is recognized that rural communities cannot achieve all of this on their own. Block Resource Centers (BRCs), District Water and Sanitation Missions (DWSMs), State Water and Sanitation Support Organizations (SWSSOs), technical agencies like the Public Health Engineering Departments (PHEDs), training institutions like the State Institutes for Rural Development (SIRDs) and local private partners and NGOs all have a critical role in providing support.

In light of the importance of the role of the Gram Panchayats, we are very happy to release this Handbook for Gram Panchayats, to help them plan, implement, operate, maintain and manage drinking water security. The Handbook will act as a reference to Gram Panchayats and a guide for trainers in training the GP/VWSC members. I thank the Water and Sanitation Program for taking the lead in putting together this first edition of the Handbook.

I hope that the Handbook will be extensively used by all stakeholders, and I look forward to any suggestions to help improve the Handbook based on field experience.

Arun Kumar Misra
Secretary
Department for Drinking Water and Sanitation
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(Arun Kumar Misra)

Contents

INTRODUCTION

What is this handbook for?

The handbook seeks to serve as a quick reference for Gram Panchayats (GP) and Village Water and Sanitation Committees (VWSC) on how to plan, implement, operate, maintain and manage water supplies and to ensure their sustainablity.

The handbook is based on the National Rural Drinking Water Progam (NRDWP) guidelines. The focus of this handbook is to ensure 'Drinking Water Security' in rural India.

What is 'Drinking Water Security'?
It means providing every person in rural India with enough water for drinking, cooking and other domestic needs at all times and in all situations.

The NRDWP has identified five phases in the journey towards ensuring 'Drinking Water Security' in rural India.

- Preparatory Phase
  How do we get started?
- Planning Phase
  How do we prepare a Village Water Security Plan?
- Implementation Phase
  How do we implement the plan?
- Operation and Maintenance Phase
  How do we operate and maintain the system?
- Monitoring, Audit and Reporting Phase
  How do we monitor our progress and performance?

Timelines

- The Preparatory Phase should take no more than two-three months
- Planning should take place each year as a part of the annual district and state planning process and should take two-three months. Planning can be further divided into:
  - Investment plans for source sustainability and water supply infrastructure for submission to the district level
  - Annual operation and maintenance (O&M) plans including annual budgets at the village level

- Implementation should take six-twelve months

- The Operation and Maintenance and Monitoring phases are ongoing activities and will continue during the lifecycle of the project

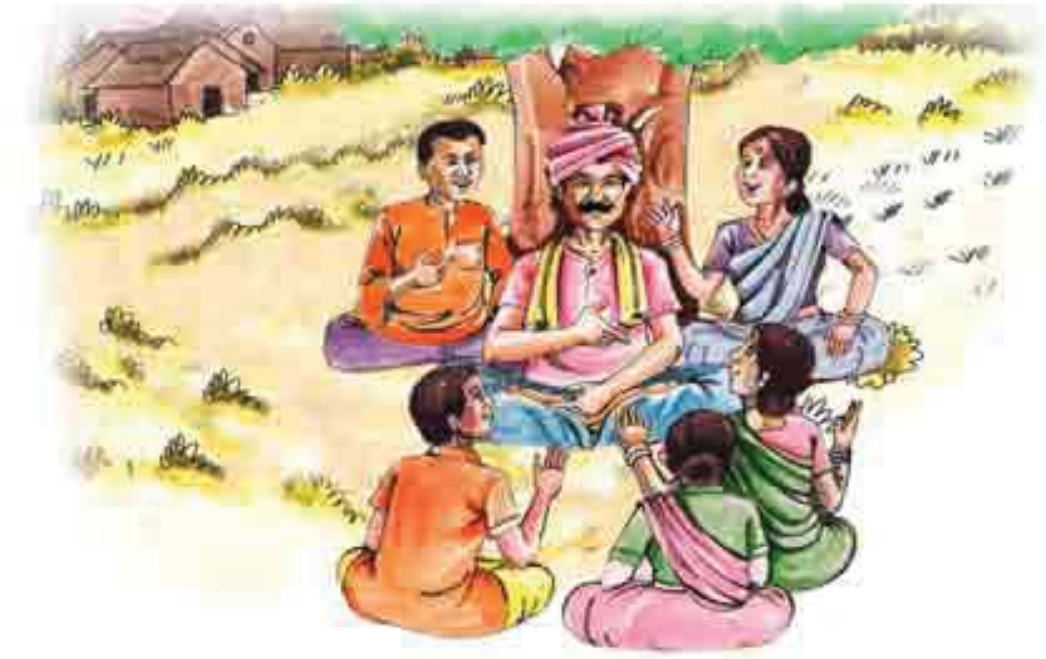
Please note: Steps/Phases mentioned in this handbook are indicative in nature and may vary from state to state.

What are the roles and responsibilities of institutions/persons at the village level?

- **Gram Sabha (GS):** The Gram Sabha comprises of the larger community and is responsible for decisions like:

  - How much drinking water do we need?
  - What are the sources of drinking water available and what are the most appropriate sources?
  - What kind of water supply scheme do we want?
  - How much can each household contribute to building the scheme?
  - How much should households pay in user fee charges?
  - What subsidies can be given to Schedule Casts (SCs), Schedule Tribes (STs) and Below Poverty Line (BPL) households?

  The Gram Sabha approves the village plans and reports from the GP/VWSC on financial accounts, implementation progress and operational performance. It is also an institution for social audit.



- **Gram Panchayat (GP):** The GP owns/manages the water supply scheme for the community and is responsible for:
  - Approving investment plans and getting financing
  - Approving annual budgets and user fee charges after discussion in the Gram Sabha
  - Approving MoU's/contracts with operators
  - Co-ordinating with the block and district and Support Organizations like the Block Resource Centre (BRC)
  - Hiring trained mechanics for regular preventive maintenance for handpumps and trained operators for piped water supplies

- **Sarpanch/President of Gram Panchayat:** As the head of the village, the Sarpanch has to provide overall leadership to the process of ensuring drinking water security for the villages/ households. The Sarpanch is responsible for organizing Gram Sabha with active participation from all stakeholders, formation of a capable VWSC, conflict resolution in a transparent and just manner, monitoring construction to ensure quality, monitoring expenditure to ensure that the funds available are used in a cost-effective manner, providing equitable water supply to all including SCs, STs and poorer households, co-ordination with the block/district and Support Organizations

- **Panchayat/Ward members:** Panchayat/Ward members are responsible for providing leadership at the ward level, building awareness of ward citizens, mobilizing active participation of ward citizens in Gram Sabha meetings, ensuring that the needs of all the sections in their wards have been adequately represented in the village plans and monitoring the process of planning, construction, expenditure and day to day management of water supply

- **The Pani Samiti/Village Water and Sanitation Committee (VWSC):** The VWSC is a standing committee of the GP and is responsible for planning, implementation, operation, maintenance and management of village drinking water security:

    - Collecting household contributions and user fees
    - Opening and managing a bank account
    - Preparing annual budgets and recommendations for user fee charges
    - Organizing people to be vigilant about not wasting water and keeping water clean
    - Ensuring professional support for handpump caretakers and piped water supply operators:

        - Ensuring access to spare parts for handpumps and trained mechanics for regular preventive maintenance
        - Ensuring the operators handling piped water supply systems are provided with adequate training to gain the technical and financial skills needed to do the job

The VWSC is also responsible for procurement of goods and services, supervising contracts and works and making payments.

The VWSC should comprise of about 6-12 members including:

- Members of the GP
- Fifty percent women
- Representation of SCs, STs and poorer sections of the village

- **Operators and Handpump Caretakers:** The responsibility of operators and handpump caretakers includes day to day operation and maintenance of the handpump and piped water supply systems

The Gram Sabha meets at six stages:

- Program introduction (understanding the goals of the NRDWP)
- VWSC formation
- Needs assessment (what do users want?) and Resource mapping (what are our existing sources and systems?)
- Discussion of the Village Water Security Plan and approving it
- Discussion of the operating plan (for operation and maintenance), setting up tariffs and mechanism for collection
- Presentation of accounts and social audit

ROLES AND RESPONSIBILITIES OF INSTITUTIONS AT THE VILLAGE LEVEL

Tasks	Gram Sabha	Gram Panchayat	VWSC	Operator/ Handpump Caretakers
Meetings and Organization	• Hold meetings for decisions at key stages • Nominate and constitute VWSC	• Meet as required by law/rules • Appoint the VWSC	• Meet once a month • Attend Gram Sabha/GP meetings	• Attend GP/VWSC and Gram Sabha meetings
Planning	• Discuss and decide on sustainability issues like choice of water sources and kind of water supply scheme • Discuss and decide on plans and budgets • Decide the level of contribution by households, connection charges, subsidy for SCs, STs and BPL households	• Approve investment plans (physical and financial) • Apply for financing, training and technical assistance • Present annual budgets in the Gram Sabha • Approve user fee charges after discussion in the Gram Sabha	• Prepare/update plans (water source plan, water safety plan, operating plan, service improvement plan) • Collect household contributions • Prepare annual budgets • Prepare recommendations for user fee charges • Organize people to not waste water and keep it clean	• Plan day to day tasks • Support the VWSC to prepare/update plans
Implementation		• Approve works	• Hire and supervise contractors • Procure goods, keep and audit accounts	
Operation and Maintenance	• Discuss and decide on user fees as required for O&M and subsidy for SCs, STs and BPL households	• Approve water user charges after discussion in the Gram Sabha	• Buy spare parts • Hire trained mechanics for handpump preventative maintenance • Hire specialist support for the operator • Connections and disconnections • Daily financial management • Authorizing expenditure • Payments	• Day to day operation and maintenance • Billing and collection • Customer services • Material inventory and stock register • Water safety by chlorination or alternative treatment • Water quality monitoring
Monitoring, Audit and Reporting	• Social audit of expenditures	• Half yearly review of accounts • Half yearly review of budgets • Annual reports to Block on implementation progress and operational performance	• Monthly review of accounts • Bookkeeping • Quarterly reports to Gram Sabha/GP on implementation progress and operational performance	• Weekly review of sources and systems • Weekly review of cash collection and expenses • Weekly report to VWSC on operational performance • Records and log book maintenance

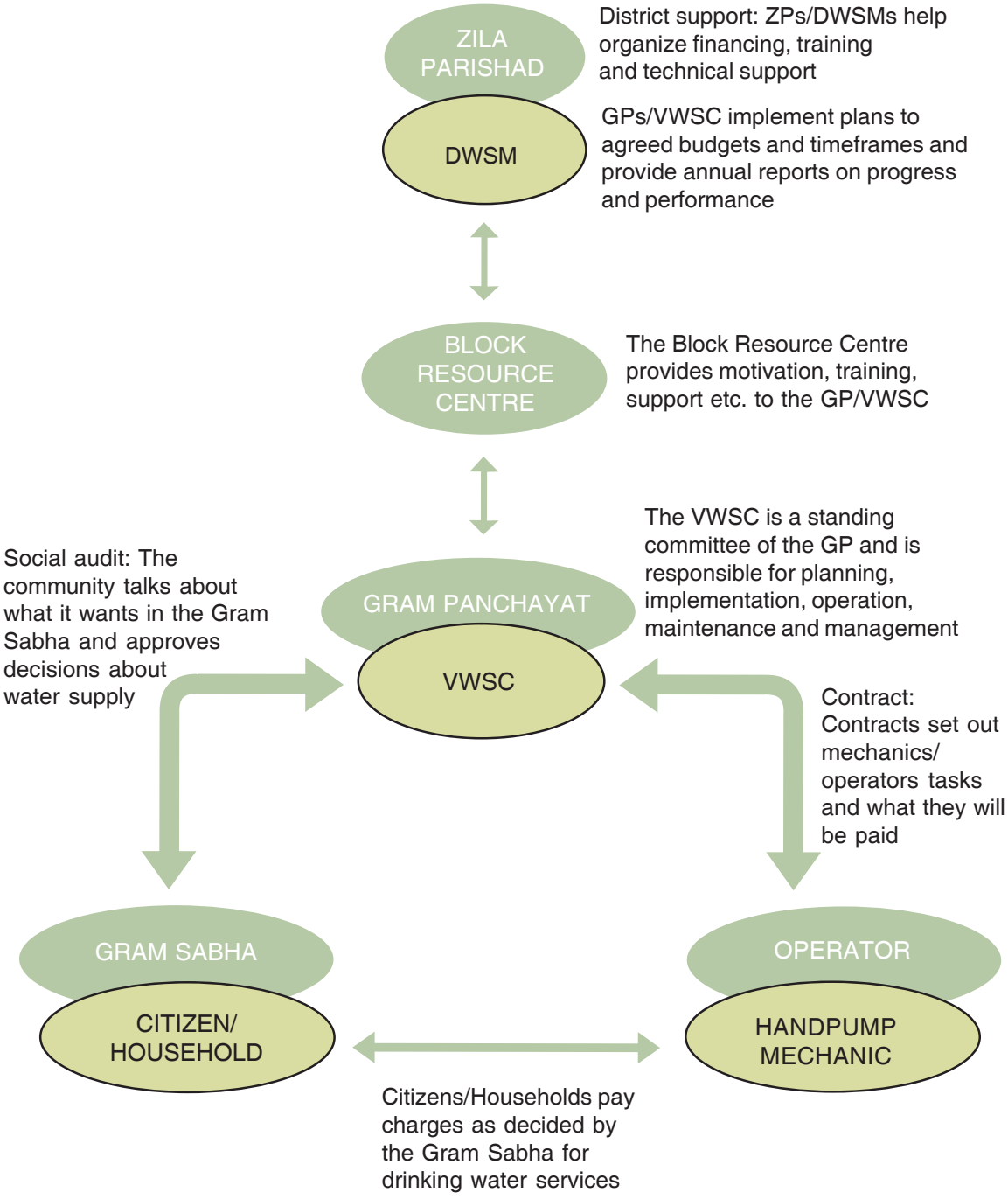
Water quality monitoring and surveillance is a key responsibility of the VWSC. Bacteriological contamination related to poor sanitation causes diseases such as diarrhea, dysentery, cholera, typhoid, etc. Excess fluoride and arsenic in groundwater drinking sources has given rise to crippling diseases such as fluorosis and arsenical dermatitis. The VWSC must ensure that regular sampling and analysis takes place using field test kits and district and sub-divisional district testing laboratories.

The VWSC's responsibilities include maintenance of the field test kits (replacement of used materials) and meeting the expenses of a nominated grass roots worker (VWSC member) as well as the costs of laboratory tests. The VWSC should liaison with Primary Health Centres and NRHM workers (ASHA) to monitor incidence of diseases relating to water (roles and responsibilities of the VWSC member and ASHA are given in the Table in this section). The district and sub-divisional water testing laboratories should have facilities to test:

- Ph
- Total hardness
- Iron
- Chlorine demand
- Residual Chlorine
- Nitrate
- Fluoride and Arsenic (where it is a known hazard)
- Bacteriological analysis

In order to address water quality problems, the VWSC must prepare a Water Safety Plan as described in Section 3.

INSTITUTIONAL SUPPORT ARRANGEMENTS



What is the role of the National Rural Health Mission and ASHA?

The Accredited Social Health Associate (ASHA) under the National Rural Health Mission (NRHM) also has a role which complements the role of the VWSC. The NRDWP specifies the roles of the VWSC and the ASHA as below:

Role of VWSC member	Role of ASHA Worker
Ascertain drinking water adequacy at the household level including domestic animal needs	Ascertain water and sanitation related diseases at the household level as per the NRHM format
Identify all sources of drinking water for different purposes	Collect samples for testing and transfer to the Public Health Centre (PHC) for testing biological parameters
Test all the sources by field testing kits	Test all the sources by field testing kits
Collect sample for testing and transfer to the sub-division/district water testing laboratory for testing both chemical and biological parameters	Take corrective measures along with VWSC members to prevent pollution of drinking water sources
Record details of water supply sources and system in the village/GP	Record keeping of all water and sanitation disease related data
Tariff collection from every household and management of water supply scheme at the village level	Advocacy on hygiene promotion and disease prevention issues at the household level
Carry out awareness activities on water related issues	Carry out awareness activities on sanitation related issues
Any other task assigned by GP President related to rural water supply activities	Any other task assigned by GP President related to rural sanitation activities

Who will help?

GPs/VWSCs are not expected to achieve all of this on their own, they receive support from a number of other institutions. These include:

- **District Water and Sanitation Mission (DWSM):** DWSMs are responsible for setting priorities for investment in the district based on their available budget. Districts review and approve village plans and compile them as an overall district plan. DWSMs help communities by organizing financing, training and technical assistance. In exchange, the GPs/VWSCs must agree to implement their plans to an agreed budget and timeframe, and to provide annual reports on implementation progress and operational performance. The DWSM may enter into a MoU with VWSCs on the respective roles and responsibilities of the DWSM, BRC and VWSC which will also help in conflict resolution

- **Public Health Engineering Department (PHED):** The PHEDs provide technical support such as engineering designs, cost estimates and construction supervision as well as technical audits

- **Block Resource Centre (BRC):** The BRC helps communities prepare and implement plans by providing motivation and training and organizing technical support from the PHED, and by providing information on water quality and public health. The GP/VWSC should contact the BRC for advice on any issue where they need help

- **Water Quality Testing Laboratories:** The district and sub-divisional laboratories are to be used for water quality testing and analysis

- **Support Organizations:** In some cases, GPs/VWSCs will also receive training and technical assistance through Support Organizations designated by the DWSM

- **The State Institute of Rural Development (SIRD):** The State Institutes of Rural Development are the main agency for training at the state level

Section 1
Preparatory Phase

This section is about how do we get started.

- What assistance can we get from the Government?
- How do we form a VWSC?
- What training is available and from whom?
- How do we get the community to participate?

How do we get started.

Calling a Gram Sabha is the first step one needs to take in the preparatory stage. However, prior to calling the Gram Sabha, social mobilization needs to be undertaken to create awareness. This can be done by convening ward meetings and separate women meetings for preparing the community to effectively take part in the Gram Sabha.

At the Gram Sabha meeting, the discussion should include the water supply situation, the needs of the village, an understanding of the assistance available under the NRDWP and getting a consensus on developing a Village Water Security Plan. The second step is to form the Pani Samiti (VWSC).

Why is a Village Water Security Plan required?

The Village Water Security Plan is required to ensure optimum utilization of available water to meet the needs of various users. It will have information about the existing water supply situation, what improvements in the existing system or new system users need, want and can afford, and how the proposed improvements or new infrastructure will be funded, implemented and managed to ensure that drinking water is available at all times in the village for all households.

In many parts of India the number of rainy days is limited to as few as 10 to 15 days per year or less. This may even result in a period of drought which can last for several years and cause extreme hardship to humans and cattle due to water scarcity. It is very important that GPs are able to provide adequate quantity and quality of drinking water supply for humans and livestock during these periods without the Government resorting to emergency measures. In order to achieve this, the GP/VWSC must plan accordingly and implement appropriate mitigation measures, such as rooftop rainwater harvesting, groundwater recharge, rehabilitation of traditional storage tanks, and conjunctive use of surface water and groundwater.

In addition, many parts of India are affected by floods and during this time drinking water becomes a major problem. There is a need to ensure the quality of drinking water for humans and livestock without the Government resorting to large scale, emergency measures. If a well has been flooded there is a risk of contamination causing diseases such as diarrhea, dysentery, cholera, typhoid, etc. It is critical that the well is disinfected by chlorination and/or drinking water is boiled before consumption. There may also be contamination of the well by chemicals such as pesticides or the well may be filled with sediment. In this case the GP/VWSC should seek professional help either directly from the PHED or with the help of the BRC or DWSM. In all cases, wells must be tested as soon as possible to make sure the water is safe.

In addition to ensuring adequate quantity and quality of water for domestic users, the GP/VWSC has a responsibility to ensure provision for all schools and anganwadis, and it must take into account the needs of livestock especially in water quality affected areas where livestock are highly vulnerable to chemical contamination.

What assistance can we get from the Government?

The Government of India provides technical and financial assistance to the State Governments through the NRDWP for rural drinking water supply projects with the goal of providing every rural person with enough safe water for drinking, cooking and other domestic needs at all times and in all situations. GPs/VWSCs need to understand the norms and the assistance available in terms of:

- Service levels – Access and usage, quantity, quality and reliability, responsiveness of service providers, and user's satisfaction
- Cost recovery – How much do households contribute for construction? What are the user fee charges for water supply? How much money is available from the Government?

What are service levels?

Access and usage	What percentage of households in the GP use (i) a handpump, (ii) a community standpost (iii) household connections? Are connections metered?
Quantity and quality	How much safe water is provided per person per day? Has the water been tested and found to be clean and safe to drink?
Reliability	How many hours per day is water provided? How many months/days in a year is there a stoppage in water supply?
Responsiveness of service providers number?	Does the provider have a customer service counter or contact? How quickly does the provider respond to user complaints?
User's satisfaction	Are users getting the services they need, want and can afford?

GPs/VWSCs need to understand how to achieve and sustain these objectives:

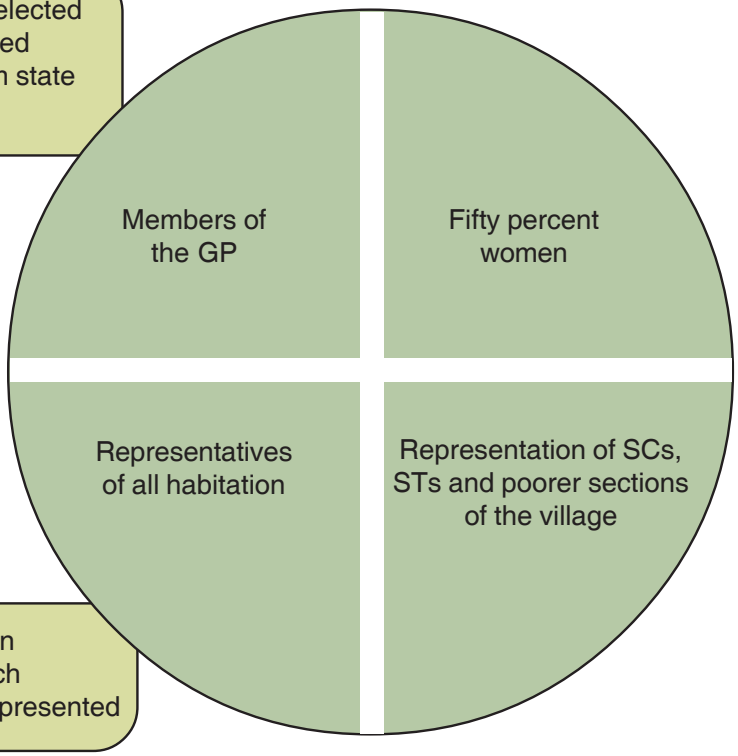
- What are the service standards that they want?
- How to set community contributions and user fee charges?
- What is the support available under the NRDWP and other Government programs?

How do we form a Village Water and Sanitation Committee/Pani Samiti?

The next step is to form the VWSC/Pani Samiti, if this does not already exist. The VWSC should be formed in a participatory manner with members identified and nominated in the Gram Sabha.

The VWSC should comprise of about 6 to 12 members

The actual numbers of elected members and non-elected members may vary from state to state



If the GP has more than one habitation then each habitation should be represented

The VWSC acts as a standing committee of the GP. The President of the VWSC can be the Sarpanch/President of the GP or an elected member as decided by the Gram Sabha.

What training is available and from whom?

In most cases, the GP/VWSC would need training/refresher training to perform their roles. Such training should be organized in phases depending on the stage of preparation, planning or implementation and maintenance needs. The GP/VWSC can arrange such training on their own or seek the assistance of the BRC or DWSM to identify a suitable training institution. The training can be in the form of:

- Classroom sessions by experts
- Hands on training in the field (ideally in the GP/VWSC's own villages)
- Exposure visits to villages that have done well in water security management

Typically, the training would cover:

How can the community be mobilized?
What are participatory planning approaches?
How to gather information on sources and systems?
How to prepare a water budget (how much water is available and how much do we need)?
What are the water harvesting and groundwater recharge options?
How to make a water safety plan and test water quality (to keep water clean)?
Operation and maintenance (what to do and when?)
How to maintain accounts and financial procedures?
Preparing investment plans (what to build, how much it costs and when to do it?)
How to check and report on performance of the water supply?

How do we get the community to participate in planning?

It is the responsibility of the VWSC to get the community to participate in planning for improved drinking water security. Some methods of mobilizing the community are:

- Social mobilization by ward meetings and separate women meetings
- Gram Sabha meetings and discussions
- Folk drama and street plays on drinking water security
- Wall paintings and posters
- Student and youth rallies in the village on issues of drinking water security
- Organizing special lectures or video shows on selected topics
- Enlisting services of elected representatives, school teachers, ASHA workers, postman, religious leaders, ex-servicemen etc.

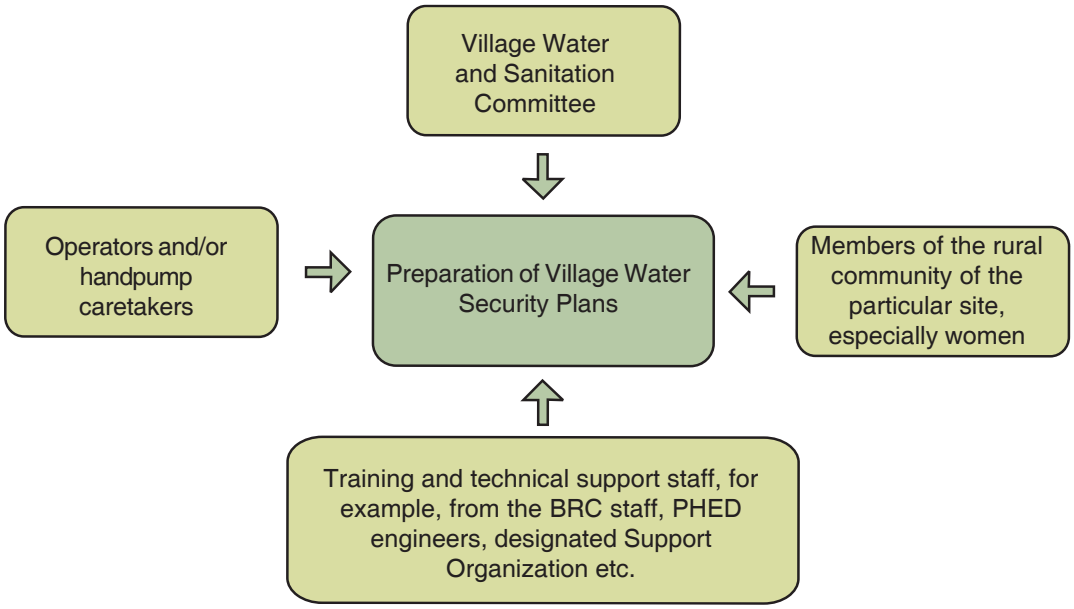
The VWSC can seek support from the designated Support Organization or the BRC members for promoting community participation.

Who should participate in the planning process?

All members of the community should be involved in the planning process so as to ensure that members get what they need, what they want and what they can afford. In addition, help from engineers is needed to identify problems and solutions, including engineering designs and cost estimates.

The preparation of Village Water Security Plans therefore requires the participation of various stakeholders:

Participation of Stakeholders



How do we find out what users need, want and can afford?

To find out what users need, want and can afford, a good way to start is to prepare a 'community map'. To facilitate this, the following steps should be followed:

- Gather the community and inform them about the benefits of Village Water Security Plans with respect to improved water supply and public health
- Gather all available information on the location, type, age and condition of existing water sources and system infrastructure, groundwater levels, water quality, incidence of water borne diseases
- Ask the community to map the locations of water sources and systems, and households in their ward (this should be done on the ground and then copied onto a chart paper)
- Discuss what users need, want and can afford to improve their water supply
- Identify which households are not served by the different sources and systems

- Discuss water related issues such as:
  - The age and condition of existing water sources and system infrastructure
  - Water scarcity problems
  - Water quality problems
  - Incidence of diseases (including seasonal variations in diseases)
  - Existing local water harvesting and groundwater recharge measures
  - Groundwater level management
- Identify gaps in available water resources, infrastructure, service level and efficiency of service delivery
- Talk about the need to not waste water and keep water clean during household water storage and handling, as well as the need for all households to build and use toilets.

What is Source Sustainability?

Why do sources fail?

Water which falls as rain either seeps into the ground (soil) or runs off as surface water into nalas and ponds. Water which seeps into the ground helps to recharge the groundwater aquifers. Loss of groundwater (known as discharge) occurs either when it is drawn up by vegetation, or it flows from springs, or it is pumped up from wells for various uses. If discharge is greater than recharge then the available groundwater is reduced. In such cases, it is important to implement measures to increase water availability and to control how much is used.

In many cases, when groundwater sources are unprotected or overused they begin to dry up and are no longer sufficient to supply everyone with enough drinking water.This source failure is often seasonal, usually occurring in hot, dry summer months. But it can also be permanent because the groundwater has been reduced beyond recovery.

What steps should be taken to ensure source sustainability?

It is important to undertake measures to protect water sources and ensure sufficient water is available to provide everyone with enough water for various uses, such as drinking water for humans and livestock, agriculture and industrial uses. Such measures include both software interventions (raising awareness, self monitoring) and hardware interventions (rooftop rainwater harvesting, groundwater recharge, rehabilitation of traditional ponds).

Software interventions are related to behavior change of individuals and the community, collectively leading to improved management of available water sources. The important interventions are:

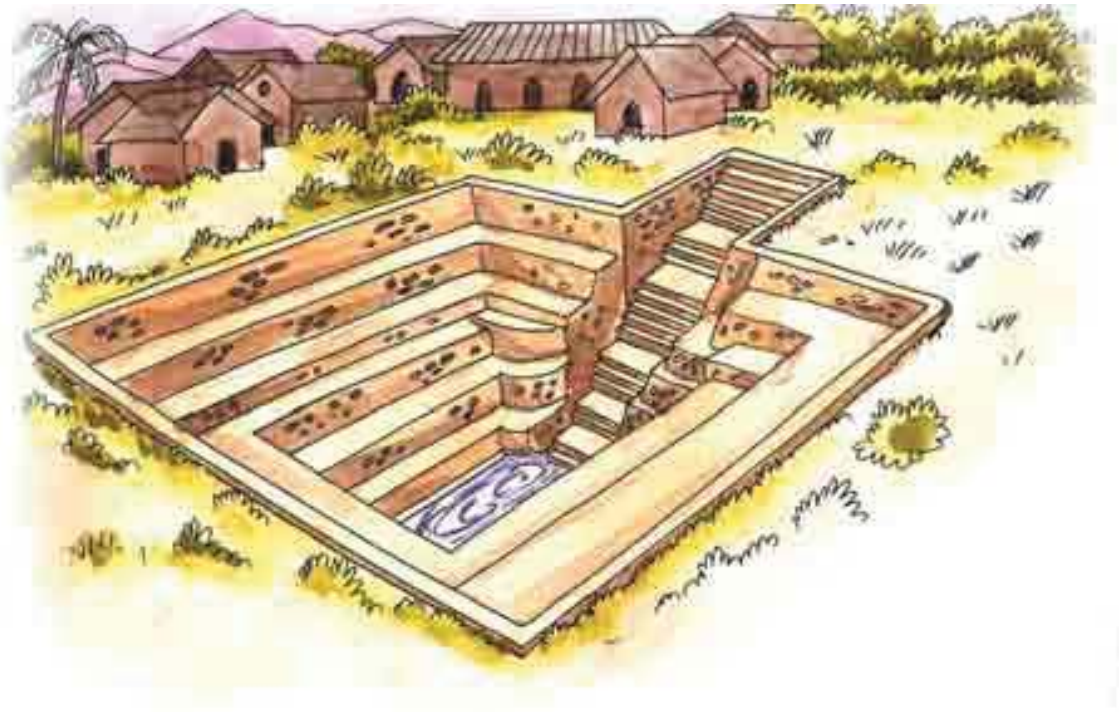
- **Raising Awareness:** On the need to recharge groundwater, the importance of not wasting water, and the need to plan in order to match supply (available groundwater and surface water) with demand (for human and livestock uses including agriculture)
- **Self monitoring:** It is important for the community to introduce simple methods and devices like a rainwater gauge and rope scales to monitor and measure ground water tables. Data on ground water availability, each season, enables farmers to make decisions on how much water can be used for different purposes (agriculture, drinking water, etc.), water budgeting (matching supply and demand), and changing crops to suit the water availability. In making such decisions, first priority is given to secure sufficient drinking water for people and livestock. Other main decisions are related to:
    - Sowing crops that are suitable to the local climate and consume less water
    - Adopting more efficient irrigation methods like sprinklers and drip irrigation
    - Protecting some sources to use only for groundwater recharge
    - Maintaining specified areas with vegetation to help capture rainwater runoff

Some common crops are given below with water required in cubic meters/hectare.

Crop	Water required in cubic meters/hectare
Rice	6,020
Wheat	3,500
Cotton	7,850
Sugarcane	16,000
Sunflower	6,500

Hardware interventions are physical structures which are used either to capture rainwater or surface water runoff or to help recharge groundwater. Some of the most common are described below:

- **Rooftop rainwater harvesting:** This is when rainwater collecting on the roofs of houses, schools and other buildings is captured using gutters and collected in storage tanks. Often a simple filter system is used before storage to ensure the water is safe to drink
- **Ooranis, orans or village ponds:** These are the natural ponds traditionally existing in villages which can be used to capture rainwater and surface water runoff
- **Check dams/nala bunds:** Check dams are made from materials like large stones, logs or bags filled with sand. They are used to slow down the flow of water in gulleys and nalas and reduce soil erosion
- **Percolation tanks:** These are tanks or storage reservoirs (which may be very large) used to capture discharge water and ensure that it is used to recharge groundwater
- **Sub-surface dykes:** These are underground dams which capture subsurface flowing water and ensure that it is used to recharge groundwater
- **Point source recharge systems/infiltration wells:** These are bore wells or dug wells that are drilled or dug into upper dry soil layers in order to directly recharge groundwater
- **Infiltration galleries:** These are horizontal drainage areas used to collect surface runoff and direct it towards groundwater recharge structures
- **Hydro-fracturing:** This is an approach requiring specialist equipment to force water at high pressure into a well and clean/break up fractures in the surrounding rock to increase the flow of water into the well



Section 2

Planning Phase

This section is about how do we prepare a Village Drinking Water Security Plan.

- How do we get information on our source and system?
- How do we use the information to plan?
- What should our proposal to the district contain?

How do we prepare a Village Drinking Water Security Plan.

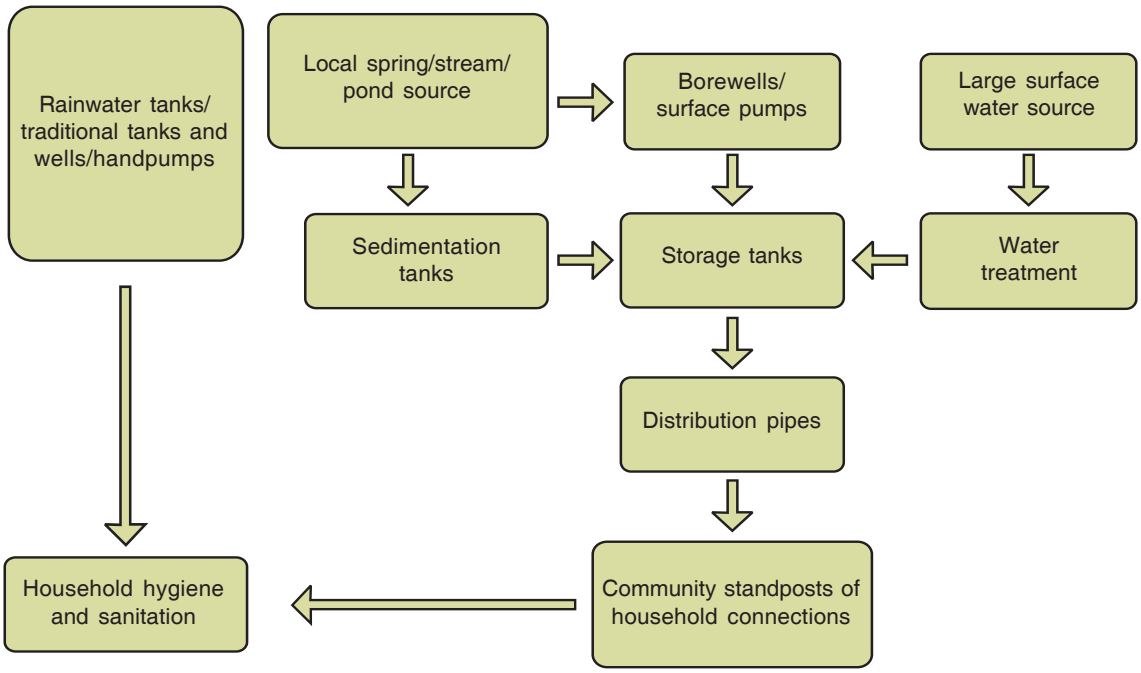
Once the VWSC has gathered information about the existing situation and what the users need, want and can afford, the GP must call a meeting of the Gram Sabha to discuss how the community should go forward with preparing its Village Water Security Plan.

How do we get information on our source and system?

To find out about the sources and system, the VWSC and planning team should carry out a field survey (inspection) of existing sources and water supply infrastructure. This helps to get first-hand information on the actual condition of existing sources and water supply infrastructure, identify new sources or make decisions about the new infrastructure.

There are five common water source and system options:

- Handpumps
- Local springs, streams or ponds with gravity fed or pumping based piped systems
- Borewells with mechanized pumping based piped systems
- Rainwater tanks and other traditional tanks and wells
- Large surface water based piped systems with water treatment



How do we carry out a field survey?

The field survey (inspection) should start by reviewing the community map and planning the survey. To help facilitate the survey and meet its goals, a few guidelines are mentioned below:

- Inspect water sources and system infrastructure including:
  - The sources
  - Sedimentation and storage tanks
  - Distribution pipelines
  - Standposts and household connections
- Identify risks of contamination of various sources of drinking water (a checklist has been provided as a good starting point). As a part of this process, areas of open defecation and water stagnation should also be identified
- Find out what is being done to reduce the risks of contamination of drinking water – is it working or does something else have to be done?
- Inspect household storage and discuss handling practices with the women of the household
- Check for any water related illnesses and discuss it with the women of the household and the village ASHA
- Identify minor/major repairs and replacements of the parts that are needed
- Inspection of more complex source intakes, pumping equipment and water treatment works. This will require technical assistance from qualified mechanics and electrical engineers from the PHED through the BRC or the designated Support Organization
- Identify any impact by natural calamities such as droughts, floods, landslides, etc.
- Take water samples for testing at the district or sub-divisional laboratory. Samples should be taken at:
  - The source
  - Collection points like handpumps, community standposts and household connections
- Document all the information

Checklist of questions to use during the field survey (inspection)

A. Sources

A1. What is the source yield?

A2. Is the source protected by a strong fence to prevent animals entering?

A3. Is the catchment area/ground around the source clean and free of open defecation?

A4. Do standposts and handpumps have a raised, concrete apron in good condition?

A5. Is there good drainage taking dirty water away from the concrete apron?

A6. Are animals and people prevented from drinking water, defecating or leaving garbage around the source?

A7. Are people prevented from bathing, washing laundry, animals or vehicles at the source?

A8. Ensure that there are no latrines or seepage from latrines within 10 meters of the source

A9. Ensure that there is no effluent from poultry, livestock, schools or houses entering the source

B. Treatment systems

B1. Are tanks in good condition, do they need repairs?

B2. Are pipes, valves, gates and taps in good condition?

B3. Are motors fully functional?

B4. Is the treatment system fully functional? (check: coagulation, sedimentation, filtration and chlorination)

C. Storage tanks

C1. Is the tank in good condition, does it need repairs?

C2. Is the pipe from the source in good condition?

C3. Is the tank cover or lid in good condition?

C4. Is the tank cleaned regularly?

D. Pipes

D1. Are pipes in good condition and free from leaks?

D2. Are joints and valves in good condition and free from leaks?

D3. Is the area around pipes free from stagnant water, animal faecal matter and garbage?

E. Household storage and handling

E1. Are storage tanks and containers cleaned regularly before storing water?

E2. Does the tank/container have a cover?

E3. Is there a clean ladle to remove water from the storage tank/container?

E4. Does the household practice handwashing with soap?

E5. Is the household aware about minimizing water wastage?

How do we use the information to plan?

After gathering information on the sources and water supply infrastructure, the VWSC and the planning team must now use the information to prepare their village plan. This includes preparation of:

- Water Budget
- Water Source Plan
- Water Safety Plan
- Operating Plan
- Service Improvement Plan

What is a Water Budget?

A water budget is prepared by estimating how much water is available from the surface, ground sources and rainwater harvesting and comparing this with how much water the users require. This should be done for summer and winter. Communities should use a combination of rainwater harvesting, groundwater and surface water sources so as to provide the best value for money at different times of the season.

Water used for different purposes in the village like agriculture, human consumption, animal consumption, local industries and other purposes should be accounted for here. When there is a gap, the Gram Sabha can discuss it and take decisions on who should use how much. First priority must be given to drinking water for human and animal consumption.

The basic format for a water budget is shown below:

Type of Source	Summer		Gap	Winter		Gap
	Water available (supply)	Water used (demand)		Water available (supply)	Water used (demand)	
Rainwater • Source 1 • Source 2 • …						
Groundwater • Source 1 • Source 2 • …						
Surface water • Source 1 • Source 2 • …						

In case of a gap between available water and water needed, the VWSC and planning team will need to explore options to increase the available water. This can be done by:

- Implementing rainwater harvesting and groundwater recharge measures
- Augmenting existing sources
- Developing additional sources
- Usage of surface water sources

Help can be taken from the BRC or DWSM or designated Support Organization in making these choices.

What is a Water Source Plan?

A Water Source Plan consists of sustainability structures identified for water harvesting and groundwater recharge. These need to be planned with advice from the BRC or DWSM or designated Support Organization to ensure proper location and type of structure.

The list of structures that can be taken up includes:

- Rooftop rainwater harvesting
- Ooranis, orans or village ponds
- Check dams
- Percolation tanks
- Sub-surface dykes
- Point source recharge systems (borewells or dugwells)
- Infiltration wells
- Infiltration galleries
- Hydro-fracturing
- Diversion channels and linking of ponds etc.

The basic format of a water source plan is given below. This would include the proposed sustainability structures, their capacity and the estimated costs.

Sustainability structures	Capacity	Cost
e.g., rooftop rainwater harvesting		

What is a Water Safety Plan?

A Water Safety Plan identifies the main problems that can affect water quality and steps to be taken to prevent bacteriological and chemical contamination of drinking water. Based on the information from the field survey (inspection) the community can identify:

- The main problems that can affect water, e.g., dirty water around the handpump
- Steps to be taken to prevent contamination of drinking water (this is called the 'control measure'), e.g., clean the apron and drains
- Who does it? e.g., the handpump caretaker
- Who checks it is done? e.g., the VWSC
- What to do when the control measure is not working (this is called the 'action'), e.g., temporary solution to clean the apron, permanent solution to get a contractor to repair the apron and drains

Risk	Control measure	Who does it?	Who checks it is done?	Action if control fails	
				What to do?	Who does it?
e.g., area around handpump is muddy	e.g., clean the apron and drains	e.g., handpump caretaker	e.g., VWSC	e.g., raise and repair apron and improve drainage	e.g., VWSC procures contractor
e.g., open defecation near water sources	e.g., ensure that all households construct and use toilets	e.g., motivator, ASHA worker, VWSC members	e.g.,VWSC	e.g., form Nigrani Samitis (vigilance committees) to stop people from defecating in open	e.g., groups of youths/school children formed by VWSC

Some common risks and control measures are shown in the table below. For more complex source intakes, pumping equipment and water treatment works, technical assistance should be sought from qualified mechanics and electrical engineers from the PHED through the BRC or from the designated Support Organization.

Risk	Control measure
Handpumps and standposts	
• Livestock encroach • Area is muddy and poorly drained • Surface drainage is poor • Latrine effluent	• Fencing • Raised apron • Good drainage • Relocate latrines at least 10 meters away
Spring source	
• Animal faeces • Garbage • Livestock effluents	• Fencing • Public awareness, IEC – sign boards • Relocate effluent pathways
Treatment systems	
• Chemical or bacteriological contamination	• Check efficacy of existing treatment system or add new treatment system
Storage tanks	
• Animals and insects get into tank • Garbage, bathing and laundry • Tank is dirty • Tank is damaged or leaking	• Install tank cover/lid • Public awareness/IEC – sign boards • Regular tank cleaning • Regular tank inspection and repair
Pipes	
• Animal faeces, garbage, effluents • Poorly laid pipelines in public footpaths or drains • Leaking pipes	• Public Awareness/IEC • Relay pipes • Regular leakage detection and repair
Household storage and handling	
• Unclean storage container, absence of lid on storage container, no ladle to remove water, no handwashing with soap and uncut nails • Drinking water is contaminated	• Public awareness/IEC and empower women groups to advocate personal hygiene • Household drinking water purification

What is an Operating Plan?

An operating plan sets out the key operating functions for:

- Each part of the system (source, treatment system, storage tanks, pipes, households, etc.)
- Operating function (e.g., valve inspection)
- Person responsible (usually the operator or handpump caretaker)
- How often the operating function is carried out?
- Who can help, e.g., the PHED through the BRC, a qualified mechanic, etc.

The basic format for an Operating Plan is given below:

Part of the system	Key Operating Functions	Person responsible	How often	Who can help
e.g., storage and distribution pipeline	e.g., valve inspection	e.g., operator	e.g., once a month	PHED Junior Engineer

A full list of key operating functions is provided in Section 5 – Operation, Maintenance and Management.

What is a Service Improvement Plan?

The Service Improvement Plan is a summary of:

- Proposed works and other improvements to sources and water supply infrastructure (what is going to be done?)
- The expected benefits (why it is done?)
- The estimated costs (at what cost?)
- When it will be done?

For each item, there would be an engineering proposal (designs and cost estimates) which will require help from the PHED through the BRC or from a designated Support Organization. The timing of implementation could be immediate, short term (this year), or medium term (after one year but within the next five years).

The basic format for a Service Improvement Plan is given below:

Proposed works or other improvements (What)	Benefits (Why)	Cost	When
e.g., install 200 meters of new distribution pipe	e.g., extend service access to 5 households		e.g., this year
e.g., construct a piped water supply system	e.g., provide tap connections to all households		e.g., in two years

Some notes for handpumps

Water Safety Plan:

The most important element in a Water Safety Plan is to prevent dirty water from getting into the well. To achieve this, a cement apron is normally constructed around the well. Raising the apron helps to separate it from the muddy ground around the handpump. Keeping it clean is important. Drainage to prevent stagnant water around the handpump is important. The apron is often fenced to keep livestock away from the well. Latrines should be located at least ten meters away from the well. Water carrying and storage containers should be cleaned and hands and dirty dipping vessels kept out.

Operating Plan:

People should be taught to use the pumps such that the handle does not hit the handpump. Handpump caretakers should be able to recognize simple problems and fix them. Most importantly, GPs ought to have a contract with a qualified handpump mechanic to inspect the pumps in all its villages on a regular schedule and carry out preventive maintenance and repairs.

Service Improvement Plan:

From time to time parts of a handpump will need to be replaced, normally not the whole pump at one time. As the village grows, additional handpumps may need to be added if good quality groundwater is available all year round.

What should our proposal to the District contain?

Finally, the VWSC can prepare a Village Water Security Plan proposal for the GP to submit to the District for financing.

The proposal should be based on the village plans (Water Source Plan, Water Safety Plan, Operating Plan and Service Improvement Plan) and should include:

- **Basic Information:** Names of the district, block, revenue village and habitations covered; populations of the village and habitations
- **Scheme Information:** Description of existing and proposed sources and systems
- **Investments:** Details from the Service Improvement Plan on what to do, how much it will cost and when it will be done
- **Management and Operations:** Details from the Operating Plan about who will operate the system, the estimated operation and maintenance costs and income from user fee charges, and the resulting surplus/deficit in funds for operation and maintenance

Since this proposal forms the foundation of the Village Water Security Plan, the GP should call a Gram Sabha meeting and seek their approval for the Village Water Security Plan before submitting it to the District (DWSM) for approval and financing. The technical options and their financial impact on operations and maintenance costs and user fees should be clearly discussed in these Gram Sabha meetings. The Gram Sabha should approve the most suitable option considering what the community needs, wants and can afford.

When the DWSMs assess the plans, they will review technical, financial and management aspects and GPs/VWSCs need to ensure that their proposals address the following questions:

- Is the proposed water supply what the community wants?
- Is the cost acceptable as compared to the other options?
- Are user fee charges affordable?
- Are funds available for new infrastructure, O&M, replacement of parts, and expansion?
- Does the GP/VWSC have the political commitment and the management capability to implement the plan and operate the new or improved water supply system?
- The BRC would work with the GPs/VWSCs to ensure that plans are feasible and will not result in unnecessary delays in DWSM approval

A sample Village Water Security Plan template is provided below:

Name of the GP	
Total current population in the GP/number of households (include source of data)	
Number of villages/habitations/wards in the GP	
Names of villages/habitations/wards in the GP	

Name/s of villages/habitations/wards being proposed for coverage	
Population of the these villages/habitations/ wards and number of households	
Name used to identify water supply scheme being proposed	
Description of the source(s) (e.g., rooftop rainwater harvesting, protected spring, stream, pond, open or covered well, protected step well, borewells, reservoir, river, or any other traditional source etc.)	
Describe any problems with source sustainability, e.g., during summer/winter	
Description of the system (e.g., handpumps, gravity flow piped supply, mechanized piped	

Investments - Handpumps

Sample only: actual information will be specific to the GP/VWSC's own proposal.

Type of service improvement	Action proposed (the remedy)	Why? (the benefit)	Cost	Timing (the priority)
Source conservation and protection	Refer to water source plan	Water security		This year
Well repair and maintenance	Rehabilitate well or consider piped system	Ensure water security		As needed
Handpump operation and maintenance including fencing, apron and drainage	Contract qualified mechanic Contractors Training for caretaker Training for users	Improved operation and maintenance (fence, raise and repair the apron, improve drainage, ensure clean storage containers, relocate latrines)		Immediate
Water safety	Refer to water safety plan Testing by field test kit/ district/sub-divisional laboratory	Water quality and public health		Immediate
Administrative tasks	Keeping ledgers for operational and financial records Public awareness/ IEC activities	Improved reporting and monitoring		This year

Investments - Piped Water Supply System

Sample only: actual information will be specific to the GP/VWSC's own proposal.

For more complex source intakes, pumping equipment and water treatment works, technical assistance should be sought from qualified mechanics and electrical engineers from the PHED through the BRC or from the designated Support Organization.

Type of service improvement	Action proposed (the remedy)	Why? (the benefit)	Cost	Timing (the priority)
Operation and maintenance capability	Terms of reference or basic service agreement for operator	Clarity on responsibilities of the operator and how they will be paid		Immediate
Contract management capability	Training to VWSC	Improved capability to supervise operator performance		This year
Household connections	Remove cost barriers e.g., subsidising connection cost for SC, ST or BPL households; Simplify application procedures	Meet demand for connections Income increased from new connections Reduced wastage		This year
Pipe network (coverage)	Increase distribution network coverage based on demand	Ability to increase connections and meet demand Increased income		This year
Pipe network (leakage)	Leak detection and repair	Better water quality and public health Increased service levels (pressure, reliability) Improved willingness to pay		Immediate
Storage	Upgrade existing tanks or new tanks Replace filter media	Increased service levels (reliability)		This year
Source (upgrade)	Upgrade intake/ headworks Implement Water Source Plan	Better water quality and public health Production capacity		Immediate
Source (augment)	Identify new source	Production capacity		Next year
Water quality	Implement Water Safety Plan Establish procedures for regular testing by field test kit/ sub-divisional/district laboratory	Better water quality and public health		Immediate

cont...

Type of Service Improvement	Action proposed (the remedy)	Why? (the benefit)	Cost	Timing (the priority)
Customer Service	Setup a customer complaints recording system Set response time	Improved services (speed of response, continuity of supply) Increased willingness to pay		Immediate
Accounts and bookkeeping	Keep ledgers for operational and financial records	Transparent planning and operational/ financial performance Improved reporting and monitoring		Immediate
Quality of customer database, billing and collection arrangements	Record of houses with a connection Procedures for new connection application Billing and collection mechanism Record of non-payment Disconnection policy	Increased income Reduced wastage Improved accounts and bookkeeping		This year

Management and Operations

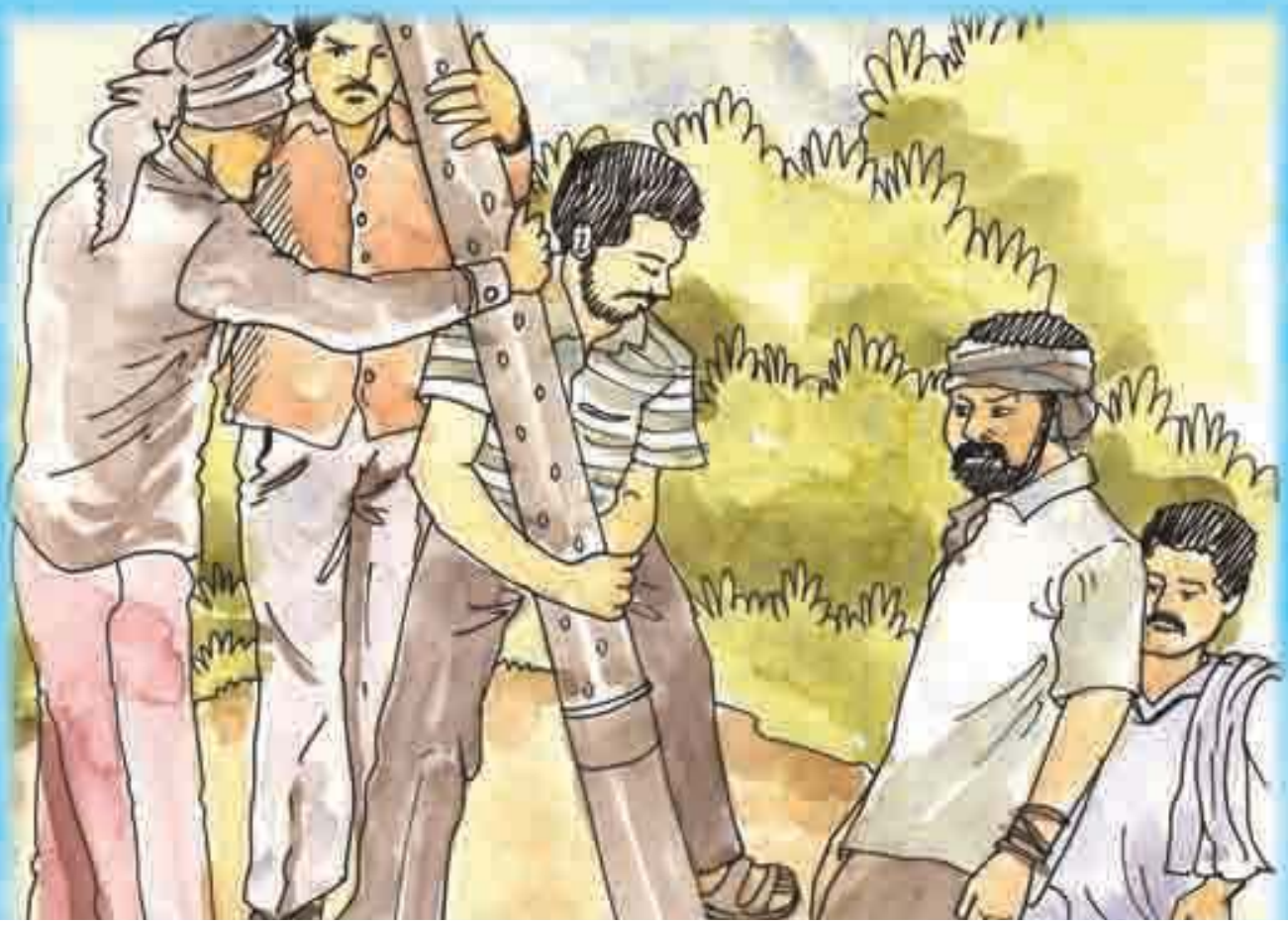
Management and operations arrangements	e.g., VWSC, Operator, Handpump caretakers, Others
Income and expenses	Rupees/Annum
Total staff costs	
Total maintenance costs	
Estimated income from water charges	
Estimated income from Government i.e., NRDWP O&M grant, Finance Commission grant etc.	
Surplus/deficit	

Section 3

Implementation Phase

This section is about how do we implement the plan.

- What is an annual action plan?
- How do we do procurement?
- How do we ensure good quality?



How do we implement the plan.

Implementation of the plan is based on:

- An annual action plan
- Procurement of the materials and contractors needed
- Quality control of the work done

What is an Annual Action Plan?

The annual action plan includes:

- Activities (what to do?)
- Budget (how much will it cost?)
- Time schedule with milestones (when to do it?)

The GP/VWSC should use their service improvement plan to prepare the annual action plan.

Activities (from the service improvement plan)	Budget	Time schedule and milestones for year 201_											
		Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
e.g., install 200 meters of new distribution pipe													

How do we do procurement?

For procurement, appropriate State Government procurement guidelines need to be followed. To this end, the VWSC should set up a procurement committee to handle the following decisions as well as for hiring labour/contractors and purchase of materials:

- Who will do the work? Will it be VWSC members, community members, contract labourers, small contractors or large contractors?
- From where will materials be purchased? Are they available locally? For e.g., steel, cement, sand, pipes, joints, couplings, valves, meters, etc., as well as electrical equipment and pumps
- How much of a given material needs to be purchased at a given time and when it is needed? How will it be stored?

For large contracts at least three quotations/bids should be obtained and details placed for the consideration of the GP. The final purchase order should be placed after the consent of the GP. When work is completed there should be proper recording and measurement of work compared to materials purchased.

How do we ensure good quality of materials and construction?

The GP/VWSC should continuously check the quality of materials and construction works. It should ensure that:

- All materials are ISI certified
- Strength tests for steel and concrete are done
- Pipes are quality certified from a reputable manufacturer
- Pressure testing for pipes after installation is done to ensure joints are not leaking and there is adequate pressure at the last tap connection
- Completed works are measured and compared with materials used

It is mandatory to provide a defects liability period clause in all civil works contracts. Normally, an amount of ten percent of the contractors fees are withheld for one year after completion of construction. The contractor is responsible to repair/replace any work that is found to be defective during this period. The money is released to the contractor after the end of the defects liability period and satisfactory completion of repairs/replacements.

The GP/VWSC should compile a document at the end of the project along with the following details:

- All procurement bills and receipts
- All quality certificates
- Records of all payments made with bills of quantities
- Built plans for all civil works from the contractor
- Records of any repairs/replacements made during the defects liability period

The GP/VWSC should also arrange for a financial audit through a qualified chartered accountant of all the expenditure made for all the materials and works. The expenses for the audit should be budgeted for by the GP/VWSC under administrative costs. This audit report should be shared with all the citizens in the Gram Sabha forum and a full explanation should be provided for discussion. The audit report should be endorsed by the Gram Sabha.

Section 4

Operations and Maintenance Phase

This section is about how do we operate and maintain the system.

- What are the key operating functions?
- How do we manage our finances?
- How do we manage our assets?

How do we operate and maintain the system?

What are the key operating functions?

The key operating functions for each part of the water supply system are shown in the table below:

Part of the system	Key operating functions (what is to be done)
Spring and intake/headworks	• O&M of intake/headworks • Monitorging source availability during dry season • Monitoring source pollution • Implementing water source plan • Planning for new source to meet future demand
Pumps	• Conducting routine O&M • Facility management • Asset maintenance • Flow and pressure monitoring • Monitoring energy consumption
Water treatment plants	• Conducting routine O&M • Facility management • Compliance monitoring for flow, pressure and quality • Asset maintenance • Adjusting treatment process for changing quality of raw water • Monitoring chemical usage
Storage and distribution pipeline	• Valve inspection • Compliance monitoring for flow, pressure and quality • Leak detection and repair • Storage tank inspection • Repairs, rehabilitation, expansion of networks
Customer services	• Installing new connections • Installing bulk and household meters • Meter reading • Billing and collection • Customer complaints redressal and monitoring customer satisfaction • Debt management
Water safety	• Conducting a sanitary survey for risk assessment • Implementing the water safety plan • Monitoring water quality
Connections	• Monitoring handpumps and community standposts to prevent wastage • Maintaining clean aprons and drains • Monitoring household connections to promote equity
Operator's administration	• Depositing collections • Reporting to the VWSC

Normally these tasks should be delegated to an operator. In the absence of an operator, the VWSC will carry out these tasks.

In addition, the VWSC also has administrative tasks to carry out.

- Procurement including professional support as needed
- Contract supervision
- Organizing periodical water quality tests
- New connections
- Disconnections
- Extensions
- Debt collection
- Payment of contractors, operator and handpump caretakers
- Cash bookkeeping
- Maintaining stores register
- Reporting to the GP
- Securing finance for replacement of assets as per maintenance schedule

How do we manage our finances?

Accounting

To help manage finances, the following key steps should be taken:

- The VWSC should open a bank account operated by three signatories: the VWSC President, Secretary and Treasurer
- Income from community collections, user fee charges, household connections and Government grants (Centre/State Government grants, Finance Commission grants, etc.) need to be deposited in the bank account
- All user fees and connection fees need to be deposited in the bank account within 24 hours of collection
- The VWSC Treasurer should maintain a cash book and record all transactions
- A ledger of all customers should be maintained along with household contributions, connection fees, monthly user fee charges paid and any arrears
- VWSC accounts should be subjected to regular social and statutory audit. Social audit shall be undertaken by the Gram Sabha. A certification of annual balance sheet by a professional chartered accountant is required

Annual budget - expenditure

The VWSC needs to prepare an annual budget for O&M. This requires consideration of the following expenditure items:

Type of cost	Cost component
Electricity	• Minimum demand charge • Consumption charge • Tax
Minor repairs	• Spring intake/headworks • Pumps • Water treatment plants • Storage and distribution pipelines • Customer services • Water safety • Connections
Salaries and wages	• Operator (manager) • Handpump caretakers • Pump operators • Bill collectors • Valvemen • Contract labour • Others
Consumables	• Spares • Chemicals • Admin (stationary, transport, telephone, etc.) • Tools
Water quality	• Lab tests
Training	• For operator • For VWSC members
IEC	• Awareness generating activities

The VWSC needs to estimate O&M costs for the next financial year. This can be done on the basis of the previous year's budget with some allowance for inflation. There may also be some additional O&M costs that need to be considered due to new infrastructure or other source and system improvements. The proposed budget shall be reviewed by the GP and Gram Sabha for discussion and approval. The primary goal of the VWSC should be to reduce O&M costs to the minimum.

The VWSC also needs to ensure timely payment against expenditure items including electricity bills, salaries and wages, any works and services and other procurements such as chemicals and spares.

Bills should be checked and approved by the VWSC President, Secretary and Teasurer, the cheque signed by the authorized signatories and issued by the Treasurer. The transaction should be recorded by the Treasurer.

Annual budget – income and user fees

It is critical for GPs/VWSCs to understand the financing needs for sustainable drinking water supply, and what funds are available to them. The table below summarizes the key needs and available funds.

Key Needs	Available Funds
New schemes	NRDWP: coverage component
Source sustainability (rooftop rainwater harvesting, groundwater recharge, rehabilitation of traditional structures)	NRDWP: sustainability component NREGS Watershed Development
Operation and Maintenance (including minor repairs)	NRDWP: O&M component 13th Finance Commission User fees
Potable water in water quality affected areas (treatment technologies, new sources - to address arsenic, fluorides, iron, nitrates, salinity, etc.)	NRDWP: water quality component
Water quality monitoring and surveillance	NRDWP: support component
Training and IEC	NRDWP: support component

Many sources and schemes fail because the community does not plan in advance to replace parts such as a pump or a storage tank (which eventually fail due to age), or because the community does not have sufficient funds to expand the source or system to meet increasing demand from a growing population. In order to meet these needs, it is recommended that the GP/VWSC establish a corpus fund which can include available funds from NRDWP - O&M, 13th Finance Commision, user fees and discretionary funds such as Backward Regions Grant Fund (BRGF). In order to plan how best to use the corpus fund, the GP/VWSC should prepare a Service Improvement Plan as described in Section 3.

Income from consumers will come from:

- Monthly domestic user fees
- Non-domestic user fees
- New connection fees

In addition to user fee charges, there are also grants for O&M from the Centre/State Government (NRDWP, Finance Commission). For piped water supply, user fee charges may initially aim to cover fifty percent of O&M costs including minor repairs. The remaining fifty percent is covered by Centre/State grants (NRDWP, Finance Commission). Major works for replacement of system parts can be covered under various grants (e.g., Finance Commission, Backward Regions Grant Fund, etc).

Commercial user charges will normally be more than household user charges. Households using community standposts would also pay less than households with their own connection. Use of handpumps is usually free of charge.

Subsidies may be provided to BPL, SC and ST households to help them pay user fee charges and/or connection fees.

User fees should be collected by the operator or bill collector each month. The collection should be duly reported and the money deposited in the VWSC Bank Account.

The VWSC should have a strategy for dealing with non-payment, which can include:

- Written warnings
- Publishing the defaulter's name at the GP office
- A fine
- Disconnection with a reconnection charge

How do we manage our assets?

Asset management involves two steps:

- Establishing a ledger which records all water supply system parts, including the age
- Preparing a schedule for replacement of the system parts before they fail

Some typical asset replacement timeframes are given in the table below:

Item	Scheduled Replacement
Electrical motors – submersible	Once in [10] years
Electrical motors installed above ground	Once in [15] years
Pumps – Centrifugal or Vertical Turbine	Once in [15] years
Chlorination equipment	Once in [10] years
Instruments	Once in [3] years
Electrical equipment	Once in [10] years
Pipe lines	Once in [30] years or as and when required
Valves	Once in [15] years or as and when required
Bulk meters	Once in [7] years
Customer meters	Once in [5] years
Laboratory equipment	Once in [5] years
Computers	Once in [5] years
Painting of buildings	Once in [5] years

Section 5

Monitoring Phase

This section is about how do we monitor our progress and performance.

- What is a social audit?
- How do we report our progress and performance?

How do we monitor our progress and performance.

It is important to monitor progress and performance including the milestones set out in the annual action plan. This is done through social audit as well as annual reporting.

What is a social audit?

A social audit is carried out by GP/VWSC by following the steps listed below:

- Place the main issues for discussion and decisions in the Gram Sabha, including selection of sources and systems, community contributions, user fee charges and connection fees and subsidies/concessions provided to ST, SC and BPL households
- Facilitate and ensure active participation of key stakeholders, especially women, SCs, STs and poor households in the Gram Sabha meetings
- Ensure inclusion of SCs, STs and poor households in planning water supply
- Display key information on sign boards in key public places about the proposed activities, budget, milestones and time schedule, contractor details and progress and performance reports
- Maintain a file with all key documents regarding the Village Water Security Plan and share it with any one from the village who wants to know details
- Prepare a citizen's charter for the management of drinking water security with details on: standards of service delivery, user fee charges for different categories of user, connection costs, standard time needed for addressing different type of complaints, names and contact details of VWSC members and the operator:
    - Establish a consumer service centre at the GP/VWSC office to ensure rapid action on any complaints
    - Get the financial accounts audited annually and share the details in Gram Sabha meetings and seek approval for closing the account books every year

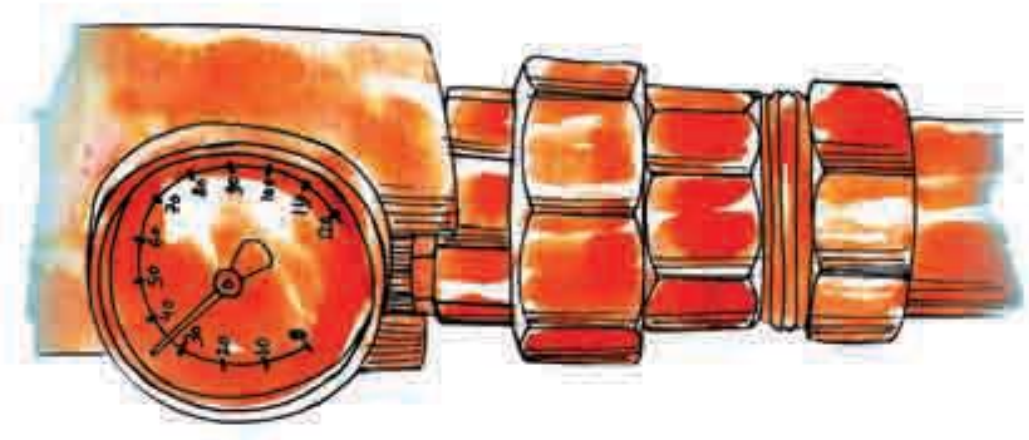
How do we report our progress and performance?

GPs/VWSCs must send annual progress reports to their Block Panchayat as to whether they are on schedule with respect to milestones identified in their annual action plan and expenditures are within the budget estimates. They should also report their performance.

Where an activity is behind schedule or over budget, an explanation would be required. GPs/ VWSCs could request specific assistance if problems had been encountered.

Measuring performance: some key indicators	
Access and usage	What percentage of households in the GP use (i) a handpump, (ii) a community standpost (iii) household connections? Are connections metered?
Quantity and quality	How much safe water is provided per person per day? Has the water been tested and found to be clean and safe to drink?
Reliability	How many hours per day is water provided? How many months/ days in a year is there a stoppage in water supply?
Responsiveness of service providers	Does the provider have a customer service counter or contact number? How quickly does the provider respond to user complaints?
User's satisfaction	Are users getting the services they need, want and can afford?

A sample reporting template is provided on the next page.



GP/VWSC ANNUAL REPORTING TEMPLATE - with reference to the annual action plan milestones and budget.

Type of service improvement	**Are proposed activities completed on schedule: Yes/No. If no, explanation of difficulty faced and steps being taken to catch up on schedule or complete implementation**	**Is work within budget estimate: Yes/No. If no, extent of overrun and whether this can be made up or whether an application for additional financial support has been made**	**Comments and references to associated papers**
Operation and maintenance capability			
Contract management capability			
Household connections			
Pipe network (coverage)			
Pipe network (leakage)			
Storage			
Source (upgrade)			
Source (augment)			
Water quality			
Customer service including meters			
Accounts and bookkeeping			
Quality of customer database and billing and collection arrangements			

Abbreviations

ASHA	Accredited Social Health Associate
BPL	Below Poverty Line
BRC	Block Resource Centre
DWSM	Drinking Water and Sanitation Mission
GP	Gram Panchayat
GS	Gram Sabha
IEC	Information, Education and Communication
NRDWP	National Rural Drinking Water Program
NRHM	National Rural Health Mission
PHC	Public Health Centre
PHED	Public Health Engineering Department
SC	Schedule Caste
SIRD	State Institute of Rural Development
ST	Schedule Tribe
SWSSO	State water and Sanitation Support Organization
VWSC	Village Water and Sanitation Committees
ZP	Zila Parishad

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Design and illustrations by: Mudra Communications Pvt. Ltd.
Printed at: PS Press Services Pvt. Ltd.
Date: September 2010