

## VALVES (sluice, butterfly, NRV, kinetic air, zero velocity)

### Monthly

Activity	Check (Tick if complete)
Tighten bolts, nuts, packing	
Disc and seat ring lapping in sluice valves	
Lubrication of sluice and butterfly valve	
Plug leakages (gaskets, packing etc)	
Clean small orifice nipple in Kinetic air valves	

### Quarterly

Activity	Check (Tick if complete)
Valve/Gate Lubrication and servicing	
Servicing of isolating valve (kinetic air valve)	
Replace damaged balls or seats of orifices (kinetic air valve)	
Check seal ring and tight shut-off (Butterfly valve)	

*Note: Monthly activities shall be undertaken during quarterly maintenance also.*

### Annually

Activity	Check (Tick if complete)
Painting all valves with oil paint	
Oil/ grease change in gearing arrangement (Butterfly valve)	
Calibration and servicing of all valves and gates	

*Note: Quarterly activities shall be undertaken during annual maintenance also.*

### Long term

Activity	Frequency	Check (Tick if complete)
Replacement of spindle or spindle nut (sluice valve)	2 years	

## Water Meters/ Flow Meters

Activity	Check (Tick if complete)
Cleaning chamber, casing, box	
Check and plug leakages	
Clean deposits	

### Annually

Activity	Check (Tick if complete)
Calibrate & validate readings and range	
Disconnect and service (ultrasonic)	

*Note: Monthly activities shall be undertaken during annual maintenance also.*



## Overhaul

Activity – Included in quoted price	Frequency (months)	Check (Tick if complete)
Replace Gland packings, mechanical seal	3	
Replace balls & seats in Kinetic air valves	3	
Oil topup in panels/ starters/ circuit breakers	3	
Check conditions of insulators and replace (panels/ starters/ breakers)	3	
Replace lost filter media – Effective size of filter sand 0.45 to 0.70 mm, uniformity coefficient not more than 1.7 nor less than 1.3, depth of filter 0.75 M, free board 50 cm, gravel 0.45 M in depth, sand and gravel conforming to IS: 8491 (i) – 77	6	
Replace all corroded parts all water level indicators, bolts, nuts, washers, ladders, rungs, metal railings, insert plates (Note: Corrosion should not occur if preventive measures like panting, etc are done. As such, the replacement is supposed to be done immediately post identification)	12	
Overhaul of clariflocculator bridge (realignment, servicing, rubber wheels)	12	
Calibration & Servicing of Gauges, flow meters, valves	12	
Servicing (Starters, Breakers and Panels)	12	
Leak repairs, plastering in all civil components	12	
Pump Overhaul (activities as per checklist)- submersible set	12	
Pump Overhaul (activities as per checklist)- VT/ centrifugal	24	
Replacement of spindle or spindle nut (sluice valve)	24	
Transformer: Core and winding replacement	60	
Activity – Paid separately	Frequency (months)	Check (Tick if complete)
Cleaning water storage structures	6	
Painting of metallic blades and shafts (Flash mixer)	12	
Painting MS pipes	12	
Painting Handrails	12	
Painting level indicators, instruments, charts	12	
Painting ladders	12	
Painting of Alum and lime solution tanks with anti-corrosive paint. (Chemical feed unit)	12	
Painting air valve, sluice valve, riser pipe of air valve, zero velocity valve, butterfly valve (outdoor), bypass arrangement	12	
Painting civil structures (external & internal)	24	
Painting transformer & steel structure	24	
Food grade epoxy painting in the internal of all water retaining structures (sumps, ESRs etc) to avoid corrosion due to chlorine	24	
Painting doors, windows, ventilation, shutter, pump, motor, all valves & equipment inside pump house, transformer yard, D.P. structure	24	
<b>End of Design life (Augment, Refurbish)</b>	180	



## Painting

Activity	Frequency	Check (Tick if complete)
Painting of metallic blades and shafts (Flash mixer)	1 year	
Painting MS pipes	1 year	
Painting Handrails	1 year	
Painting level indicators, instruments, charts	1 year	
Painting ladders	1 year	
Painting of Alum and lime solution tanks with anti-corrosive paint. (Chemical feed unit)	1 year	
Painting air valve, sluice valve, riser pipe of air valve, zero velocity valve, butterfly valve (outdoor), bypass arrangement etc	1 years	
Painting civil structures (external & internal)	2 years	
Painting transformer & steel structure	2 years	
Food grade epoxy painting in the internal of all water retaining structures (sumps, ESRs etc) to avoid corrosion due to chlorine	2 years	
Painting doors, windows, ventilation, shutter, pump, motor, all valves & equipment inside pump house, transformer yard, D.P. structure	2 years	

## 13.4 Operation and Maintenance Policy (Old)



**GOVERNMENT OF ASSAM  
PANCHAYAT AND RURAL DEVELOPMENT DEPARTMENT  
DISPUR ::: GUWAHATI-6**

**ORDERS BY THE GOVERNMENT OF ASSAM  
NOTIFICATION**

No. FDA.193/2021/7

Dated: Dispur the 9<sup>th</sup> February, 2022.

In pursuance of the Cabinet decision held on 10<sup>th</sup> December, 2021, the Governor of Assam is pleased to notify the following advisory for prioritizing activities to be undertaken by the Gaon Panchayats, Anchalik Panchayats and Zilla Parishads under Tied Grant of 15<sup>th</sup> Finance Commission.

**Advisory for prioritizing activities to be undertaken by the Gaon Panchayats, Anchalik Panchayat and Zilla Parishad under Tied Grant of 15<sup>th</sup> Finance Commission.**

Of the two components recommended under 15<sup>th</sup> Finance Commission Grant, the Tied Grants can be utilized for the following basic services equally:

- A. Supply of drinking water, rainwater harvesting and water recycling.
- B. Sanitation and maintenance of open defecation free status and this should include management and treatment of household waste, and human excreta and faecal sludge management.

However, if any PRI has fully saturated the need of one category, it can use the fund in the other category. Such saturation shall be certified by the respective Gaon Sabha and duly confirmed by supervising authority of the panchayats.

The total allocation of tied grants for the rural local bodies is distributed among the three tiers of panchayats in the following ratio:

- 70% for Gaon Panchayats
- 15% for Anchalik Panchayats
- 15% for Zilla Parishads.

The main purpose of the 15<sup>th</sup> FC tied grant for water Supply and sanitation is to enable Gram Panchayats/RLBs to shoulder the full responsibility for potable water supply to every household, Schools, Anganwadi centres, PHCs/ CHCs, community Centres, wellness centres, etc. on longterm and regular basis, greywater management, solid waste management, maintenance of open-defecation free status and improved sanitation in the villages. It is to be ensured that the 15<sup>th</sup> FC tied grant is used to achieve tangible outputs with intended outcomes.



viz. reduced water-borne diseases and improved health, reduced dropout from Schools, reduction of drudgery etc.

For smooth implementation of the above-mentioned Basic Services viz. supply of drinking water and sanitation, the following works are to be taken up by GP/AP/ZP on priority under tied grant of 15<sup>th</sup> Finance Commission, as enumerated below:

**A. Supply of drinking water, rainwater harvesting and water recycling.**

- i. Operational and Maintenance (O&M) of functional Water Supply Schemes which are handed over by PHE Deptt. to the PRIs. The recurring O&M expenses of such schemes may be:
  - Electricity charges
  - Cost of chemicals
  - Replacement / nominal up-gradation cost
  - Remuneration for Scheme operators (part time basis) etc.
  - Any necessary up-gradation works to cater to the need for newly grown up households within the command area of the Scheme
  - Taking care of any emergency breakdown etc. with necessary redress

The electricity charges for the PWSS will be paid centrally by the district. All the GPs/APs/ZPs will transfer their electricity charges amount to a ZPs' dedicated bank account for electricity charges and ZP will pay the consolidated electricity charges of all PWSS to APDCL.

- ii. O&M expenses of the above-mentioned activities, water audit and petty expenditure may vary from Rs.13, 000/- to 40,000 per month depending upon the type of scheme. *(For details O&M Methodology at Annexure-A may be referred).*
- iii. For operation of water supply scheme, Volunteers may be engaged at the rate of as mentioned in the O&M Methodology. The numbers of volunteers to be engaged would depend on the size of the Piped Water supply Scheme (PWSS). *(For details O&M Methodology at Annexure-A may be referred).*
- iv. The formation of Water Users Committee (WUC) will be taken up in a general meeting involving all users within the command area of the scheme. The quorum of the meeting will be at least 30% of the users of the command area of the scheme.
- v. The services of the existing volunteers taking care of O&M activities, should be continued considering their expertise from their service rendered so far and in case of new engagement of any volunteers (if necessary), the volunteers may be engaged by



Water Users' Committee (WUC) with the approval of Village Water and Sanitation Committees (VWSC)/GPWSC.

- vi. The volunteers may be engaged by Water Users' Committee (WUC) with the approval of Village Water and Sanitation Committees (VWSC)/GP Water and Sanitation Committees (GPWSC).
- vii. Criteria for forming Water Users' Committee (WUC) will be as per guidelines enclosed at *(For details O&M Methodology at Annexure-A may be referred)*.
- viii. A separate savings account shall also be opened by the Water Users' Committee (WUC), where charges collected from users shall be deposited. Further, the shortfall if any, the maintenance cost may be met from 15<sup>th</sup> Finance Commission Tied Grant allowed for Drinking water supply.
- ix. The WUC will raised demand of the shortfall fund to the GPWSC. The GPWSC will recommend the GP to transfer to shortfall to WUC. The shortfall fund shall be transferred from GP's 15<sup>th</sup> FC Grant bank account to the WUC account. This transfer has to be done through PFMS-e-granswaraj integrated system.
- x. All schemes which have been retrofitted under JJM as well as new schemes being implemented under JJM shall be handed over to GPs/APs/ZPs on ongoing basis by JJM. The schedule for handing over Rural PWSS to GPs will be finalized by the DWSM in consultation with respective PRI.
- xi. The existing volunteers, as well as the new volunteers appointed to run PWSS schemes implemented under JJM shall be trained by PHE Department on an ongoing basis, cost of which will be borne by JJM.
- xii. Large Multi-Village Schemes (MVS) in rural areas, which require technical expertise to operate & maintain shall continue to be run and operated by PHE Department and the O&M cost for those schemes shall be paid out of 15<sup>th</sup> FC funds placed with Anchalik Panchayat and Zilla Parishad. The O&M cost for MVS Schemes shall include salary of contractual employees, consumables, O&M Contracts with third parties for O&M of MVS Scheme equipment, electricity charges, repair and maintenance of equipment etc. The DWSM shall be authorized to notify such large Multi-Village Schemes to AP or ZP.
- xiii. Provision for solar energisation and pump for Schools/ Anganwadi Centres for operationalization of drinking water schemes in remote areas where grid based power connection is not available. In such situation, fund is to be utilized as per estimate provided by PHED. Other infrastructures for making running water available shall be facilitated under Jal Jeevan Mission (JJM).



- xiv. Other activities of drinking water supply, rain water harvesting, water recycling and retrofitting which are not covered under JIM may be taken by the PRIs depending upon the availability of fund after provisioning of tied grant for O&M requirement of fund of PWSS.

**B. Activities under Sanitation and maintenance of open defecation free status:**

- i. Operation and maintenance of Community Managed Sanitary Complex (CMSC) and Solid Liquid Waste Management (SLWM) systems at village level will be done by GPs, while SLWM systems at block level will be done by APs/ZPs.
- ii. Construction of Community Managed Sanitary Complex (CMSC). Funding provision will be in the ratio of 70:30 from PHED (i.e., 2.1 lakhs) and P&RD (90 thousand) respectively. The site selection for CMSC assets will be done by Panchayats and details will be shared with the PHED. Additional fund requirement for CMSCs will be borne by P&RD from 15<sup>th</sup> FC tied grants.
- iii. Solid Liquid Waste Management (SLWM) at Village level: Funding provision will be in the ratio of 70:30 from PHED and P&RD respectively. The site selection for SLWM assets will be done by Panchayats and details will be shared with the PHED. Waste collection vehicles will be provided by PHED from their 70% share.
- iv. Retrofitting of Individual Household Latrines (IHHL) from 15th FC tied grants by P&RD.
- v. Provision of dustbins for waste disposal, external electrification for CMSC and SLWM assets by P&RD from 15<sup>th</sup> FC tied grants.
- vi. Provision of Material Collection Facility (MCF) at every village of Gaon Panchayat (GP) for collection and segregation of Plastic Waste generated in the GP with an aim to eliminate single use plastic will be done by P&RD.

For effective monitoring and concurrent evaluation, a district level Supervisory Committee will be constituted with the following members:

- |  |                 |
|--|-----------------|
| 1. Guardian Minister of the district   | : Chairperson   |
| 2. Deputy Commissioner of the district | : Vice Chairman |
| 3. CEO, Zilla Parishad                 | : Member Secy.  |
| 4. Chairperson, Zilla Parishad         | : Member        |
| 5. ADC (Education)                     | : Member        |
| 6. ADC (i.e. JIM)/SDO (i.e. JIM)       | : Member        |
| 7. Inspector of Schools                | : Member        |
| 8. DEEO                                | : Member        |
| 9. District Social Welfare Officer     | : Member        |



10. Executive Engineer, PHED : Member  
 11. Executive Engineer, ZP : Member  
 12. Two Social Activists : Member (to be nominated by Deputy

Commissioner with the approval of the Hon'ble Guardian Minister of the district)

**Other instructions as detailed in guideline issued by PDA.149/2020/33 dated 23<sup>rd</sup> Nov 2020 will remain same.**

(Akan Deep, IAS)

Commissioner & Secretary to the Govt. of Assam  
 Public Health Engineering Department

(Dr. J B Eeka, IAS)

Principal Secretary to the Govt. of Assam  
 Panchayat and Rural Development Department

Memo No. PDA.193/2021/7

Dated: Dispur the 9<sup>th</sup> February, 2022

Copy to:

1. The Commissioner, Panchayat & Rural Development, Assam, Pangpara, Imphal, Guwahati-37 for information & necessary action.
2. All Deputy Commissioners.
3. All Principal Secretaries, 6<sup>th</sup> Scheduled Areas.
4. The Director, State Institution of Panchayat & Rural Development, Assam, Khanapara, Guwahati-22 for information & necessary action.
5. All Chief Executive Officers of Zilla Parishads.
6. All Project Directors, DRDA for 6<sup>th</sup> Scheduled Areas.
7. P.S. to Hon'ble Minister, Panchayat & Rural Development Public Health Engineering Department, Dispur, Ghy-6 for kind appraisal of Hon'ble Minister.
8. P.S. to Additional Chief Secretary, Public Health Engineering Department, Dispur, Ghy-6 for kind appraisal of Additional Chief Secretary.
9. P.S. to Principal Secretary, Panchayat & Rural Development Department, Dispur, Ghy-6 for kind appraisal of Principal Secretary.
10. Office Copy.

By order etc.

*(Signature)*  
 09/02/22

Secretary to the Govt. of Assam  
 Panchayat & Rural Development Department



## **O&M Methodology for Rural Water Supply Sector**

### **Introduction -**

Safe drinking water holds the key to public health. To improve the public health status in rural areas as well as to reduce drudgery of women and girls arising out of water collection troubles, implementation of Jal Jeevan Mission (JJM) has been initiated to facilitate potable drinking water through tap water access to every rural household.

The key objective of Jal Jeevan Mission is to ensure no one is left behind with assured tap water supply to every rural household and also to enable every rural household being provided with drinking water supply in adequate quantity (55 lpcd) of prescribed quality (BIS: 10500) on regular and long-term basis, thereby to improve the lives of rural people. For this purpose, the proposed implementation module invites upfront involvement of the respective community on ownership basis by sharing both for infrastructures (as JJM Guidelines) as well as necessary O&M with affordable service delivery charges.

The UN declared SDG targets also warrant (as per SDG-6) all rural households to have access to piped water supply in adequate quality with a tap connection providing safe drinking water, throughout the year, that meets prevalent national drinking water standards, leading to healthy and improved livelihood.

In earlier practice, the National Rural Drinking Water Program (NRDWP) was implemented for achievement of enhanced coverage with regard to the mandated Goals and Objectives, Per capita supply, sustained Water Supply infrastructures, Water quality issues, Issues of water conservation and liquid waste management etc. Also, the overall Water Policy highlighted the water source protection and maintenance related to water Eco-systems and pollution management etc.



### Present Initiatives and Practice for O&M of PWSSs -

Keeping in view of sustainability of Water Supply Schemes, Govt. policies and guidelines, the maintenance of Water Supply Schemes were proposed to be decentralized to the Gaon Panchayat (GP), putting the ownership to the concerned GPs towards support of O&M initiatives. However, the rural status in Assam made the GPs reluctant to take the charge ahead, citing different reasons like present workload of GPs in other development sectors, inadequate technical manpower and also the fact that in rural areas the practice of making payment of water users' charge for regular upkeep of water supply schemes, is uncommon due to their perception on Govt. responsibility / dependence on Govt.

In the above backdrop, a reform initiative was fostered by the PHED, in the interest of desired levels of services on a sustainable basis, with its efforts to encourage the community (users) for active participation in the O&M of rural water supply schemes. Accordingly, Scheme wise Water Users' Committees were formed under the guidance of PHED, for each rural Piped Water Supply Schemes (PWSS) and the major role of such Users' Committees was to ensure effective management of the PWSS including its regular O&M, creating social responsibilities in the form of ownership, regular supply of water and also the liaison with the PHED for any technical updates. Much of the ground-breaking works on community management of water supply sector have already started rolling in many areas and such endeavour has succeeded to shift the responsibility and the ownership of the rural PWSS to the community (users / beneficiaries) in a result oriented manner to ensure the smooth functioning of the PWSS, with people's participation. Furthermore, cost recovery for O&M and replacement costs, in part or full, has also led to the financial viability and sustainability of the schemes. These initiatives need to be institutionalised keeping in view of the long term sustainability. For this purpose such Water Users' Committees were proposed to be recognized as community based approach and also as a Standing Committee of the



respective GP for the particular Water Supply Scheme in the interest of community-driven and reliable systems of drinking water supply.

#### **Thrust for O&M under JJM-**

Continuous Drinking Water Security is an aspiration and JJM mandated efforts shall be made to cover all habitations with such aspiration, so that all rural household have access to piped water supply in adequate quantity with home based tap connection providing safe drinking water throughout the year, that meets prevalent national drinking water standards.

Under JJM, there is a renewed thrust aiming at ensuring community involvement for enabling rural communities to plan, build and manage in-village drinking water supply infrastructures to upgrade the qualities of rural lives. Hence it is expected that every Gram Panchayat and/ or it's sub-committee, i.e. GP Water and Sanitation Committee (GPWSC), Village Water & Sanitation Committee (VWSC)/ Water Users' Committee etc. is able to function as a 'local public utility unit' that can manage, operate and maintain in-village water supply services on regular and long-term basis, focusing on service delivery, rather than merely on infrastructure creation. Gram Panchayats or its sub-committees need to ensure that water supply schemes are functioning properly and lasts it's full design period i.e. next 30 years.

Hence the O&M approach of Water Supply Schemes needs to be decentralized to the Community under the leadership of PRIs and for that the PWSSs completed under PHE Departmental efforts, should be handed over to the concerned PRIs, with meaningful ownership to keep the PWSS sustained for long time. The UN declared SDG targets also warrant (as per SDG-6b) to support and strengthen the participation of local communities in improving water management.



### Aims and Objectives of O&M Methodology -

The basic aims and objectives of the O&M Methodology mandated with JIM perspectives are as follows ---

- (a) The better service delivery through efficient functioning of the PWSS through Water Users' Committee.
- (b) Importance on reducing / limiting 'No Supply Day' or 'Non-Revenue Water' due to leakage, mechanical breakdown, wear and tear etc.
- (c) Energy efficiency with proper audit.
- (d) Sustained services with all quality control measures.
- (e) Monitoring the functional aspects and evaluation of issues of public concern
- (f) Course correction activities to redress field issues.

**Sustainable management in the water sector focuses on the following:**

- Sustainability means delivery of services / benefit for prolonged time.
- Equitable supply of safe drinking water to all households.
- In the absence of sustainability measures, the water sector infrastructures may become defunct and with the services becoming disrupted.
- Therefore, together with the steps for provision of the water, simultaneous initiatives for sustainability or sustainable management must be put into place.

**Hence, the O&M methodology in rural water supply sector needs to deal with several thrust areas for sustainable water management:**

1. Knowledge and commitment for sustainability in all levels.
2. Awareness generation for safe water, focusing on water handling practices, liquid waste management, non-revenue water etc.
3. Demand Generation for safe water in real sense, leading to community ownership for water infrastructures.
4. Technical soundness for dealing with functionality and durability of installations



5. Community involvement from beginning of the projects, following 'Plan, Build and Operate' approach.
6. Training and capacity building initiatives including IEC are of great importance for effective utilization of manpower in O&M activities as best as possible.
7. Community will be motivated to take up the responsibility of maintenance.
8. Continuous external support (like Finance Commission Grant / Govt. handholding etc.) to the community for maintenance of the water supply services. The Indicative list of works / activities to be taken up from 15th Finance Commission tied grants includes the following -
  - (a) Activities for long term sustainability of drinking water supply schemes, which should include--
    - (i) Operation and maintenance activities of drinking water supply scheme.
    - (ii) Recurring O&M expenses including Electricity charges, cost of chemicals, replacement cost and nominal upgradation cost, remuneration for Scheme caretakers etc.
    - (iii) Any necessary upgradation works to cater for the need for newly grown-up population within the command area of the Scheme.
    - (iv) Taking care of any emergency breakdown etc.
    - (v) Any upgradation works to redress disaster-oriented breakdown. As a part of emergency maintenance works for minor breakdown shall be taken up by utilizing the FFC tied grant. Along with the water tariff collection amount by WUC. However, for major breakdown due to natural calamity, PRI may approach ASDMA to get necessary support for restoration.
  - (b) There should not be any creation of infrastructure without having running water facility, like HP/RW etc, unless in case of specific situation certified by Nodal Office.



#### Formation of Water Users' Committee -

In view of the proposed O&M methodology, there is need for formation of Water Users' Committee for each PWSS, under the guidance of concerned GPWSC and VWSCs by involving all users from the command area of the Scheme. Such Water Users' Committees will remain instrumental to ensure effective O&M of the PWSS along with the desired service delivery and will be involved in managing the O&M expenditures.

In this regard, the Water Users' Committee Bye Law shall be considered as a part of the proposed O&M Methodology.

#### O&M Financial Resources -

The main financial resources for managing the functioning of the PWSS will include the monthly tariff from users as beneficiary charge against service delivery and the 15<sup>th</sup> Finance Commission (FFC) tied grants, based on the O&M Plan against gap funding for each PWSS to manage different likely O&M scopes. The utilization of such FFC tied grants will be vital one. Because, as per JJM mandate, it is envisioned that an empowered and enlightened rural community and PRIs is likely to take the responsibility of ensuring basic service for drinking water supply sector on long-term and sustainable basis.

Successive Finance Commission(FC)s have recommended utilizing FC award fund in water supply sector and also for recovery of user charges for provision of water supply services. Therefore, the GPWSCs / VWSCs need to initiate social mobilisation to ensure that households pay water user charges on monthly basis so as to cover recurring expenditure for O&M to facilitate long-term sustainability.

Under the O&M Methodology, the Water Users' Committee shall finalise the necessary O&M fund demand, in consultation with PHED and banking on the probable monthly O&M expenses and the collection of users' charges. Such fund demand proposal, as a gap for financial resources for ensuring functionality of the Scheme, shall be submitted



to the concerned GPWSC, based on which necessary fund from FFC tied grant shall be released by PRIs to the Water Users' Committee.

#### Financial O&M Planning-

The financial planning for O&M depends on type of Schemes with their respective site conditions and units of operations. It would involve recurring costs like necessary energisation, cost of chemicals, expenditures on preventive and breakdown maintenance, remuneration for Scheme caretaker etc. The tentative scopes for monthly O&M expenses, in most generalised terms for different types of PWSSs are as follows -

#### **(a) Small range PWSS -SVS with FHTC Nos - upto 100 Nos**

##### **(i) Groundwater based Schemes-**

Monthly electricity Bill - Rs. 5000.00

Monthly honourarium for caretaker - Rs. 6500.00 or as decided by the Water Users' Committee

Purchase of chemicals etc. - Rs. 500.00

Scheme expenditures for Repairing / replacement / nominal upgradation cost etc. = Rs. 3000.00 for six months

Hence monthly scheme expenditures - Rs. 500.00

Misc expenditures per month - Rs. 500.00

**Total monthly expenditures - Rs. 13000.00**

##### **(ii) Surface water based Schemes-**

For surface water based Schemes, addl. expenditure is required for the following (as compared to groundwater based schemes) -

Addl. monthly electricity Bill - Rs. 1500.00

Addl. purchase of chemicals etc. - Rs. 1000.00



Honourarium for addl. caretaker – Rs. 6500.00 or as decided by the Water Users' Committee

Total addl. expenditure – Rs. 9000.00

**Hence, total monthly expenditures – Rs. 22,000.00**

(b) **Medium range PWSS –SVS with FHTC Nos – 100 to 200 Nos**

(i) Groundwater based Schemes-

Monthly electricity Bill – Rs. 6000.00

Monthly honourarium for caretaker – Rs. 6500.00 or as decided by the Water Users' Committee

Purchase of chemicals etc. – Rs. 500.00

Scheme expenditures for Repairing / replacement / nominal upgradation cost etc. = Rs. 6000.00 for six months

Hence monthly scheme expenditures – Rs. 1000.00

Misc expenditures per month – Rs. 1000.00

**Total monthly expenditures – Rs. 15000.00**

(ii) Surface water based Schemes –

For surface water based Schemes, addl. expenditure is required for the following (as compared to groundwater based schemes) –

Addl. monthly electricity Bill Rs. 3000.00

Addl. purchase of chemicals etc. – Rs. 1500.00

Honourarium for addl. caretaker – Rs. 6500.00 or as decided by the Water Users' Committee

Total addl. expenditure – Rs. 11000.00

**Hence, total monthly expenditures – Rs. 26,000.00**



(c) MVSs -FHTC Nos -200 and above

(i) Groundwater based Schemes-

Monthly electricity Bill - Rs. 10,000.00

Monthly honourarium for caretaker (2 Nos) – Rs. 13,000.00

@ Rs. 6500.00 per person or as decided by the Water Users' Committee

Purchase of chemicals etc. - Rs. 1500.00

Scheme expenditures for Repairing / replacement / nominal upgradation cost etc. = Rs. 24,000.00 for six months

Hence monthly expenditures - Rs. 4,000.00

Misc expenditures per month - Rs. 2000.00

**Total monthly expenditures - Rs. 30,500.00, Say, Rs. 31,000.00**

(ii) Surface water based Schemes

For surface water based Schemes, addl. expenditure is required for the following -

Addl. monthly electricity Bill - Rs. 1500.00

Addl. purchase of chemicals etc. - Rs. 1000.00

Honourarium for addl. caretaker - Rs. 6500.00 or as decided by the Water Users' Committee

Total addl. expenditure - Rs. 9,000.00

**Hence, total monthly expenditures - Rs. 39,500.00 Say Rs. 40,000.00**

In case of large MVS, the bulk water supply chain also involves the scope of financial resources at a suitable rate depending on the coverage pattern, with respect to one Elevated Service Reservoir to cater for the need of the command area. While evolving the rate of such bulk water supply, the cost of production of treated water will have to be evaluated considering the financial involvement in the respective MVS for this purpose.

Large Multi-Village Schemes (MVS) in rural areas, which require technical expertise to operate & maintain shall continue to be run and operated by PHE Department and the



O&M cost for those schemes shall be paid out of 15<sup>th</sup> FC funds placed with Anchalik Panchayats and Zilla Parishad. The O&M cost for MVs schemes shall include salary of contractual employees, consumables, O&M Contracts with third parties for O&M of MVS scheme/equipment, electricity charges, repair and maintenance of equipment, etc. The DWSM shall be authorized to notify such large Multi-Village Schemes to AP or ZP.

**Considering the most general and tentative O&M Plan for PWSSs with different scale (as stated above), the Water Users' Committees may adopt collection of monthly water users' charge @ minimum Rs. 100.00 – 150.00 per households, based on field requirements.**

**Punitive action may be taken against any defaulter water user/users in consultation with the respective GP in a Gaon Sabha.**

Any probable gap in meeting the expenses for monthly O&M as well as the time to time upgradation activities under the Scheme, from the amount of collection of water users' charges, shall be managed from FFC tied grant, to be released by PRIs to the Water Users' Committee through GPWSC. The WUC will raise demand of the shortfall fund to GPWSC. GPWSC will recommend the GP to transfer the shortfall fund to WUC. Such fund demand proposal, to bridge the gap for financial resources for keeping the Scheme functional, shall be prepared by Water Users' Committee to be placed for necessary sanction from PRIs.

The decentralized O&M approach of Water Supply Schemes under the leadership of PRIs needs extensive social mobilization to facilitate meaningful ownership to keep the PWSS sustained. Hence, extensive IEC efforts are necessary amongst the stakeholders including the user beneficiaries to make the Water Users' Committees self reliant to ensure long term sustainability towards functioning of the PWSS and ensuring continuous Drinking Water Security.



### Incentive for Community with sustained Drinking Water Security –

The JJM mandate has a provision for incentivizing / rewarding the community for ensuring sustained drinking water security through successful functionality of the Scheme with extended ownership over the infrastructures. Such incentive is likely to be released in phased manner after commissioning of the Scheme to the tune of 10% of the capital expenditure for the respective water supply scheme. This would be treated as a 'revolving fund' to meet emergency repair / maintenance of the Scheme, which will eventually be replenished by the local water users.

Furthermore, to attract the community towards their involvement in O&M of PWSS a **Social Responsibility Award** is also proposed under JJM Support Activities for successful Water Users' Committees in the State, which will be named as "উজ্জ্বল গ্রাম পানীয়সেবা সমিতিৰ সন্মান". The main objectives of this Award are as follows:

1. To promote community participation in ensuring the successful O&M of the Scheme.
2. To create a sense of ownership over the PWSS with social responsibility orientation.
3. To establish Public – Public (Community – Government) interface for least dependency on Government for O&M of PWSSs, except in case of critical technical issues.

As a continuity for the earlier practices of PHED, Assam, this Award will be considered as Chief Minister's Award in favour of the most successful Water Users' Committees for their **Excellency of the Services to the Community**. Such a coveted Award under JJM support activities will consist of a Memento, a Citation and an Award Money amounting to Rs. 50,000.00 for each Awardee. The incentive amount of each Award is expected to encourage a competitive approach among the Water Users' Committees and also to help in fulfilling the critical gap, if any, with some sustainability measures for the PWSS.



### Roles and Responsibilities of different stakeholders under proposed O&M Plan

**A. Water Users' Committee:** - The basic objective of Water Users Committee against each FWSS is to make the scheme functional all the time through effective management of scheme activities to facilitate necessary service delivery with drinking water supply in adequate quantity and of prescribed quality on regular and long term basis within the command area of the scheme. The formation of WUC will be taken up in a general meeting involving all users within the command area of the scheme. The selection of WUC President/Chairperson and office bearers shall be taken up in the general meeting democratically. For this purpose the basic functions of a Water Users Committee are as follows:-

- a) To operate and maintain the PWSS and thereby to ensure the Scheme remains functional with all necessary units of operations / activities including time to time monitoring.
- b) To ensure financial management including monthly users charge collection and FFC grant received for the scheme.
- c) To redress all issues related to drinking water supply within the command area of the scheme.
- d) To facilitate repairing/replacement etc. to any part of the scheme, as and when necessary with close coordination with PHED/GPWSC/VWSC authorities.
- e) To encourage users for necessary ownership on different units/pipeline etc. under the scheme. The users should be made aware to avoid any wastage of water and also to ensure beneficiary contribution against each FHTC in the form of one platform and one sukpit against each FHTC. Water Users' Committee may initiate all necessary actions to prevent any unlawful activities like fitting extra pump by any household to suck more water.
- f) In case of any new households grown up within the command area of the scheme, after the scheme operation is handed over to the community, then the



Water Users' Committee may initiate necessary action in consultation with GP and PHED to facilitate water connection to such new household as decided by the Water Users' Committee.

- g) For any sort of necessary extension of the scheme activities, the Water Users' Committee may initiate consultation with concerned PHED office and then to approach respective GP/AP/ZP for necessary financial sanction and the implementation might be taken up with close coordination of PHED.
- h) To submit monthly report on functions of the PWSS to the respective GP, highlighting:
  - Functionality of scheme
  - Regular maintenance and surveillance activities of the scheme
- i) To coordinate with GPWSC for necessary release of FFC fund.
- j) The WUC will meet at least once in a quarter.
- k) To follow the Water Users' Committee Bye-law in all respect, being the part of the O&M Methodology.

**B. GPWSC:-** In order to involve the respective GP, it has been proposed to hand over the existing schemes to PRI in phased manner and for newly proposed schemes PRI shall be directly involved, since the date of planning and implementation. The roles and responsibilities of respective GPWSC in connection with functionality of a PWSS are as follows: -

- a) To follow JJM operational guidelines.
- b) To maintain active coordination with Water Users' Committee and PHED. For this purpose, the Water Users' Committee Bye-law might be considered as point of reference for the O&M Methodology.
- c) To facilitate FFC tied grant for operation and maintenance of the PWSSs under their jurisdiction.



- d) To monitor functions of Water Users' Committee and to evaluate necessary course correction activities, as deemed fit, to ensure better functionality of the schemes within the jurisdiction of GPWSC.
- e) To render all Water Users' Committee with necessary administrative support, for redress towards any field issues.
- f) In case of large multi-village scheme, the role of Anchalik Panchayat (AP) / Zila Parishad (ZP) will be detailed suitably.
- g) In case of Council areas, the MACWSC will perform the role of a GP in non-council areas and the JJM guidelines issued from Mission Directorate shall remain valid in this regard.

**C. PHED:-**The roles & responsibilities of PHED office for managing rural drinking water supply sector are as follows: -

- a) To follow JJM operational guidelines & thereby to create necessary water supply infrastructure to facilitate supply of safe drinking water to all household through FHTCs.
- b) After completion of the water supply scheme and ensuring its functionality to benefit the rural population, PHED will hand over the scheme to the respective PRJ. The O&M approach for such water supply schemes handed over to the PRJ should be decentralised and accordingly, the Water Users' Committee will be formed under the guidance of GPWSC / VWSC, as per the Water User' Committee Bye-Law, to operate and maintain the Scheme.
- c) After handing over the Schemes to PRJ, the necessary capacity building and orientation training shall be conducted by PHED on O&M approach / issues, for different stakeholders including the caretakers engaged by Water Users' Committee.



- d) For evaluation of suitable rate for the bulk water supply, the PHED will determine the production cost of treated water with due consideration of all financial involvement in respect of functionality of the Scheme.
- e) PHED will initiate time to time monitoring and evaluation on the functionality of the Scheme as well as service delivery and even necessary course corrective measures shall also be initiated. PHED will remain responsible to bridge the gap, if any, while ensuring the functionality of the Scheme, as per the Departmental mandate.
- f) PHED would render necessary technical supports to resolve all technical issues arising in the O&M sector.

Monitoring of O&M Activities -

All O&M activities would be monitored regularly by the respective stakeholders and in future, there is a scope of utilizing IoT based Performance Evaluation Tool for facilitating real time monitoring.



**Chief Engineer(PHE), Water, Assam**

**cum**

**Associate Mission Director (T), JJM, Assam**

**Hengrabari, Guwahati - 781036**





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File No.: JJMA-145/TECH/2025 14,591

Date: 26/12/2025

To,  
The Mission Director,  
Jal Jeevan Mission, Assam,  
✓ Hengrabari, Guwahati-781036

**Subject:** Forwarding of Annual Financial Assessment of O&M Cost of Single Village Water Supply Schemes (SVS) under Jal Jeevan Mission, Assam

Sir,

With reference to the subject cited above, I have the honour to forward herewith the **Annual Financial Assessment of Operation and Maintenance (O&M) Cost of Single Village Water Supply Schemes (SVS) under Jal Jeevan Mission, Assam**. The assessment has been prepared based on the findings of the Technical Committees constituted for analysis under the *Financial Assessment Framework for Operation and Maintenance of Single Village Schemes*.

The analysis of rates has been carried out on the basis of actual expenditure reported across different categories of schemes, with classification based on Household Coverage. Although the assessment is indicative in nature, it provides a structured and evidence-based estimation of O&M requirements and is expected to facilitate informed decision-making with regard to fund provisioning for the sustainable operation and maintenance of Piped Water Supply Schemes.

The matter is hereby submitted for favour of your kind perusal and necessary action.

**Enclosures:** As stated above.

Yours faithfully,

Chief Engineer (PHE), Water, Assam,  
Hengrabari, Guwahati-36

TOTAL ANNUAL OPERATION AND MAINTENANCE COST			
HH/Scheme	Total Annual Cost including need based and planned maintenance)(IN RS)	Total Annual Fixed Cost(IN RS)(Salmitra Remuneration, Electricity Bill)	Total Maintenance and Fixed Cost(IN RS)
<=100	141500	156000	297500
>100 - <=200	268755	192000	460755
200-300	345395	198000	543395
300-500	449375	216000	665375

**POINTS CONSIDERED IN THE FORMULATION OF THE ANNUAL MINOR REPAIRING ESTIMATE FOR THE SVS SCHEMES**

**1. Scope and Applicability of the Cost Calculations**

The cost assessment has been carried out for a Single Village Scheme (SVS) located in the Plains, using a Groundwater Deep Tubewell as the water source, designed to serve up to 500 households. The Budget will serve as a guide to the WUCs in financial planning of O&M ascertaining tariff rates.

**2. The estimated costs are indicative and prepared for annual scheme budgeting, factoring in the probability of their occurrence.**

The costs provided under each head are average indicative estimates factoring with probability of occurrence and do not reflect the precise maximum or minimum expenses that may occur during repair works. The estimated costs are flexible and can change based on actual field conditions.

**3. Inclusion of Carry Forward Provision in Annual Costs**

Each cost component includes a carry forward fund provision to ensure recurring and future expenses are covered. For example, if a pump costing ₹40,000 requires replacement after five years, ₹8,000 (₹40,000 ÷ 5) is to be allocated annually from the first year to avoid sudden expenditure in the fifth year. So the unused fund has to be carry forward to the next subsequent years.

**4. Flexibility for Reallocation Based on Field Requirements both across heads and different Schemes**

Funds can be inter allocated between different cost heads or schemes when needed. For example, if civil repair work is not required in a particular year but the motor needs replacement, the unused civil works funds can be used to cover the motor replacement cost. Unutilized maintenance funds may be pooled for unforeseen repairs. The WUC can use savings from tariff collections for emergencies across cost heads. If expenditures exceed WUC capacity, gap funding may be sought from the GP; if 15th FC funds are insufficient, the GP may approach the AP or ZP for additional support.

**5. Dependence on Market Rates and Finalization via RFP**

The indicated costs are based on prevailing market estimates and are subject to fluctuations. Final payable amounts will be determined as per approved RFP rates after the tendering process.

**6. Exclusion of Major Repair and Replacement Costs**

The total annual cost includes only minor repair and routine maintenance works such as Pipeline or FHTC Leakage repair, repair of pump, sluice valves, control panel, transformer, tank repair, Filter media replacement, UGR/ESR Cleaning, ESR Painting, other miscellaneous civil or electrical minor repairs etc. Major repairs requiring high expenditure or specialized manpower—such as large-scale pipeline replacement, complete FHTC units replacement, Major ESR staging repair, or Complete tank replacement, DTW Reinstallation, Transformer replacement etc. —are not included. Also MVS, Surface Water Based, Hilly Area and Solar Based Schemes are not considered while arriving at the annual estimates as these schemes constitute to a minor section of the total schemes implemented in the state and a separate assessment will be prepared for the same afterwards.

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**Har Ghar Jal  
Jal Jeevan Mission**