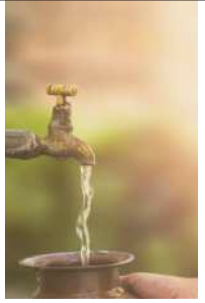
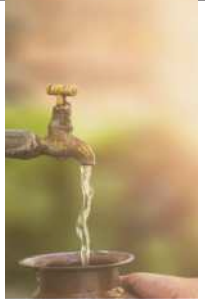


Abbreviations

AAP	Annual Action Plan
ADB	Asian Development Bank
ADD	Acute Diarrheal Diseases
AI	Artificial Intelligence
AGM	Annual General Meeting
BCC	Behavior Change Communication
CPHEEO	Central Public Health & Environmental Engineering Organization
CBO	Community Based Organisation
CSO	Civil Society Organization
CWPP	Community Water Purification Plant (CWPP)
DAP	District Action Plan
DDP	Desert Development Programme
DDWS	Department of Drinking Water and Sanitation
DMDF	District Mineral Development Fund
DPAP	Drought Prone Area Programme
DPR	Detailed Project Report
DWSM	District Water and Sanitation Mission
EAP	Externally Aided Projects
EBR	Extra Budgetary Resources
ESR	Elevated Storage Reservoir
FC	Fully Covered
FHTC	Functional Household Tap Connection
FTK	Field Test Kit
GoI	Government of India
GBS	Gross Budgetary Support
GIS	Geographic Information System
GP	Gram Panchayat
HRD	Human Resource Development
HR	Human Resources
IMIS	Integrated Management Information System
IEC	Information, Education and Communication
IFD	Integrated Finance Division
IPC	Inter Personal Communication
ISA	Implementation Support Agency
JE-AES	Japanese Encephalitis - Acute Encephalitis Syndrome
JJM	Jal Jeevan Mission
KRC	Key Resource Centre
LPCD	Litres Per Capita Per Day
M&E	Monitoring & Evaluation
MeITY	Ministry of Electronics & Information Technology
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MPLADS	Members of Parliament Local Area Development Scheme
MLALADS	Member of Legislative Assembly Local Area Development Scheme
MVS	Multi Village Scheme
NDB	New Development Bank
NE	North East
NGT	National Green Tribunal
NGO	Non-Governmental Organization
NJJM	National Jal Jeevan Mission
NRDWP	National Rural Drinking Water Programme
O&M	Operation and Maintenance
PMKVK	Pradhan Mantri Kaushal Vikas Kendra
PFMS	Public Financial Management System
PHED	Public Health Engineering Department
PPP	Public Private Partnership
PPR	Preliminary Project Report

PRA	Participatory Rural Appraisal
PRI	Panchayati Raj Institutions
Q&Q	Quality and Quantity
R&D	Research and Development
RJJK	Rashtriya Jal Jeevan Kosh
RWH	Rain Water Harvesting
RWS	Rural Water Supply
SAP	State Action Plan
SCADA	Supervisory Control and Data Access
SBM(G)	Swachh Bharat Mission (Grameen)
SDG	Sustainable Development Goals
SHG	Self Help Group
SLSSC	State Level Scheme Sanctioning Committee
SVS	Single Village Scheme
SWSM	State Water and Sanitation Mission
ToR	Terms of Reference
TSS	Tribal Sub Scheme
ToT	Training of Trainers
UC	Utilization Certificate
U-DISE	Unified District Information on School Education
VAP	Village Action Plan
VO	Village Organisation
VWSC	Village Water and Sanitation Committee
WASMO	Water And Sanitation Management Organisation
WQM&S	Water Quality Monitoring & Surveillance



Definitions

(in the context of Jal Jeevan Mission)

Functional Household Tap Connection [FHTC] – A tap connection to a rural household for providing drinking water in adequate quantity of prescribed quality on regular basis.

Functionality – Functionality of a tap connection is defined as having infrastructure, i.e. household tap connection providing water in adequate quantity, i.e. at least 55 lpcd, of prescribed quality[1], i.e. BIS:10500 standard, on regular basis, i.e. continuous supply in long-term.

In-village water supply infrastructure – The piped water supply infrastructure of a new scheme/ retrofitting of existing scheme/ augmentation of existing water source(s) and its necessary components including ESR, sump, rain water harvesting, artificial recharge structures, greywater management infrastructure, washing/ bathing place, cattle troughs, etc. In desert, drought-prone, hilly and water-stressed areas, cluster storage is also part of in-village water supply infrastructure.

Distribution network – Pipelines carrying raw/ treated water from source to village level sump on one hand and within the village, pipelines carrying water to households on the other.

Bulk water transfer – Transfer of raw/ treated potable water in bulk by means of open channels or pipelines or a combination of both from a source to an area where no local water source is available. The provision of water will be for both domestic and industrial needs in rural and urban areas. In rural areas, bulk water will be made available at the boundary of the village. Thereafter, Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. will have to manage, operate & maintain as is in a Single Village Scheme. The transfer of bulk water may be on a long-term continuous basis or intermittent and temporary basis, and is to be equipped to measure the supply in terms of quantity, quality and regularity.

Community – Group of people living in a village/ habitation.

Habitation – A group of minimum 20 households and/ or 100 persons. However, in hilly/ tribal and forested areas, and SC/ ST dominant habitations having lower number of households and/ or persons, are also to be covered. Providing FHTC for single houses/ farm houses far away from villages/ habitations are not be funded under JJM.

Drinking water source – Groundwater (open well, borewell, tubewell, handpump, etc.)/ surface water (spring, checkdam, river, lake, pond, reservoir, etc.)/ rain water, available for drinking and domestic use.

Premises – As defined for Census operation.

Rural Water Supply (RWS) Department – The department having mandate for rural water supply in the State which may be PHED/ Panchayati Raj/ Rural Development/ Board/ Corporation, etc.

Water-stressed areas – The districts and blocks identified by Central Ground Water Board (CGWB) from time to time.

Utility – An organization focusing on service delivery, i.e. water supply in adequate quantity of prescribed quality on regular basis, and having operational and financial sustainability.

Water Quality Monitoring - Laboratory and field testing of water samples collected from water sources and FHTCs by the agency responsible for rural water supply as per the uniform drinking water quality monitoring protocol.

Water Quality Surveillance – A regular activity based on uniform drinking water quality monitoring protocol, to be undertaken by local community, Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. or Schools using Field Test Kits (FTKs) and similar assessments to identify and evaluate factors associated with drinking water which could pose a risk to health.

Functionality Assessment – An assessment of functionality of rural household tap connections based on sample survey.

NABL accredited laboratories – Water quality testing laboratories accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL).

Village Action Plan (VAP) – Plan prepared by Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani

[1]IS 10500:2012 'Indian Standard – Drinking Water Specification' as amended from time to time.

Samiti/ User Group, etc. based on baseline survey, resource mapping and felt needs of village community to provide FHTC to every rural household, treat the generated greywater and plan its reuse, undertake surveillance activities, etc. VAP also indicates the fund requirement and timelines for completion of work under the Mission and will be approved by the Gram Sabha. Irrespective of source of funding, all drinking water-related works in the village are taken up based on the VAP.

District Action Plan (DAP) – A plan prepared by DWSM by aggregating all VAPs and additional work, i.e. bulk water transfer, distribution network, laboratories, etc. to ensure drinking water security in all the villages/ habitations of the district along with financial details and timelines.

State Action Plan (SAP) – A plan prepared by SWSM by aggregating all DAPs and regional water supply scheme, bulk water transfer and treatment plants, etc. to achieve overall drinking water security in the State and used for financial planning to cover all rural households in State.

Conjunctive use of water – Harmonious use of surface water, groundwater and rain water to ensure availability of water without disruption and also to optimize utilization of sources.

Coverage – Percentage of households provided with FHTCs at any point in time in a revenue village.

Community bathing & washing blocks – Bathing and toilet place with taps; washing place with multiple taps and greywater management measures developed for an average use of 20 families in areas where individuals do not have their own toilets and/ or bathing & washing spaces.

Cattle trough – A long, narrow open structure to provide drinking water to animals.

Introduction

Water is one of the most essential requirements of life. Assured availability of potable water is vital for human development. India is home to 18% of global human population and 15% of global livestock population. However, it has only 2% land mass and 4% of global freshwater resources. As per estimates[2]; in 1951, per capita annual freshwater availability was 5,177 cubic meters which came down to 1,545 cubic meters in 2011. It is estimated that in 2019, it is about 1,368 cubic meters which is likely to further go down to 1,293 cubic meters in 2025. If present trend continues, in 2050, freshwater availability is likely to decline to 1,140 cubic meters.

With the growing population and expanding economic activities, there is an increase in demand for water in various sectors, viz. agriculture, industry, domestic, recreation, infrastructure development, etc., whereas the source of water is finite. Thus, finite availability and competing demands make drinking water management a complex issue. The widening demand-supply gap is further compounded by other challenges, viz. depletion of groundwater caused by over-extraction, poor recharge, low storage capacity, erratic rainfall due to climate change, presence of contaminants, poor Operation and Maintenance (O&M) of water supply systems, etc.

In pre-Independent India, the water management systems and structures were adequate to cater to the low population. Local communities have been known for designing their own systems using traditional knowledge and wisdom to fulfill needs of the community in different edapho-climatic conditions. However, with increasing population and disruption in rainfall pattern and decrease in storage, challenges related to scarcity of water have become acute.

Post Independence, the State Governments have implemented rural water supply programmes to provide safe drinking water to rural population. In 1972, as part of Minimum Needs Programme, Government of India started supporting States through Accelerated Rural Water Supply Programme (ARWSP). Since then, Government of India has taken a number of initiatives to assist the States in their endeavor to enable every rural household to have access to potable water.

[2]DoWR,RD&GR. Future assessment based on population projection.

Under the erstwhile National Rural Drinking Water Programme (NRDWP), 2017, one of the objectives was to 'enable all households to have access to and use safe & adequate drinking water within premises to the extent possible' which was proposed to be achieved by 2030, coinciding with the United Nation's Sustainable Development Goals (UN-SDG 6).

Piped water supply for drinking and domestic purposes to rural areas is a very critical and challenging task. Over the years, some important lessons have been learnt from the water supply programmes, which *inter-alia* include:

i.) inadequate investments to meet both capital requirements as well as Operation & Maintenance (O&M) led to incomplete and/ or defunct water supply systems;

ii.) most of the rural water supply schemes being dependant on ground water, withdrawal of excess ground water for agricultural purposes led to systems not serving the full design period;

iii.) source sustainability measures such as aquifer recharge, rain water harvesting, increased storage capacity of water bodies, reservoirs, de-silting, etc. improve the lifespan of water supply systems;

iv.) quite often, poor maintenance of schemes led to investments going waste;

v.) there is a willingness by community to pay for water, provided there is an assured service delivery;

vi.) there is a need for development of utility mindset to focus on service delivery;

vii.) in-village water supply system sustainability depends on community ownership and hence it is imperative to engage communities in planning, implementation, management, O&M of water supply systems. Successful initiatives like Water and Sanitation Management Organisation (WASMO) in Gujarat, Swajal in Uttarakhand and many other initiatives in various States both by Government and NGOs have proved that community ownership is the key to ensure long-term sustainability of sources and systems.

In the last five years, due to the emphasis laid by the Government in providing basic services like housing, toilets, electricity, cooking gas, healthcare, financial services, social security, broadband connectivity, roads, etc., the logical aspiration of people now is to have piped water supply within their household premises which will help in improving 'ease of living'. Assured availability of drinking water in the household premises will not only improve the health and socio-economic condition of rural population, it will also bring down the drudgery of rural women and girls.

In this backdrop, Jal Jeevan Mission (JJM) has been launched which aims at **providing Functional Household Tap Connection (FHTC) to every rural household by 2024.** The programme focuses on service delivery at household level, i.e. water supply on regular basis in adequate quantity and of prescribed quality. This necessitates use of modern technology in planning and implementation of water supply schemes, development of water sources, treatment and supply of water, empowerment of Gram Panchayat/ local community, focus on service delivery, partner with other stakeholders, convergence with other programmes, methodical monitoring of the programme and to capture service delivery data automatically for ensuring the quality of services. This will help in achieving the goal of Jal Jeevan Mission in its true letter and spirit.

The 73rd Amendment to the Constitution of India has placed the subject of drinking water in the Eleventh Schedule and has assigned its management to Gram Panchayats. Keeping this in view, under JJM, Gram Panchayats and local community will play the pivotal role in planning, implementation, management, operation and maintenance of in-village water supply systems including drinking water sources. Public Health Engineering Departments (PHED)/ Rural Development & Panchayati Raj/ RWS Departments in-charge of rural drinking water in States will facilitate Gram Panchayats to perform their duties as envisaged in the Constitution.

Decentralized, demand-driven, community-managed implementation of the programme will instill 'sense of ownership' among the local community, create an environment of trust and bring in transparency leading to better implementation and long-term O&M of water supply systems. It will also ensure equity in accessing supply for every household and regular supply, thus willingness to pay for services. The incidents of diversion of water supply for other purposes will also get controlled.

There are number of stakeholders working in the water supply sector, viz. Research & Development (R&D) institutions, Trusts, Foundations, Non-Governmental Organizations (NGOs), Village Organizations (VOs), Community Based Organizations (CBOs), Self Help Groups (SHGs), user groups, corporates, international agencies and spirited individuals. To make water everyone's business, mission will strive to build partnerships and work together with these institutions/ individuals to achieve the goal set under JJM and long-term drinking water security. Government has already initiated Jal Shakti Abhiyan (JSA), an intensive campaign in water-stressed districts to harmonize water conservation efforts of all stakeholders.

As per Integrated Management Information System (IMIS) maintained by Department of Drinking Water and Sanitation (DDWS), as on 31.3.2019, about 18%, i.e. 3.28 Crore out of the total 17.87 Crore rural households in the country have tap water connection. Thus, about 14.60 Crore households are without tap water connection and planned to be covered in partnership with States/ UTs under the mission by 2024.

The current scenario necessitates proper planning, strategizing and implementing water supply systems including development of proper institutional mechanism at all levels. While planning and implementing water supply schemes under Jal Jeevan Mission, it is imperative that proper techno-economic appraisal and socio-economic analysis is carried out, most appropriate option is opted, and necessary approval of the local community/ User Group is taken for in-village water supply infrastructure to ensure that they have a 'sense of ownership' and are ready to undertake steps to manage, operate & maintain the system as well as drinking water sources for long-term sustainability.

Background

2.1 Historical perspective

Post-independence at the time of launch of India's planned development, the Environmental Hygiene Committee recommended a programme to provide safe water supply to all villages within a certain period as part of First Five Year Plan (1951-56). For this purpose, the National Water Supply Programme was launched in 1954, under the health sector.

Until the Third Five Year Plan (1961-66), drinking water supply in the rural areas was a component of the Community Development Programme. This effort was supplemented by the Ministry of Health under the then National Water Supply and Sanitation Programme.

In 1972-73, Accelerated Rural Water Supply Programme (ARWSP) was launched to supplement the efforts of State Governments, especially in areas of acute scarcity and those endemic to water borne diseases. The programme gained further momentum during the Fifth Five Year Plan (1974-79) under the Minimum Needs Programme.

In 1986, the National Drinking Water Mission (NDWM), popularly known as the Technology Mission was launched in order to provide scientific input and cost-effective technological solutions to address water scarcity.

In the Eighth Plan (1992-97), Sub-missions for tackling quality problem, i.e. habitations suffering from excess Arsenic, Fluoride, Iron, salinity, scarcity of water sources, and requiring sustainability of the sources & the systems, were taken up.

In 1999-2000, decentralized, demand-driven, community-managed sector reforms were undertaken involving Gram Panchayats/ local community in planning, implementation and management of drinking water schemes. This was later scaled up as Swajaldhara in 2002 and was implemented till 2007-08.

In 2004-05, ARWSP became part of Bharat Nirman aiming at full coverage of habitations by 2008-09. The ARWSP was implemented till the year 2008-09 of Eleventh Plan (2007-12). In 2009-10, it was modified and renamed as National Rural Drinking Water Programme (NRDWP) with major emphasis on

ensuring sustainability of water availability in terms of potability, adequacy, convenience, affordability and equity, on a sustainable basis, adopting decentralized approach involving Panchayati Raj Institutions (PRIs) and community organizations.

In 2013, certain changes were introduced in NRDWP, viz. i.) providing focus on pipe water supply schemes; ii.) wherever possible, enhancing service level from 40 lpcd to 55 lpcd; iii.) providing greater thrust on water quality and Japanese Encephalitis-Acute Encephalitis Syndrome (JE-AES) affected districts; iv.) waste water treatment, recycling; and v.) O&M of ageing schemes.

In 2017, NRDWP was restructured to i.) make it more competitive, result-oriented and outcome-based; ii.) provide flexibility to states while implementing the programme by reducing its components; and iii.) providing piped water supply with the only exception allowed in JE-AES affected districts.

From 1951 to 2019, efforts were focused on providing safe drinking water supply to rural population either

through hand pumps, protected wells or piped water supply with public stand posts as delivery points. In last few decades, as reported by States, viz. Gujarat, Goa, Haryana, Himachal Pradesh, Punjab, Sikkim, Telangana, etc. have focused on providing tap connections to rural households. Of late, many States are making concerted efforts to cover all rural households with piped water supply.

Under NRDWP, apart from funding regular infrastructure for coverage of rural areas, water quality issues were also addressed and special project funds were made available to States. As part of these efforts, National Water Quality Sub Mission (NWQSM) was launched in February, 2017 with an objective to make provision of safe drinking water to Arsenic and Fluoride affected habitations by March, 2021. It envisages that these habitations will have access to safe drinking water either through piped water supply or short-term measure, i.e. community based purification plant with provision of 8-10 lpcd for drinking and cooking purposes.

Further, Ministry of Health and Family Welfare has identified 60 districts in five States, which are affected with JE-AES. Department/ National Mission is providing special assistance to States for providing safe drinking water in these affected districts.

To enable PHEDs/ RWS departments to monitor quality of water supply and empower local community to keep surveillance on quality of water supplied, Water Quality Monitoring and Surveillance (WQM&S) programme is under implementation. The activities include setting up and up-gradation of State, District and Sub-Division level water quality testing laboratories, provisioning of mobile laboratories (for outreach and to be used during calamity), procurement of Field Test Kits (FTKs), periodic monitoring of water quality of various drinking water sources and capacity building of grassroot level workers for basic water quality tests.

2.2 73rd Amendment to the Constitution

The 73rd Amendment to the Constitution in 1992, added a new Part IX to the Constitution titled 'The Panchayats' covering provisions from Article 243 to 243 (O); and a new Eleventh Schedule covering 29 subjects within the functions of the Panchayats. Entry 11 of this schedule is drinking water, devolving its management to Panchayati Raj Institutions (PRIs). Further, Panchayats can collect and appropriate suitable local taxes and get grant-in-aids to carry out aforesaid functions.

2.3 Finance commissions

Successive Finance Commissions have given priority to social sectors *inter alia* water supply in the form of State specific grants as well as grants to Panchayats for 'management of water supply'. Further, water supply has been treated as core function of Panchayats. Commissions have also recommended recovery of user charges for provision of water supply services and revision of their rates commensurate with inflation and they should at least recover full O&M cost of providing these services.

The 14th Finance Commission (2015-2020) recognized health, education, drinking water and sanitation as public services of national importance[3] and defined[4] the sustainable drinking water supply systems as 'those being operated under a formal management model, have 100% household meters installed and whose net revenues from water tariffs and subsidies are sufficient to cover at least the O&M costs of the system'. It has also recommended 100% metering of individual connections in both rural and urban households, commercial establishments and institutions and individual connections be provided only when functional water meters are installed.

The 14th Finance Commission also recommended grants to local bodies to the tune of Rs. 2 Lakh Crore under twin heads of basic and performance grants in 9:1 ratio. The basic grant is meant to be used for delivery of basic services by GPs which *inter alia* include water supply, sanitation including septage management, sewerage & solid waste management, etc.

2.4 Externally Aided Projects (EAPs)

Multi-lateral agencies like World Bank, ADB, NDB as well as bilateral agencies like JICA have been funding water supply projects in various States. Funding has been focused either on bulk water transfer, distribution network and/ or promote reforms in the sector in the form of community-managed, demand-driven, decentralized water supply programmes where Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. plays a key role in the planning, implementation, management, operation and maintenance of schemes. In the last two decades, focus

[3]Para 11.59 of the Commission's report
[4]Paras 15.49 and 15.50 of the Commission's report

has been to implement water supply schemes with O&M cost recovery and partial capital contribution so that local community owns, manages, operates and maintains their own water supply system.

2.5 Present status of rural water supply

Under NRDWP, the water supply coverage was monitored by taking habitation as a unit. As on March 31, 2019, out of total reported 17,25,576 rural habitations in the country, coverage status is as under:

(habitations in numbers)

Service level	Fully Covered[5]	Partially Covered[6]	Quality-affected[7]
40 lpcd	13,96,304	2,69,661	59,611
	80.92%	15.63%	3.45%
55 lpcd	8,15,523	8,50,442	59,611
	47.26%	49.28%	3.45%

Table 1

Further, as on 31.03.2019, as reported by States/ UTs, 18.33% households have tap water connections.

Since 2017, under NRDWP, installation of new hand pumps except in JE-AES districts was discontinued. Under the revamped NRDWP, objective has been to implement piped water supply schemes including provision of household tap connections. In view of limited availability of financial resources and other constraints, states made efforts to provide piped water supply predominantly through public stand posts. As reported by State Governments/ UT Administration, status of household tap connection is at Annex-I.

[5]Habitations getting at least 40 lpcd of safe drinking water throughout the year available within 100 meters (horizontal / vertical) from their households.

[6]Partially Covered (PC) Habitations: Habitations other than Fully Covered and Quality Affected categories.

[7]Habitation with at least one of the drinking water sources not meeting parameters of chemical contamination (Arsenic, Fluoride, Iron, Salinity, Nitrate and Heavy Metals) as stipulated in IS:10500 and with remaining safe sources, service delivery level of 40 lpcd is not ensured.

2.6 Challenges and SWOT analysis

The challenges faced in the drinking water sector are as mentioned in the figure below:

CHANGING RAINFALL PATTERNS

As per the latest rainfall statistics of India report, IMD states that the seasonal rainfall for the country as a whole was less than the normal value. Due to climate change, there is a considerable spatial & temporal variation in rainfall resulting in lesser surface storage.

WATER QUALITY ISSUES

As per CGWB 2018 data, around 50% assessment units (blocks/ firkas/ mandals) are found to be contaminated with Arsenic, Fluoride, Chlorine, Nitrate and/or Salinity due to both geogenic and anthropogenic causes.

INADEQUATE INFRASTRUCTURE

Inadequate infrastructure to raise service levels from 40 to 55 lpcd & provide last-mile connectivity to individual households; aging infrastructure; lack of grey water management; absence of source sustainability measures, viz. rainwater harvesting structures, borewell recharge structures, etc.

POOR O&M

Even though the National Water Policy, 2012 prescribes States to recover full O&M costs of water supply systems, except few States, there is inadequate financial allocation to O&M leading to poor upkeep of assets ultimately falling into disuse.

LACK OF RESOURCE EFFICIENCY

Lack of responsible consumption, wastage of water, leakages at distribution & end use points, biological contamination, over drawl for agriculture, etc. are prevalent leading to inefficient resource utilization.

LESS COMMUNITY INVOLVEMENT

The 73rd Amendment to the Constitution of India devolved the responsibility of drinking water supply to local self-governments. However, the approach has been predominantly engineering/ construction oriented. This has resulted in limited involvement of communities in design, planning and implementation.

COORDINATION CHALLENGES

Multiple Government Departments such as water resources, public health engineering, urban development, groundwater, rural development, rural water supply & sanitation, etc. involved in water sector has led to coordination challenges.

SWOT analysis

With numerous challenges, JJM provides an opportunity to carry out SWOT analysis for better planning and implementation. The same has been attempted and is as under:

STRENGTH

- Availability of Central and State Finance Commission grants
- Wide experience in implementing PWS in different terrains
- Devolution of powers to PRIs
- Availability of separate technical cadre for planning and implementation
- Availability of technologies for providing safe water from contaminated ground water sources
- Existing infrastructure
- Dense habitations in water abundant places

WEAKNESS

- Top-down approach and lack of community ownership/ participatory approach
- Inadequate financial resources
- Non-availability of technical human resource at GP level
- Poor recovery of service charges/ absence of water tariff
- Poor attention on O&M of completed schemes
- Engineering departmental mindset of on of infrastructure creation but not on functioning as a utility

SWOT

OPPORTUNITY

- Enabling provision to involve local government institutions for implementation of JJM
- Availability of central funds under JJM and additional resources through RJJK
- Involving committed NGOS, CSOs for PRA in handholding implementation
- Hiring dedicated HR at different institutional levels for implementation
- Application of new technologies for efficient implementation
- Exploring partnerships with different stakeholders

THREAT

- Growing population
- Uncontrolled drawl of groundwater for agriculture depleting the sources and increased chemical contamination
- Water scarcity in some places
- Climate change and severity of climate events
- Delay in inadequate provision and/ or transfer of State finances in some States
- Reluctance of State Governments to devolve the local water supply schemes to PRIs or handing over non- functional schemes
- Volume of work
- Lack of capacity at GP level

Strategy for Planning and Implementation

3.1 Vision

Every rural household has drinking water supply **in adequate quantity of prescribed quality on regular and long-term basis** at affordable service delivery charges leading to improvement in living standards of rural communities.

3.2 Mission

Jal Jeevan Mission is to assist, empower and facilitate:

i.) States/ UTs in planning of participatory rural water supply strategy for ensuring potable drinking water security on long-term basis to every rural household and public institution, viz. GP building, School, Anganwadi centre, Health centre, wellness centres, etc.;

ii.) States/ UTs for creation of water supply infrastructure so that every rural household has Functional Tap Connection (FHTC) by 2024 and water in adequate quantity of prescribed quality is made available on regular basis;

iii.) States/ UTs to plan for their drinking water security;

iv.) GPs/ rural communities to plan, implement, manage, own, operate and maintain their own in-village water supply systems;

v.) States/ UTs to develop robust institutions having focus on service delivery and financial sustainability of the sector by promoting utility approach;

vi.) capacity building of the stakeholders and create awareness in community on significance of water for improvement in quality of life;

vii.) in making provision and mobilization of financial assistance to States/ UTs for implementation of the mission.

3.3 Objectives

The broad objectives of the Mission are:

i.) to provide FHTC to every rural household;

ii.) to prioritize provision of FHTCs in quality-affected areas, villages in drought prone and desert areas, Sansad Adarsh Gram Yojana (SAGY) villages, etc.;

iii.) to provide functional tap connection to Schools, Anganwadi centres, GP buildings, Health centres, wellness centres and community buildings;

iv.) to monitor functionality of tap connections;

v.) to promote and ensure voluntary ownership among local community by way of contribution in cash, kind and/ or labour and voluntary labour (*shramdaan*);

vi.) to assist in ensuring sustainability of water supply system, i.e. water source, water supply infrastructure, and funds for regular O&M;

vii.) to empower and develop human resource in the sector such that the demands of construction, plumbing, electrical, water quality management, water treatment, catchment protection, O&M, etc. are taken care of in short and long term; and

viii.) to bring awareness on various aspects and significance of safe drinking water and involvement of stakeholders in manner that make water everyone's business.

3.4 Components under JJM

The following components are supported under JJM:

i.) development of in-village piped water supply infrastructure to provide tap water connection to every rural household;

ii.) development of reliable drinking water sources and/ or augmentation of existing sources to provide long-term sustainability of water supply system;

iii.) wherever necessary, bulk water transfer, treatment plants and distribution network to cater to every rural household;

iv.) technological interventions for removal of contaminants where water quality is an issue;

v.) retrofitting of completed and ongoing schemes to provide FHTCs at minimum service level of 55 lpcd;

vi.) greywater management;

vii.) support activities, i.e. IEC, HRD, training, development of utilities, water quality laboratories, water quality testing & surveillance, R&D, knowledge centre, capacity building of communities, etc.; and

viii.) any other unforeseen challenges/ issues emerging due to natural disasters/ calamities which affect the goal of FHTC to every household by 2024, as per guidelines of Ministry of Finance on Flexi Funds.

Efforts should be made to source funds from different sources/ programmes and convergence is the key.

3.5 Strategy

Under JJM, States/ UTs are to plan for achieving drinking water security and to provide FHTC to every rural household. It may not be feasible for State Government/ Department to manage water supply to every household and therefore role of Gram Panchayat and/ or its sub-committee/ local community becomes critical in planning, implementation, management, operation and maintenance of water supply within the villages. Moreover, Panchayats have a constitutional mandate to manage drinking water. Further, it is necessary that within the villages, local community/ Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. plays the key role for O&M, cost recovery, and good governance.

There is a felt need to have community participation, ownership and contribution in all decisions pertaining to water supply systems. Thus, community led partnership with States/ UTs will be the strategy for achieving the objectives of JJM. Communities can therefore, make the best of this opportunity and ensure that every rural household has FHTC delivering water in adequate quantity (minimum 55 lpcd) of prescribed quality (BIS:10500) and on regular basis as may be decided by the Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. State Government and its Departments are to play a true role of facilitator. This approach will bring long-term sustainability in the sector.

As on 1st April 2019, about 81% of rural habitations in the country have access to potable water through a wide range of schemes whereas about 46% of rural habitations catering to about 54% of rural population have piped water supply having provision for atleast 40 lpcd, which includes household tap connections and

public stand posts. As reported by States, 18% of rural households have tap connections.

India has 20 agro-ecological zones with varying degree of annual rainfall and freshwater availability. In 2017, out of total 731 districts, 256 with 1,592 blocks[8] have been classified as water-stressed. This necessitates the need for water conservation efforts including smart water management/ practices while planning potable drinking water supply.

Under JJM, revenue village along with its habitations as enumerated in the Census will be the unit for planning, implementation, monitoring, management, operation and maintenance. The revenue village unit will include all the respective habitations and all scattered

[8]Blocks represent assessment units as reported in CGWB report on Dynamic groundwater resources of India, 2017

settlements. In the long-term, financial sustainability of O&M and institutional arrangement at village level will be key to successful continuous service delivery.

Rural women and adolescent girls spend a lot of time and energy in getting water for day-to-day use. This results in lack of participation of women in income generation opportunities, loss of school days for girls and adverse health impacts. JJM is to play a significant role in bringing 'ease of living' for rural community, especially women. It is necessary for women to lead JJM in their villages to meet their need and aspirations.

To achieve the objective of JJM, following strategy may be adopted:

i.) re-verification and firming of baseline data of household tap connections by States/ UTs before March, 2020 and reporting the same on Integrated Management Information System (IMIS) of the Department/ National Mission;

ii.) FHTC may be planned to be provided in every household with three delivery points (taps), viz. kitchen, washing & bathing area and toilet, to keep water clean and prevent misuse. Out of the three, only one tap per household will be funded;

iii.) the rural water supply infrastructure created over the years is to be dovetailed, retrofitted and renovated to provide FHTCs. Priority will be accorded to retrofit on-going piped water supply schemes and subsequently to completed piped water supply schemes providing water through stand post;

iv.) in villages with sufficient groundwater availability of prescribed quality within the village boundary, the same local water source will be used;

v.) in villages with functional hand pumps, the depth can be deepened if required and can also be used as a source to meet the service delivery level;

vi.) in tribal/ hilly/ forested areas, option of gravity and/ or solar power-based water supply schemes with low O&M expenditure to be explored and preferred. In hills and mountains, springs as a reliable source for drinking water to be explored;

vii.) in hot and cold deserts, innovative approaches and possibility technology intervention will be explored (further details are elaborated in chapter 8);

viii.) in villages with sufficient groundwater availability but having quality issues, *in-situ* suitable treatment technology may be explored;

ix.) in villages falling in drought-prone areas, conjunctive use of multiple sources of water can be explored such as ponds, lakes, rivers, groundwater, supply from long distance, rainwater harvesting and/ or artificial recharge;

x.) in villages with water quality issues and non-availability of suitable surface water sources in nearby areas, it may be more appropriate to transfer bulk water from long distance. Further, in drought-prone and desert areas, where it is not possible to have water supply through conjunctive use, a similar approach to transfer bulk water from long distance may be adopted;

xi.) in water quality-affected habitations, especially with Arsenic and Fluoride contaminants, potable water has to be ensured on priority. Since, planning and implementation of piped water supply scheme based on a safe water source will take time, as a purely interim measure, Community Water Purification Plants (CWPPs) may be taken up to provide 8-10 lpcd potable water to meet drinking and cooking need of every household residing in such villages/ habitations. However, SWSM to prioritize such areas for providing potable water through FHTC to every rural household by March, 2021;

xii.) in States with water-scarce/ areas lying in rain shadow region with inadequate rainfall, it is necessary to plan for regional water supply schemes covering both urban and rural areas by sourcing water from a perennial surface source. It may be noted that under JJM only proportional expenditure on rural population/ villages with respect to regular water supply to be met;

xiii.) even though JJM envisages to provide FHTCs to every household, in areas having harsh climatic conditions, viz. high altitude cold deserts, areas facing extreme terrain challenges, sparsely populated hot deserts, etc., it might not be feasible to provide FHTC to every rural household. In such areas, as mentioned in points vi.) and vii.), local innovations/ technological

solutions are to be explored to provide up to 8 – 10 lpcd potable water for drinking and cooking purposes; and other arrangements for rest of the other domestic uses;

xiv.) In peri-urban/ big villages in water scarce areas, in order to save the precious fresh water, it is encouraged to plan a new water supply scheme with dual piped water supply system, i.e. supply of fresh water in one and treated grey/ waste water in another pipe. There would be only single connection to every household from both the pipes. The treated grey/ waste water pipe would be for non-potable/ gardening/ toilet flushing use. Further, the households in these areas will be encouraged, as part of IEC, to use the faucet aerators that save a significant amount of water, in multiple taps they may be using inside their house.

xv.) innovative technology is to be explored to ensure equitable distribution of water;

xvi.) for source recharging, viz. dedicated bore well recharge structures, rain water recharge, rejuvenation of existing water bodies, etc. need to be adopted using watershed/ springshed principles, in convergence with other schemes such as MGNREGS, IWMP, Finance Commission grants, State schemes, MPLAD, MLALAD, CSR, etc.;

xvii.) in order to enhance recharge of aquifers, especially in arid and semi-arid areas, State Government need to strengthen/ extend existing canal networks and/ or build canals so as to transfer surplus flood waters from dams/ reservoirs to ponds/ lakes and other water bodies and also recharge groundwater during monsoon season. For such activities, funds from other sources to be dovetailed;

xviii.) while planning for water supply schemes/ projects involving high lift of water, energy cost as well as meeting monthly power bills needs to be deliberated upon and policy for meeting this requirement to be firmed up by the States/ UTs;

xix.) at the national level, there will be National Jal Jeevan Mission (NJJM). In the States/ UTs, there will be State Water and Sanitation Mission (SWSM) and in each district there will be District Water and Sanitation Mission (DWSM). At the village level, in consonance with the Constitutional provision there will be Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. Institutional arrangements are to be established at all levels with linkages and convergence with other programmes. (further details on institutional mechanism are elaborated in Chapter 5).

Active participation of women at all levels of institutional arrangements with special emphasis at village level is to be ensured. This is key to success of JJM.

xx.) State Government to issue a suitable notification under Panchayati Raj (PR) Act, if not already done, to empower Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. to plan, implement, manage, operate and maintain in-village water supply system *inter alia* which includes powers, responsibilities, internal processes, composition of VWSC/ Paani samiti, etc., power to decide, levy, collect water service charges, etc.;

xxi.) SWSM will plan quarter-wise and district-wise targets in a year and assess fund requirement and expenditure;

xxii.) SWSM will ensure seamless integration and maintain consistency among the State sector rural water supply schemes, projects/ schemes funded from other sources including Externally Aided Projects in the sector and JJM;

xxiii.) Village Action Plan (VAP) is to be prepared based on the type of scheme to be taken up in the village to provide FHTC to every rural household. The VAPs of all villages in a district and all DAPs of all districts in the State will be aggregated along with regional water supply schemes/ bulk water transfer and treatment plants based on the need to formulate the District Action Plan (DAP) and State Action Plan (SAP), respectively. Further, State will also prepare an Annual Action Plan detailing yearly targets commensurate with the annual allocation (further details are elaborated in para 3.6).

xxiv.) VAP will be the main document of the village for all water supply and related work, and on its approval by *Gram Sabha*, all funds from different sources will be dovetailed to implement various components of VAP from different sources of funds including JJM. No work outside VAP will be taken up in the village just because separate source of funding is

available. This will help in optimal utilization of resources for focused outputs;

xxv.) State Action Plan (SAP) and District Action Plan (DAP) will also include other activities taken up under different schemes/ programmes to achieve long-term water security;

xxvi.) suitable incentive and disincentive mechanism is to be built in the policy to discourage wastage of water as well as to meet recurring expenditure on bulk water transfer, treatment, distribution network and household level supply. In addition, State Government/ UT Administration will facilitate Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. to take decisions on user charges for providing household connection as well as water supply;

xxvii.) while deciding in-village water supply system, three options with possible least cost water supply systems will be presented before the Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. by PHED/ RWS Department with complete techno-economic and socio-economic analysis involving community using communication tools such as PRA activities, etc. While deciding the system and its location, etc., emphasis on low O&M cost and capacity of local community to operate and maintain the same will be taken into account;

xxviii.) data related to functionality i.e., periodicity of water supply in adequate quantity of prescribed quality is to be captured using IoT based sensors and iCloud to monitor service delivery at household level and take corrective measures wherever required;

xxix.) water quality monitoring will be undertaken by department through laboratory tests and water quality surveillance will be undertaken by community through Field Test Kits (FTKs) and Sanitary inspection. (further details are elaborated at chapter 10)

xxx.) States/ UTs in consultation with Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. may explore the option of providing 24 X 7 water supply so that there will be no need for having individual household storage tanks. For this, all out efforts will be made in building community ownership & trust, awareness on judicious use of water and the convenience of having such a functioning system;

xxxi.) with the provision of FHTCs, additional greywater will be generated at household level which will need treatment before it can be utilized for agriculture and non-potable uses. In many areas, the treated greywater can be a reasonable source of revenue for the Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. in which can be utilized towards meeting part of O&M expenditure (further details are elaborated at Para 6.1);

xxxii.) convergence with PMKVK to be explored on priority and continuous basis to meet the huge requirement of capacity building of skilled human resource such as masons, pump operators, plumbers, electricians, motor mechanics, etc. for construction and O&M;

xxxiii.) Implementation Support Agencies (ISAs), viz. Self Help Groups (SHGs)/ CBOs/ NGOs/ VOs, etc. need to be identified and empanelled to handhold the community and facilitate the participatory approval and implementation, management, O&M, etc. of in-village infrastructure by the Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc.;

xxxiv.) in many States, Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. have been empowered over the past decades to shoulder the responsibility of water supply management. However, there are still areas where Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. need to be handheld by such Implementation Support Agencies (ISAs). In such villages, the services of ISAs are to be utilized;

xxxv.) in case of regional water supply/ bulk water transfer schemes and distribution network, the existing procedure will be followed in the State/ UT for implementation. However, under JJM, preferred option will be EPC mode with 2-5 year O&M by the executing agency;

xxxvi.) while finalising the EPC contracts, relevant clause in the tender documents is to be included mentioning that materials to be procured for use in construction by the contracting agency should adhere to the

relevant Indian Standards. Further, type of material to be used under different terrain/ conditions should adhere to the CPHEEO recommendations for such conditions, as the case may be and as amended from time to time. It would be the responsibility of the PHED/ RWS Department/ Board/ Corporation, etc. and the agency executing the work to ensure the quality of the material used in the construction by asking the supplier to get it certified from accredited testing agencies/ institutions stating that they adhere to the standards/ specifications. This aspect would be checked and recorded by the third party inspection agencies at the time of inspection of completed works for making payment;

xxxvii.) for executing the programme expeditiously and on such a large scale, there would be a need for executing agencies to carry out in-village infrastructure work for which centralized e-tendering mechanism will be adopted to discover best rates, best agencies and speed up the implementation on such a high scale;

xxxviii.) the following steps will be followed for programme implementation:

a.) SWSM to prepare different possible unit type designs and cost estimates of all water supply scheme components like ESR, sumps, washing & bathing blocks, etc. based on population, profile and soil conditions, etc. considering all aspect of programme implementation in the village involving Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc.;

b.) SWSM will firm up item rate contracts for such items/ components and call e-tenders to empanel multiple agencies on Engineering Procurement and Construction (EPC) mode. This may be valid for 2-3 years;

c.) SWSM will decide the maximum number of works to be awarded to the empanelled agencies based on State's annual target, availability of funds, number of projects where land acquisition is complete and handed-over to the concerned (i.e., land is readily available for infrastructure creation), and agency's capacity to undertake the works;

d.) DWSM and PHED/ RWS Department, in consultation with Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. will decide the agency from the empanelled list for implementation ensuring one village has only one agency for all works;

e.) DWSM, in consultation with Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. will award the work to the selected agency and enter into a tripartite contract, i.e. DWSM, Gram Panchayat and/ or its sub-committee and executing agency. In case ISA is there, they will also be part of the agreement. Since this is a time-bound mission-mode programme, suitable penalty clause need to be incorporated in the contract documents so as to disincentivize the agency delay in the implementation. Similarly, provisions to be made for payment to executing agency without any delay;

f.) Agency will start the work in consultation with Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. and DWSM, and required support will be provided to the executing agency to resolve any conflicts arising during the implementation and ensure timely completion;

g.) on request for release of running payment from the executing agency, a combined inspection of site will be undertaken by i.) Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc.; ii.) PHED/ RWS Department; and iii.) third-party inspection agency empanelled by SWSM based on criteria[9] developed by DDWS. The agreed discussion points will be recorded and signed in a separate 'works register' created for this purpose with Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. Based on this, PHED/ RWS Department. will record the measurements in Measurement Book (MB) and process further for making payment;

h.) on completion of the work, final bill payment will be made based on the above prescribed procedure and agency will be responsible for smooth running of the water supply system during defect liability period;

i.) once bill for claiming the payment is submitted, payment is to be made within 30-45 days after third party inspection. In case of delay in the

[9]suggested criteria for selection and ToR for third-party inspection agency placed at Annex-VIII

payment, same penalty clause, i.e. payment with interest to be made, responsibility to be fixed and recovery to be made;

j.) guarantee and/ or warranty of the water supply scheme components (machinery, electrical items, etc.) will be responsibility of the concerned agency. However, its checking/ verification to be done by PHED/ RWS Department.

xxxix.) State Government/ UT Administration will have a regulation policy for various uses of groundwater to restrict the uses within the annual replenishable ground water recharge. Under JJM, huge sum from public exchequer and community is spent and it is to be ensured that such investment does not go to waste for want of water availability. For this, it is necessary to discourage the excessive use of ground water for agriculture, industrial purposes, etc.;

xl.) concurrent monitoring would be an important part of JJM. DDWS will design, maintain and monitor an IMIS with a real time dashboard capturing physical and financial progress of schemes implemented by Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc., DWSM, SWSM, etc. (further details are elaborated in chapter 11);

xli.) capacity building of various stakeholders involved in the implementation of programme at all levels will be a continuous activity. Reputed institutions with expertise in water sector will be engaged and all out efforts to be made to mobilize the community effectively.

3.6 Planning

3.6.1 Action plans at village, district and State level

If a census coded revenue village achieves provision of 100% FHTC to all its households located in all of its wards/ habitations/ Mohallas/ Faliya/ Majra/ Chord/ Palli/ Kheda/ Tola, etc. then it would be declared as 100% FHTC village. If a district achieves provision of 100% FHTC to all households in all its census coded revenue villages, then it would be declared as 100% FHTC district. If a State achieves provision of 100% FHTC to all households in all its districts, then it would be declared as 100% FHTC State.

Village Action Plan (VAP)

A Village Action Plan (VAP)[10] will be prepared by Gram Panchayat or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. with support from ISA, PHED/ RWS Department, DWSM based on baseline survey, resource mapping and felt needs of the village community. It will include the following:

i.) history of water supply/ availability in the village, details of any drought/ scarcity/ cyclone/ flood or any other natural calamity pattern; history of any emergency arrangements like water supply through tankers, trains, etc.; history of part works related to water supply, source strengthening, general trend of water availability, major water-borne diseases;

ii.) existing status of village water supply including source, water quality issues, if any, and O&M arrangement;

iii.) current availability of water in water source (yield measured) and its long-term sustainability;

iv.) need assessment of water required in village and the available resources. Based on this, decision to be made for construction of Single Village Scheme (SVS) or part of Multi Village Scheme (MVS);

v.) number of existing FHTCs and number of FHTCs yet to be provided in all habitations;

vi.) willingness including affordability of people to contribute towards partial capital cost in cash/ kind and/ or labour and regular contribution towards O&M;

vii.) capacity building of members of Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc., barefoot technicians, awareness generation among community on judicious use of water and change in living standards;

viii.) location of proposed water source, washing/ bathing places, cattle trough, finalization of technology option, implementation schedule, long-term O&M plan, etc.;

ix.) ensuring availability of land in favour of Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. for construction of in-village water supply infrastructure;

x.) overall roles and responsibility of Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. and its members and linkage with DWSM, SWSM, ISA, agency, PHED/ RWS Department;

[10]Suggested format for VAP is at Annex-XA

xi.) plan for providing water to public institutions, viz. school, anganwadi centre, health centre, GP building, etc. in the village;

xii.) identify barefoot technician for minimal repair works, O&M, etc.;

xiii.) identify dedicated persons in village to conduct water quality tests through Field Test Kits and train for the same;

xiv.) greywater management measures;

xv.) schedule for sanitary inspection;

xvi.) water safety and security plan.

Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. to ensure participation of village community including all its habitations, ISA, DWSM, PHED/ RWS Department., etc. in *Gram Sabha*. The VAP will be approved in the *Gram Sabha*, when 80% of the village community present in the meeting agree to the prepared plan. VAP will then be submitted to DWSM for further action. Technical approval will be accorded by the PHED/ RWS Department/ Board.

District Action Plan (DAP)

DWSM will be responsible for preparation and finalization of District Action Plan (DAP)[11] which will include:

i.) strategic plan for FHTC to all rural households by 2024, along with quarterly and annual plan;

ii.) aggregation of all VAPs received;

iii.) analysis and preparation of database of the various components emerging from VAPs;

iv.) timelines for all the activities identified for FHTCs coverage and financial requirement. The overall human resource requirement at different levels will be part of DAP including their capacity building;

v.) identification of villages where water supply system will be based on local water source, require retrofitting/ augmentation and/ or require water supply from surface water;

vi.) identification of *in-situ* traditional harvesting techniques/ structures to be revived and renovated for augmenting drinking water supply;

vii.) estimation of type of water sources, rising mains, treatment facilities required, elevated storage reservoirs, sumps, water pumps, solar panels, distribution network, FHTCs, washing/ bathing places, cattle troughs, greywater treatment and reuse measures, source sustainability measures, etc. required within the district and its cost;

viii.) identification of number of ISAs required out of empanelled ISAs, plan for their deployment and ensure availability in the village from the start of VAP preparation;

ix.) plan for capacity building, training, third party inspection, O&M, and IEC activities;

x.) identify sources of convergence to meet the requirements emerging from VAP;

xi.) plan for NABL accreditation of district water quality testing lab and identify models for block/ village level water quality testing;

xii.) overall cost of DAP and timelines containing fund requirements and outputs;

xiii.) O&M for both in-village as well as regional water supply, financial and institutional requirement and arrangement;

xiv.) submission of final DAP to SWSM;

State Action Plan (SAP)

The State Action Plan (SAP)[12] needs to be prepared with an objective of achieving overall state drinking water security in such a way; as to avoid arranging water supply through tankers/ trains, handpump installation, etc. in any village.

The SAP will be prepared and finalized by SWSM with the help of PHED/ RWS Department based on DAPs.

i.) priority is to be accorded to retrofit existing infrastructure, viz. completed piped water supply schemes and ongoing piped water supply schemes are to be identified, taken up and completed in the first two financial years. Further, priority is to be accorded to provide FHTCs by March, 2021 in water quality-affected areas, JE-AES areas, DDP areas, DPAP areas, Aspirational districts, and Sansad Adarsh Gram Yojana (SAGY) villages;

ii.) efforts to be made to improve the water availability locally by using rainwater harvesting, artificial recharge of drinking water sources, through convergence of resources and efforts, etc.;

[11]Suggested format for DAP is at Annex-XB
[12]Suggested format for SAP is at Annex-XC

iii.) keeping in view DAPs of all districts and identifying the regions of the State with surplus water, SWSM to decide whether to transfer water from surplus regions to scarce regions and develop distribution network for regional water supply schemes covering multiple villages;

iv.) in States with drought-prone and desert areas, it is necessary to reserve water for domestic needs from multi-purpose reservoirs/ storages in consultation with concerned agencies/ Departments;

v.) the SAP would specifically mention the institutional reforms required including unbundling the existing water supply departments into different agencies focusing on specific aspects of water supply, i.e. bulk water transfer/ infrastructure development, intra and inter-district distribution systems and support to village level institutional arrangement;

vi.) the said agencies would function as utilities for creating infrastructure with focus on specific water supply services. For this purpose, SAP will specify bulk water tariffs for both accessing the water from source and supply from the grid;

vii.) SAP would also outline the different financing models in the form of Public Private Partnership (PPP), i.e. Hybrid Annuity Model (HAM), Design Build Operate Own Transfer (DBOOT), Build Operate Transfer (BOT), etc.;

viii.) SAP should have detailed action plans for ensuring functionality of household tap connections and Water Quality Monitoring & Surveillance (WQM&S). This will *inter alia* include planning for infrastructural requirements of water testing laboratories and human resources;

ix.) SAP would specifically identify areas (hilly/ tribal/ forested/ hot and cold deserts and inaccessible areas) that would require innovative technological interventions to provide assured water supply using renewable energy;

x.) on the basis of DAPs, the SAP will plan for convergence for source sustainability and greywater management measures;

xi.) the SAP will further detail the district-wise list of GPs/ villages with number of FHTCs provided in each village, balance FHTCs to be provided, PRA activities, type of scheme to be provided (retrofitting/ new SVS/ MVS/ standalone schemes for difficult and far-flung areas, etc.) preparation of estimates by PHED/ RWS Department, implementation schedule, etc.;

xii.) it will contain timelines for all the activities identified under district-wise FHTCs coverage and financial requirement;

xiii.) the overall human resource requirement at different levels should be part of SAP including their capacity building, training, etc.;

xiv.) planning at all levels for piped water supply requires use of HGM maps/ space technology. (further details on technology elaborated at chapter 8);

xv.) SAP will develop strategies for state-wide rejuvenation and cleaning of village water bodies/ traditional water harvesting structures. Greywater treatment and reuse will form an integral part of the water security strategy. Protection and preservation of water bodies will be helpful in achieving drinking water security. For this purpose, SWSM has to decide convergence of activities and funds from different sources, viz. MGNREGS, IWMP, SBM(G), MPLAD, MLALAD, DMDF, etc.

To achieve the national target by 2024, JJM will follow a project approach. For this, SAPs will be prepared for a period up to 2024, *inter alia* which covers overall strategic plan, modalities for implementation, activities to be taken up, outputs to be achieved along with timelines, annual financial outlay, etc. The Strategic plan under SAP will detail source sustainability, functionality, monitoring, third party inspections for implementation, water measurement, greywater management and comprehensive O&M plan for the system. The SAP will be considered and approved by DDWS based on consultations with the respective State/ UT. Based on SAP, funding arrangement to be made.

The Annual Action Plan (AAP) of the State/ UT will emerge from the approved SAP firming up the physical and financial district-wise targets and will be submitted to DDWS/ NJJM. The AAP will be approved by DDWS/ NJJM based on consultation with the respective State/ UT and funds will be released keeping in view the achievements under Annual Action Plan (AAP).

3.6.2 Way forward - service delivery and utility development

The planning for the Mission would be based on the long-term plan for the State water supply sector as a whole and will address the issues pertaining to water security and sustainability of sources and systems. This will require the current administrative structure to transform from present 'department-based and construction or infrastructure development' to 'utility-based' based approach. There is a need to shift focus from water supply infrastructure creation to water management, viz. service delivery. The approach, *inter alia* includes sustainable O&M of the systems, undertaking water budgeting and audits at regular intervals, cost recovery, reducing the energy charges by adopting conjunctive use of water as well as use of conventional and non-conventional energy specifically solar, measuring the water drawl and accounting for the same, addressing the grievances proactively, etc.

Further, the long-term plan for the sector needs to be firmed up on the basis of the strategy drawn earlier for ensuring water availability and financial sustainability. For achieving this, institutional reforms like unbundling of the existing institutions and assigning water supply regulatory function to an independent agency is the logical way forward. This will also open private investments.

In some states, the existing institutions need to be reformed by creating:

i.) a dedicated agency for planning of bulk water transfer and treatment to deliver potable water to urban, rural and industrial use. This utility to work on sound commercial principles;

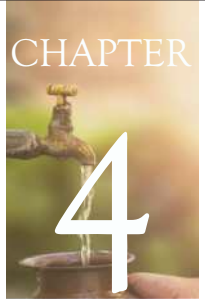
ii.) an agency to plan and execute the intra and inter-district water distribution systems for delivery of water to Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. as well as to municipal bodies; and

iii.) a separate agency to empower, support and handhold the village level institutions that are part of Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. for service delivery through FHTCs and for long-term management, operation and maintenance.

The States can decide to have at least two agencies of their choice out of the aforesaid three, depending on their requirement. SWSM would play a crucial role in setting up of the said agencies. Such a reform would enable the institutions to function as utilities focusing on services and recovery of water tariff from consumers for meeting the O&M expenditure.

With the help of Implementation Support Agency (ISA) working at village level, model management contract may be developed so that water supply services at village level can be provided by young entrepreneurs/ Self Help Groups on either standalone or cluster-based models. The same can be used for greywater management. This will help in bringing in newer technology, robust management practices and recovery of user charges, thus bringing in long-term sustainability.

The State may also create an independent regulatory body for the water supply sector that would decide the terms and conditions for the water supply service provision by various agencies, tariff fixing and monitoring its collection and resolving the disputes and would also act as a water supply ombudsman so that any aggrieved user can approach it for redressal of her/ his grievances.



Schemes/ Sub-missions under erstwhile NRDWP subsumed into JJM

The following ongoing programmes under erstwhile NRDWP are subsumed into Jal Jeevan Mission:

4.1 Rural Water Supply and Sanitation Project for low income States (RWSSP-LIS)

Rural Water Supply and Sanitation Project for Low Income Sates (Neer Nirmal Pariyojana) was started in 2014 for a period of six years till March, 2020 to cover total population of 78 Lakh across 4 States, i.e. Assam, Bihar, Jharkhand and Uttar Pradesh with World Bank, IDA assistance. The project objective was to improve piped water supply and sanitation services for selected rural communities in aforesaid states through decentralized delivery systems and to increase the capacity of states to respond promptly and efficiently to an emergency situation. The objective of RWSSP-LIS is to provide household tap connections at 70 lpcd to rural households. With the launch of JJM, RWSSP-LIS stands subsumed into JJM.

4.2 National Water Quality Sub-Mission (NWQSM)

National Water Quality Sub-Mission (NWQSM) is being implemented since March, 2017 to provide safe drinking water to identified 27,544 Arsenic/ Fluoride affected rural habitations by March, 2021 as per existing guidelines.

Since commissioning of piped water supply schemes may take 2-3 years, States have been advised to take up Community Water Purification Plant (CWPP) schemes in Arsenic and Fluoride affected habitations as an immediate (short-term) measure for providing 8-10 lpcd of safe water for drinking and cooking purpose only. However, States are asked to plan for long-term measures in these habitations to provide FHTCs.

States are allowed to use JJM funds for en-route habitations, use Externally Aided Projects (EAPs)/ State schemes and other funds for convergence to the extent of eligibility.

National Water Quality Sub-Mission will come to an end on 31 March, 2021. Accordingly, incurring of expenditure by States will be allowed till 31 March, 2021 under NWQSM. The balance amount left with the States after 31 March, 2021 will be adjusted with JJM Release. In case of incomplete schemes, remaining expenditure to be borne by respective State/ UT.

In case of piped water supply (surface/ ground water) approved under NWQSM, States will take measures to provide FHTCs at service level of 55 lpcd to every rural household by retrofitting and making it JJM compliant by 2021. In case of short-term measures (Community Water Purification Plant) approved under NWQSM, States will take measures to provide FHTCs at service level of 55 lpcd to every rural household by 2021.

4.3 Japanese Encephalitis - Acute Encephalitis Syndrome (JE-AES)

The Ministry of Health and Family Welfare has identified 60 districts[13] which are the most affected with JE-AES. Funds are allocated to affected States on the basis of number of drinking water sources in the 60 high priority districts and the extent of contamination. Earlier, the JE-AES component had 2% of NRDWP allocation. However, due to increase in the budget of JJM, it will now be 0.5% of the annual allocation to the State. Activities will be carried out in JE-AES affected districts for providing safe drinking water as per existing policy by taking up piped water supply (surface/ ground water) schemes to provide FHTCs at service level of 55 lpcd. In all completed/ ongoing schemes, States will take measures to provide FHTCs at service level of 55 lpcd to every rural household by retrofitting and making it JJM compliant by 2021.

4.4 Swajal

Swajal is being implemented in aspirational districts through community designed, implemented, maintained and safely managed single village water supply scheme as per existing guidelines. The on-going schemes under Swajal will continue under the existing Swajal guidelines and ensure completion within the stipulated time of completion. Any further new schemes in these aspirational districts will be taken up under JJM. The completed Swajal schemes which do not have the provision of FHTC are to be retrofitted under JJM.

[13] List of 60 Districts placed at Annex-XII

Institutional Mechanism

JJM is a time-bound mission-mode programme and needs robust institutional framework for its successful implementation to achieve the stated goal. Hence, a four-tier institutional mechanism is to be set up at National, State, District and Village level as under:

5.1 National Level - National Jal Jeevan Mission (NJJM)

There will be National Jal Jeevan Mission headed by a senior officer with a directorate. The mission will have all powers needed for the successful implementation of the Mission for long-term drinking water security to rural communities. Roles and responsibilities of NJJM are as under:

i.) will be responsible for implementation of JJM and to provide policy guidance, financial assistance and technical support to States;

ii.) regular monitoring and necessary corrective action from time to time;

iii.) monitoring of fund utilization at State level to ensure expeditious implementation;

iv.) carrying out regular functionality assessment, evaluation and impact assessment;

v.) building partnerships with other institutions and programmes to achieve the goal;

vi.) coordinate with other Ministries/ Departments for convergence;

vii.) approval of State AAPs for implementation of the mission;

viii.) facilitate States to access funds from external sources;

ix.) operate Rashtriya Jal Jeevan Kosh (RJJK) and mobilize resources;

x.) enable cross-learning through sharing of best practices, success stories, etc.;

xi.) facilitate scaling up of proven innovative projects;

xii.) promote innovation, research and technological development activities;

xiii.) carrying out Information, Education and Communication (IEC) campaign;

xiv.) facilitate capacity building of SWSM, DWSM, State engineering departments/ boards and their human resources;

xv.) coordinate with international agencies and explore opportunities for collaboration;

xvi.) engage services of consultants, agencies and experts as and when required;

xvii.) recognize and reward performance of various stakeholders;

xviii.) carry out associated activities to involve other stakeholders like students, youth, women in achieving the mission activities.

In addition to the directorate, the NJJM will have the following:

5.1.1 Data and documentation centre

Under the mission, a Data and Documentation centre will be set up to monitor its implementation, collection of information from States and to process the information. The centre will be primarily served by National Informatics Centre (NIC). The NIC would act as IT consultant both at national as well as state level, and would be responsible for:

i.) management of Integrated Management Information System (IMIS) and generating required reports for project management and intervention;

ii.) all the master codes against the parameters/ components monitored under JJM and location codes will be created by NIC and maintained as Central database. The States to follow this coding pattern;

iii.) at the State level, NIC state unit will extend technical support to the MIS programme of the state, including development of software applications and training as per mutually agreed proposals;

iv.) dashboard maintenance;

v.) monitoring of physical and financial progress and functionality of FHTCs to analyze the same

and take action to achieve the objective of the mission;

vi.) any other IT activities considered and developed in future to achieve the goal of JJM.

5.1.2 Project Management Unit (PMU)

JJM is being implemented to provide FHTCs to about 15 Crore rural households which is likely to increase after re-verification of baseline data. Since piped water supply schemes are to be taken up at village level, the quantum of work will increase manifolds. Moreover innovative technological solutions have to be found out in water scarce and quality-affected areas. Further, the mission aims at monitoring functionality of tap connections so as every household gets assured supply of potable water in adequate quantity on regular basis. There will be huge tasks not only for project management but carrying out IEC campaign, capturing best models, techno-economic analysis of in-village as well as bulk water transfer and distribution, treatment technologies, greywater reuse, physical and financial progress, and timely action to keep the project on track. States would also require lot of input on technological front and there would be a continuous need for techno-economic appraisal of state schemes so that cost-effective and sustainable water supply schemes are taken up. The mission has also to work on various aspects of O&M as well as helping state departments/ boards/ corporations to work like public utilities with robust grievance redressal mechanisms.

To shoulder this responsibility at the national level, mission will have a Project Management Unit (PMU) with specialization in public health engineering and techno-economic appraisal on one hand; and soft skills like community mobilization, IEC, capacity development, training, etc. on the other hand. There will be two teams under the PMU, one for technical support and another for management support for which suitable sourcing mechanism will be worked out.

The technical support team would provide technical support to the States, technical evaluation of project for cost-effective implementation and suggest corrective actions, development of design templates and costing for small standalone schemes, provide assistance to pilot innovative solutions to overcome challenges that defy normal technological interventions and IoT based monitoring systems.

The management support team would provide support for project management/ monitoring, apply data analysis tools for identifying implementation constraints and financial planning, design of IMIS reports on the basis of this analysis, identify success stories and develop formats to document them, monitor performance of ISAs, third party inspection agencies, coordinate functionality assessment, arrange capacity building programmes, identify training needs, study inter-sectoral externalities and make policy recommendations for course correction, develop strategic IEC material, viz. education material, advertisement contents, etc.

5.2 State level - State Water and Sanitation Mission (SWSM)

The concept of State Water and Sanitation Mission (SWSM) started in 1999 for coordination, convergence and policy guidance at the State level, headed by Chief Secretary of the State. The SWSM may be registered as a society as decided by the respective State Government/ UT Administration. The State Governments would provide necessary powers to the SWSM for successful implementation of JJM. The existing SWSM may be further strengthened to achieve the objective of JJM. SWSM, a state level institution headed by Chief Secretary with Principal Secretary/ Secretary in-charge of PHED/ RWS Department as Mission Director is the organisation responsible for implementation of JJM in the state.

Most of the mission officials will be taken on deputation from various departments/ agencies/ institutions for time-bound implementation of JJM. However, to bring synergy and drive with latest knowledge, in addition to regular officials, it will also have subject matter specialists on contract. To provide specialized support, SWSM can hire consultants for which fund provided under support activities can be utilized. The existing Water and Sanitation Support Organization (WSSO) will be subsumed under the SWSM. The structure of the mission and human resources will be decided by the State. In addition to public health engineers, the mission will also have officials/ personnel for project management, finance management, IT, IEC, capacity building and training, NGO coordination, etc. Depending on the quantum of work, and size of the State, following is suggested in addition to public health engineers:

i.) Director in-charge of strategy and implementation

ii.) Project manager(s) for technical, financial and monitoring

iii.) Coordinator for Implementation Support Agencies (ISAs)

iv.) Coordinator for Information, Education and Communication (IEC)

v.) Coordinator for Capacity Building and Training

vi.) Coordinator for Integrated Management Information System (IMIS)

vii.) Coordinator Water Quality Monitoring & Surveillance (WQM&S)

viii.) Hydrogeologist

ix.) any other person, as required.

The SWSM would have i.) Apex Committee, and ii.) Executive Committee.

The Apex Committee would be headed by the Chief Secretary of the State with Secretaries in-charge of PHE/ Rural Water Supply, Rural Development (RD), Panchayati Raj (PR), Primary Education, Health, Finance, Planning, Information and Public Relations and a Government of India representative as members. In addition, three experts/ eminent persons working in the field of rural water supply, public service, natural resource management, community development, etc. will also be made members of the Apex Committee. Principal Secretary/ Secretary in-charge of PHED/ RWS Department will be the Member Secretary. State may decide to have an officer with administrative experience as Mission Director or Principal Secretary/ Secretary in-charge of PHED/ RWS Department may also be appointed as Mission Director. The Apex Committee will meet at least twice a year and if possible, quarterly. State has to notify the Member Secretary and Mission Director of the SWSM.

The functions of Apex committee are:

i.) to provide policy guidance and will be responsible for the overall planning, strategizing, and implementation of JJM in the State;

ii.) responsible for finalization of State Action Plan (SAP) to provide FHTC to every rural household of the State by 2024;

iii.) decide charges for providing FHTC to rural household;

iv.) decide water service standards;

v.) appraisal and in-principle approval of State Action Plan (SAP) after discussion with Department/ National Mission;

vi.) responsible for financial planning including ensuring timely utilization of fund and no parking of fund;

vii.) responsible for coordination among various Departments and other agencies for convergence;

viii.) responsible for devolution of powers empowering GP/ sub-committee of GP for management of in-village infrastructure, if not done already;

ix.) devolve powers to DWSM to accord administrative approval of intra-district and in-village infrastructure water supply schemes;

x.) decide modalities for operation of single nodal account;

xi.) build suitable incentive and disincentive mechanism in the policy to discourage wastage of water as well as to meet recurring expenditure on bulk water, distribution network and household level supply;

xii.) bringing about effective policies & regulations for water use by other sectors, abating water contamination by industries, agricultural practices or mis-management of solid & liquid waste by individual households/ institutions;

xiii.) to enforce uniform policy for various uses of groundwater within the annual replenishable ground water recharge;

xiv.) responsible for water allocation;

xv.) to firm up State policy on engaging dedicated human resource for ensuring water quality testing as well as surveillance using Field Test Kits;

xvi.) finalize ToR for various contracts especially penal provision for delays and its monitoring;

xvii.) developing O&M strategy and monthly tariff/ user charges for ensuring financial sustainability of the system/ scheme. To firm up policy on O&M accounts and its operation process by GP and/ or its sub-committee;

xviii.) to firm up policy on earmarked % of support fund for IEC/ BCC activities;

xix.) decide action on unauthorized/ unmetered/ unaccounted connections to stop continued loss of water/ revenue.

Mission Director will be assisted by an Executive Committee consisting of 5-10 members. Engineer-in-Chief/ Chief Engineer in charge of Rural Drinking Water Supply, officers from the related Departments, viz. Water Resources, Rural Development & Panchayati Raj, Health, Primary Education, Finance, etc. will be ex-officio members. Experts, not exceeding three, from the field of water, rural development, public/ community health and hygiene, sanitation, and reputed voluntary organizations are to be co-opted as members.

The executive committee of SWSM will have the following functions:

i.) support in creation of DWSMs, ensure necessary capacity building, regular monitoring of its functioning; coordinate with DWSMs, collate information, finalize Annual Action Plans (AAPs);

ii.) monitoring of physical and financial performance and management of the water supply projects;

iii.) approval for opening a single nodal account and ensure PFMS implementation;

iv.) prepare and share design of different types of schemes with DWSMs;

v.) promote/ support innovation, new technology wherever feasible;

vi.) take up evaluation studies, impact assessment studies, R&D activities;

vii.) ensure regular updates of JJM physical and financial progress on IMIS and validate the same;

viii.) decide rate contracts and empanel reputed construction agencies/ vendors through centralized tendering for expeditious implementation;

ix.) empanel partner NGOs/ VOs/ SHGs as Implementation Support Agencies (ISAs);

x.) engage third party inspection agencies for inspection of work before payment;

xi.) finalize State Information, Education and Communication (IEC)/ Behavioural Change Communication (BCC) strategy. Ensure effective utilization of the earmarked support fund for IEC activity;

xii.) prepare capacity building action plan for personnel at various levels of the mission and monitor its implementation, arrange Training of Trainers (ToTs), IEC material use, etc.;

xiii.) ensure that Utilization Certificates (UCs), Audited Statement of Accounts (ASA), etc. are submitted to Government of India on time;

xiv.) sharing of reports, success stories, best practices on IMIS and within State and disseminate through State social media accounts;

xv.) conduct campaigns across State that are initiated by both Central and State governments;

xvi.) recognize well performing Districts, Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc., ISAs from time-time and develop policy to encourage them;

xvii.) create and maintain digital inventory of JJM assets on a GIS platform;

xviii.) decide on state-specific slogans for introducing JJM, wall paintings based on the number of houses in a village and areas where it will be painted.

In its Annual General Meeting (AGM) following may be decided/ approved,

i.) adoption of account;

ii.) appointment of auditor for the society from CAG empanelled auditors;

iii.) performance review of annual plan; and

iv.) approval of next year annual plan, etc.

Every State has 'State Level Scheme Sanctioning Committee' (SLSSC) which essentially works as State level technical committee and the same will be (re)constituted/ continued for JJM. SLSSC headed by Chief Secretary/ Principal Secretary/ Secretary in-charge of PHED/ RWS Department, as the case may be, may have following members:

i.) Representative from Department/ Mission, GoI

ii.) Mission Director of SWSM

iii.) Director, Regional CGWB office

iv.) Director, State water resource/ ground water department

v.) Director, Regional office of Central Water Commission

vi.) Technical expert from reputed State and/ or national technical institutions

vii.) Chief engineer, planning, PHED/ RWS department

viii.) Any other member (need based) nominated by the State's Chief Secretary

ix.) Engineer-in-Chief, PHED/ RWS department will be Member-Secretary

The agenda note for the meeting should be sent to the Department/ National Mission at least 15 days in advance in order to examine the proposal, firm up its views, provide best techno-economic inputs and for the representatives to attend the SLSSC meeting. The Member-Secretary will convene the SLSSC meeting for approval of schemes which are not under the purview of DWSM for sanction, viz. intra/ inter district distribution networks, regional water supply schemes, bulk water transfer through water grids, treatment plants, etc. The proposals placed before SLSSC should be invariably reviewed by 'Source Finding Committee' for availability of potable water in adequate quantity in prescribed quality for the scheme design period. The members of Source Finding Committee may be decided by the SWSM. Every State has delegated powers to accord technical sanction to different level of officers and the same may be notified for JJM.

5.3 District Water and Sanitation Mission (DWSM)

At the district level, DWSM is responsible for overall implementation of JJM. DWSM will be headed by Deputy Commissioner/ District Collector (DC). The members would be

i.) Chief Executive Officer (CEO) - ZP/ District Development Officer/ Chief Development Officer

ii.) Divisional Forest Officer

iii.) Project Director in ITDA/ ITDP districts

iv.) District Medical Officer

v.) District Education Officer

vi.) Executive Engineer, Water Resources/ Ground Water/ Irrigation

vii.) District Agriculture Officer

viii.) District Information and Public Relations Officer

ix.) Executive Engineer, PHED/ RWS Department (Member-Secretary)

Eminent persons from the field of water management, community health, community development, etc. and local MP may be co-opted as members. Executive Engineer (EE), PHED/ RWS Department will be the member secretary. DWSM will convene monthly meetings to consider and accord administrative approval of the in-village water supply schemes, plan protection and preservation of village water sources, greywater management, preventing water bodies/ sources from getting polluted, etc. Every year, for preparation of district annual action plan, views of people's representatives such as MP/ MLAs/ chairperson of district Panchayat may be solicited.

To support the DWSM, depending on the quantum of work, size of district, following Human Resource is suggested:

i.) Project manager(s) for technical, financial and monitoring

ii.) Coordinator for ISAs

iii.) Coordinator for IEC

iv.) Coordinator for capacity building and training

v.) Coordinator for MIS

vi.) Coordinator for WQM&S

The remuneration towards the above technical/subject matter experts, if hired on contract basis, will be met from overall support activity fund.

Functions of DWSM will be as follows:

i.) ensure preparation of VAP after taking stock of each village for FHTCs;

ii.) finalize a District Action Plan (DAP) to provide FHTC to every rural household by 2024;

iii.) provide administrative approval of in-village water supply schemes/ projects at district level as per the powers devolved by SWSM;

iv.) ensure availability of funds for source sustainability works and greywater management in villages through convergence and projects may be cleared only if these components are part of DPR;

v.) identify villages requiring ISA support, engage ISAs from empanelled list and monitor their performance;

vi.) provide necessary directions given to PHED/ RWS Department for active participation in VAP and initiate techno-economic feasibility, preparation of DPRs in consultation with Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc.;

vii.) approve the Village Action Plans (VAPs) that would contain the estimate for in-village infrastructure viz. retrofitting or new scheme and its implementation timeline;

viii.) finalize unit type designs and approve cost estimates finalized by SWSM or PHED/ RWS Department, ISA, Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc.

ix.) ensure availability of agency from the empanelled list based on the annual projected requirement emerging from VAPs and award work;

x.) engage third party agency for inspection of work before payment to the agency;

xi.) help in formation of sub-committee of Gram Panchayats, i.e. VWSCs/ Paani Samitis/ User Groups, etc. and handhold to ensure scheme implementation;

xii.) coordinate with Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc., collate information, prepare District Action Plan (DAP) and submit to SWSM;

xiii.) converge with PMKVK to create a pool of skilled human resource to be engaged by Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. for creating in-village infrastructure under JJM. The payment towards the same maybe met out of support funds;

xiv.) ensure regular updates of JJM physical and financial progress on IMIS and validate the same;

xv.) monitor and evaluate physical and financial performance;

xvi.) facilitate deployment of NGO/ VO/ CBO partners as Implementation Support Agencies (ISAs);

xvii.) implement IEC/ BCC strategy and ensure effective utilization of the earmarked support fund for the same;

xviii.) identify individuals to be trained as master trainers at State level who will in-turn build capacities of Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc.;

xix.) upload FHTCs on IMIS after receipt of commissioning certificate from Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc.;

xx.) approve and share reports, success stories, best practices on JJM IMIS and within district;

xxi.) conduct all campaigns with respect to JJM initiated by both Central and State governments;

xxii.) recognize well-performing Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. and ISAs from time-time;

xxiii.) analyze data on health indicators, water-borne diseases, etc. for corrective action;

xxiv.) arrange exposure visits for Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. functionaries, wherever required;

xxv.) ensure state-specific slogans are wall painted in prescribed format across villages as part of JJM introductory programme;

xxvi.) step-in in times of calamities like drought/ flood;

xxvii.) grievance redressal;

xxviii.) ensuring that all information is placed on IMIS.

5.4 Gram Panchayat and/or its sub-committee, i.e. Village Water and Sanitation Committee (VWSC)/ Paani Samiti/ User Group, etc.

It is envisaged under JJM that the community will play a lead role in planning, implementation, management, operation and maintenance of in-village water supply infrastructure thereby leading to FHTCs to every rural household. The willingness of community, reflected through *Gram Sabha* resolution and community contribution, will be the foremost criterion for planning of water supply system in villages.

GP and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. will function as a legal entity as envisaged in the 73rd Amendment to the Constitution.

Gram Sabha will decide whether GP or its sub-committee will carry out the responsibilities of water supply management in the village. Wherever the sub-committee is chosen, i.e. VWSC/ Paani Samiti/ User Group, etc. it may be headed by Sarpanch/ Up-Sarpanch/ GP member/ traditional village head/ senior village leader as the *Gram Sabha* may decide and Panchayat Secretary/ Patwari/ Talati may act as Secretary. It may consist of 10-15 members comprising elected members of Panchayat up to 25% of the composition; **50% women members *(key to success)***; and remaining 25% may consist of representatives of weaker sections of the village (SC/ST) proportional to their population. Ordinarily, tenure of sub-committee may be kept at 2-3 years and *Gram Sabha* during the JJM period will have option to reconstitute the sub-committee. In case the tenure of elected members of Panchayat in the sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. has ended due to any reason then the DWSM may ensure the continuation of sub-committee till such time the GP is reconstituted. Similarly, in States where the elected GP does not exist, the sub-committee, i.e. VWSC/ Paani Samiti/ User Group may be headed by traditional village leaders/ senior village leader as the village council may decide and tenure will be specified. For GP or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. State government will issue suitable notification under the Panchayati Raj Act.

If stand-alone water supply systems are planned in scattered settlements/ habitations, a user group is to be formed in such settlements/ habitations who are to own, manage, operate and maintain the water supply system. Such user groups will be accountable to Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti, etc. JJM fund will not be utilized for any single house/ farm house that are far away from village/ habitation.

The Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. will discharge the following functions:

i.) provide FHTC to every existing rural HH and any new HH that may emerge in future, and ensure that scattered households located away from main settlements also get FHTCs;

ii.) ensure preparation of Village Action Plan (VAP) for water supply scheme;

iii.) plan, design, implement, operate and maintain the in-village water supply schemes and decide seasonal supply hours;

iv.) procure construction services/ goods/ materials from agencies/ vendors as finalized by SWSM through centralized item rate tendering;

v.) mobilize and motivate the community to contribute 5% or 10% of in-village infrastructure capital expenditure, as the case may be. The contribution may be in the form of cash and/ or kind and/ or labour;

vi.) supervise construction of in-village infrastructure including source sustainability, greywater reuse, water conservation measures, etc.;

vii.) open bank account/ use existing account of GP for community contribution and depositing O&M service charge. In case an existing account is being used, it should be ensured that a separate ledger is to be maintained for contribution and incentive;

viii.) create and maintain register for accounts which should reflect community contribution in terms of cash and/ or kind and/ or labour; costs towards construction; O&M costs/ water tariff collection and incentive received;

ix.) mobilize community for PRA activities;

x.) firm up and collect water tariff/ user charges;

xi.) will be responsible for management and regular O&M of in-village water supply system including local water sources;

xii.) record drinking water asset details in GP/ village asset register;

xiii.) facilitate trials runs on scheme completion;

xiv.) facilitate third party inspection and functionality assessment;

xv.) hold periodic meetings at least four times in a year and maintain minutes/ record of the same;

xvi.) ensure water quality testing using Field Test Kits (FTKs), periodic testing at laboratories & disseminate the same among community and undertake sanitary inspection. Engage/ train rural youth/ students/ women to carry out these activities;

xvii.) may engage a dedicated person to ensure water quality test using FTKs, as per the respective State policy;

xviii.) undertake social audit;

xix.) conduct awareness campaigns on judicious use of water, come up with mechanisms to ensure no misuse of water and ensure prescribed IEC campaigns including wall-paintings, etc.

xx.) hire/ arrange pump operator, barefoot technician, attend regular repair and maintenance work, and operate the system.

5.5 Implementation Support Agencies (ISAs)

NGOs/ VOs/ women SHGs/ CBOs/ Trusts/ Foundations will be referred as ISAs and will play critical role as partners in mobilizing and engaging the communities to plan, design, implement, manage, operate & maintain in-village water supply infrastructure. DWSM will engage ISAs from the empanelled[14] ISAs enlisted by SWSM.

Based on the District Action Plan of five years, the number of villages to be covered every year will be identified. These identified villages fall under different categories, viz. villages requiring only last-mile connectivity in terms of distribution network and FHTCs, only IEC campaigns on judicious water use, O&M support, requiring new schemes, etc. and will be grouped for engaging an ISA for handholding support. Accordingly, number of ISAs required every year is identified for each of these categories along with timeline. For new schemes, each ISA would be responsible for the entire project cycle of maximum 18 months in 40-60 villages at a time.

Depending on the requirement in the district and based on the performance of ISA, next set of 40-60 villages will be given to them after four to six months or engage another ISA. In the district, there could be many ISAs depending upon the need of work to be done and requirement of handholding. Planning should be done in such a manner that JJM is implemented in mission-mode and all villages of districts are covered with FHTCs to all rural households by 2024.

ISA to facilitate women participation at all levels of planning, implementation, management, operation and maintenance of in-village water supply systems and contribution.

For delivery of results, ISA will be provided financial support to engage a team comprising of 6-8 members and conduct project activities. Once an ISA is selected by DWSM, it has to prepare the action plan for the villages it is allotted for entire scheme cycle with the help of PHED/ RWS Department and clearly specifying quarterly outputs. This plan will be in-line with the scheme cycle suggested by SWSM. Payment to ISA will be linked to the time schedule and outputs on quarterly basis. The payment to the ISA would be made out of support funds.

ISAs will carry out following functions:

i.) facilitate constitution of sub-committee of Gram Panchayat, i.e. VWSC/ Paani Samiti/ User Group, etc. and arrange to build capacities of its functionaries;

ii.) handhold Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. in all the functions mandated in para 5.4 *inter alia* includes opening bank accounts, mobilization of community contribution, O&M arrangement, organizing *Gram Sabha*, organizing meetings of sub-committee, facilitating resolution in *Gram Sabha* and acceptance of village scheme, facilitating sanitation and greywater management activities, etc.;

iii.) need assessment of FHTCs and motivate communities to have FHTCs;

iv.) act as coordination platform between DWSM and VWSC;

v.) use Participatory Rural Appraisal (PRA) tools for community mobilization and carry out need assessment;

vi.) assisting the community in water campaigns initiated by Government of India/ state Government;

vii.) build awareness on various aspects of water such as rain water harvesting, artificial recharge, water quality, water-borne disease, water saving, water handling, drinking water source augmentation/ sustainability aspects, etc.;

viii.) document and upload success stories from villages;

ix.) ensure wall-paintings are done at the proper places in villages;

x.) carry out Social Behavioural Change Communication (SBCC) activities.

5.6 Public Health Engineering Department/ Rural Water Supply Department

The Public Health Engineering Department (PHED)/ RWS Department as decided by State Government will

[14]List of 60 Districts placed at Annex-XII

be the line/ nodal Department for the implementation of JJM in the State. Its role for creation of in-village infrastructure and infrastructure (distribution network/ regional water supply grid) for multi-village schemes is given in para 6.2 of the guideline. It is important to note that although PRIs are the owners and managers of the in-village infrastructure, the preparation of design, estimates, tendering, technical handholding and ensuring the quality of work execution will be the responsibility of the Department. They would also be providing guidance for fixing the tariff for recovery by PRIs from village households, coordinate with other Departments for source sustainability and greywater management, data entry in IMIS, data handling, etc.

In every State, the SWSM will identify the engineering Department/ Board/ Agency to handle JJM. The role of this Department/ Board/ Agency in in-village infrastructure is as follows:

i.) participate in PRA activities, firm up need assessment of villages, and provide technical help in preparation of VAP;

ii.) provide scientific and technical inputs to Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. in identifying drinking water sources;

iii.) ensure certification of source selected by Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. for its quantity & quality in a sustainable manner by involving Hydrogeologists/ ground water officials concerned;

iv.) identify existing assets that can be retrofitted;

v.) prepare design estimates and provide technical approval for in-village infrastructure for consideration & acceptance by Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc.;

vi.) obtain statutory/ legal and other clearances for execution of works, wherever required;

vii.) in case of MVS, plan, design, implement, operate and manage bulk water transfer, treatment and distribution network including source development and ensure that water is transferred up to sump in village;

viii.) in case of water quality-affected areas, ensure that appropriate water treatment technology is used and safe water is made available for supply;

ix.) entry in MB and preparation of running bills;

x.) carry out trial run and facilitate scheme commissioning;

xi.) capture details of assets existing/ created and geo-tag them;

xii.) ensure linking of existing FHTCs to head of the household through Aadhar as part of baseline mapping;

xiii.) provide design for a fenced 'water work' complex housing the in-village infrastructure and suggest suitable name as per local context.

5.7 Sector partners

Sector partners are organizations like UN agencies, international developmental agencies, foundations/ trusts/ NGOs/ CBOs/ corporates with CSR funds, etc., proactively working in the water sector with wide outreach and impact. They are expected to play a huge role in supporting implementation of JJM given their wide experience. Their facilitating role will help in improved access to safe drinking water in rural areas of the country. Partners at Centre, State and district levels to be identified based on their capacity to contribute to the Jal Jeevan Mission.

Similar sector partners would be identified at State level. Department/ National Mission, States will partner with Sector Partners for HR support, designing campaigns, capacity building of JJM institutional mechanisms, innovating technology, management, monitoring, etc.

These partners may include:

i.) UN and other international Development organizations;

ii.) business & industry with CSR funds;

iii.) community-based organizations;

iv.) knowledge and R&D institutions;

v.) advocacy partners;

vi.) training/ skill development institutions;

vii.) university/ technical institutions.

The sector partners will assist to:

i.) provide specialized HR support at SWSM/ DWSM levels in discharging their functions;

ii.) plan for capacity building of various functionaries associated with JJM by preparing proper content, schedules, compendiums for training;

iii.) design IEC/ outreach campaigns;

iv.) document and disseminate information on best practices on community management, technological innovations, water conservation, etc;

v.) facilitate organization of workshop, conferences, seminars, etc. as required from time to time. Wherever Department/ National Mission is involved in workshops, conferences, etc. that are being organized by sector partners, funds may be provided under JJM from support fund for the same based on actual needs.

5.8 National Centre for Drinking Water, Sanitation and Quality (NCDWSQ)

National Centre for Drinking Water, Sanitation and Quality, Kolkata has been established as an autonomous Institution of the DDWS, Ministry of Jal Shakti, with aim to work in the areas of identification, mitigation and management of drinking water quality and sanitation related problems in the country with a special focus on Arsenic and Fluoride, and to provide inputs for policy making. It will serve as a Centre of Excellence for water and sanitation handling complex water management issues in a holistic and integrated manner. It will be further strengthened to play a larger and meaningful role in the implementation of JJM.

Implementation

Jal Jeevan Mission is a time-bound mission-mode programme to ensure every rural household has a Functional Household Tap Connection (FHTC) by 2024 to provide drinking water in adequate quantity (minimum 55 lpcd) of prescribed quality (BIS:10500) on regular basis. FHTC may be planned to be provided in every household with three delivery points (taps), viz. kitchen, washing & bathing area and toilet, to keep water clean and prevent misuse. Out of the three, only one tap per household will be funded under JJM.

In this regard, State Governments/ UT Administration will implement the mission based on the finalized State Action Plan (SAP) with timelines to cover all the villages of the respective State/ UT. Each village will be assessed on existing water supply infrastructure by DWSM in consultation with Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc., and ISA. Based on the same, FHTCs will be provided to every rural household by creating in-village water supply infrastructure including source development under any one of the following suggested categories, viz.

i.) retrofitting of ongoing schemes taken up under erstwhile NRDWP for the last mile connectivity;

ii.) retrofitting of completed rural water supply schemes to make it JJM compliant;

iii.) Single Village Scheme (SVS) in villages having adequate groundwater/ spring water/ local or surface water source of prescribed quality;

iv.) Single Village Scheme (SVS) in villages having adequate groundwater that needs treatment;

v.) Multi Village Scheme (MVS) with water grids/ regional water supply scheme; and

vi.) mini solar power-based piped water supply in isolated/ tribal hamlets.

Central Ground Water Board (CGWB) has identified a list of Q (Quantity)[15]& Q (Quality)[16] blocks which have groundwater in adequate quantity of prescribed quality. In villages where groundwater/ surface water/ spring water is available both in terms of Q&Q, the States are advised to undertake single village schemes based on these sources. Multi Village Scheme is suggested to be taken up in those blocks, which do not fall under Q&Q blocks[17].

Broadly, water supply infrastructure work will fall in two categories, i.e.

i.) creation of in-village infrastructure including source development/ strengthening/ augmentation and greywater management; and

ii.) infrastructure for bulk transfer of water, treatment and distribution systems.

Single Village Scheme (SVS) is a groundwater/ spring based/ local surface water scheme, which is planned and managed by Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. Multi Village Scheme (MVS) is a ground water/ surface-water based scheme that caters to multiple villages and is usually planned by PHED/ RWS Department/ Board/ Agency, wherein Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. will manage, operate and maintain the in-village water supply system.

SWSM will accord priority to retrofit existing infrastructure, viz. completed piped water supply schemes and ongoing piped water supply schemes that are to be completed in the first two years. Further, priority will also be accorded to provide FHTCs in water quality-affected areas especially Arsenic and Fluoride, DDP areas, DPAP areas, and SAGY villages.

In-village infrastructure development and management will be the responsibility of Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. supported by PHED/ RWS Department/ agency and ISA, whereas infrastructure for bulk transfer of water and distribution systems up to the village boundary will be the responsibility of PHED/ RWS department/ board/ corporation, as the case may be.

The PHED/ RWS Department would play a key role and provide hand holding support to Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. in all technical aspects. It would conduct the test and certify the yield of the source both from quantity and quality point of view, prepare the design estimate and help the Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc.

[15]Dynamic Groundwater Resources of India, 2017 - published in 2019
[16]Groundwater quality in willow aquifers in India, 2018
[17]List of these Q&Q blocks are hosted at JJM portal

to identify the agency for execution, supervise the quality of work implemented, get the work inspected by a third party, facilitate the measurements of works implemented and prepare the running bills for payment, conduct the trial run and commission the scheme. In villages where Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. is unable to execute the work, the PHED/ RWS Department will carry out the task after design estimate, etc. are presented to *Gram Sabha* and its approval. However, management, operation and maintenance will be the responsibility of Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc.

In case, the village is to be covered under MVS, the PHED/ RWS Department would ensure the delivery of water from distribution system in to the sump of the village. The role of PHED/ RWS Department for construction of in-village infrastructure would remain the same for both SVS and MVS.

For implementation of in-village infrastructure, SWSM would identify the specific number of engineering structures (like ESRs, Sumps, cattle troughs, washing/ bathing blocks, etc.) to be taken up and approve their type designs after its presentation in *Gram Sabha* and its approval. It would finalize contracts in Engineering, Procurement and Construction (EPC) mode and empanel multiple agencies for execution of these identified structures. Each empanelled agency will be allowed to take up specific number of villages to be covered in specified time which can be decided by the SWSM. The tendering for empanelling and fixing cost is to be done at State level, but orders for in-village infrastructure development to be placed by DWSMs.

As the mission is spread over five years period, states can also plan EPC contracts in phases, depending on the number of villages to be covered in each phase. Since this is a time-bound mission-mode programme, suitable penalty clauses needs to be incorporated in the contract documents so as to disincentivize the agencies to avoid delay in implementation. For all works third party inspection and certification before payment is mandatory.

6.1 In-village water supply infrastructure

To provide FHTCs to all rural households, in-village water supply infrastructure will be created through Single Village Scheme (SVS)/ Multi Village Scheme (MVS)/ solar power-based stand-alone schemes for scattered areas. The Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. will be responsible to plan, implement, manage, operate and maintain in-village water supply infrastructure and water resources including greywater management to meet drinking and domestic needs. It will include protection of drinking water source(s) as well as treatment and reuse of greywater.

For every Village, Village Action Plan (VAP) for providing FHTCs to all households will include cost estimates, implementation schedule, O&M arrangement, contribution from each household towards partial capital cost and O&M, type design of ESR/ sumps, washing and bathing complex with a toilet for poor landless families, cattle trough, greywater management, source sustainability measures, plan to maintain all water bodies in village, etc. The VAP will plan for piped water supply in scattered settlements as per the requirement. The format for preparation of VAP is at Annex XA which can be further modified as per local requirement. The VAP under JJM will be integrated with Gram Panchayat Development Plan (GPDP).

The *Gram Sabha* would decide the type of water supply scheme to be provided in the village based on socio-economic analysis and at least 3 techno-economic feasibility options provided by PHED/ RWS Department. While deciding, the ISA and PHED/ RWS Department would provide information about the O&M expenses including expenses on electricity for the preferred water supply schemes, which has implications on community contribution for capital cost as well as O&M. While selecting the best techno-economic options, capital as well as O&M expenditure have to be kept to the minimum. It will be the responsibility of DWSM/ SWSM to ensure that no over-designing is done and public money is optimally utilized. Technical specification for the various components of in-village water supply infrastructure will be made available in regional languages so that wards/ Panchayats can also access these. For this, PHED/ RWS Department and/ or ISA would undertake demand assessment, introduce JJM using various IEC tools, carry out PRA activities to enable community to decide the type of scheme.

ISA to motivate village community to participate in *Gram Sabha* and the majority members of *Gram Sabha* would adopt a resolution for taking up the scheme, and on the basis of this, the PHED/ RWS Department would prepare the estimate for in-village infrastructure for approval by DWSM. The Gram Panchayat and/ or its

sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. PHED/ RWS Department would award the work to any of the empanelled agency for execution after the approval by DWSM.

The service level of potable drinking water supply should be at least 55 lpcd. States may enhance the same to higher level depending on availability of drinking water sources for which additional financial resources that may be required, will be met by the State government or local community or donors. In addition to this, cattle troughs may be constructed to provide drinking water to livestock especially in hilly terrain, drought prone and desert areas.

For SVS schemes, the in-village piped water supply infrastructure will consist of development/ augmentation of drinking water source, source sustainability measures, water treatment plant (in case, source is quality-affected), pumping arrangement (preferably solar powered), Over Head Tank (OHT)/ underground sump and distribution network leading to FHTC. Water supply from each ESR to be measured using modern sensors based IoT solutions.

For MVS schemes, the in-village piped water supply infrastructure will consist of pumping arrangement, OHT/ underground sump, pipeline for water supply, distribution network leading up to FHTC and bulk meter/ sensor based to measure the water supplied. The energy/ power requirements to operate the water supply system, if any at village level, also fall under in-village infrastructure. Conjunctive use of solar power-based pumping system will be explored to reduce the recurring energy cost of rural water supply system.

The cost estimates for in-village water supply system will also include:

i.) borewell recharge structure, in case of local groundwater source;

ii.) washing and bathing complex for poor, landless, in SC/ ST habitations (need based);

iii.) cattle troughs (purely need based);

iv.) green fenced premises housing the in-village water supply infrastructure, viz. ESR/ sump, pump operator room, community water treatment plant (if any), etc. An appropriate name suiting the local culture will be decided by SWSM. For example, it is called 'Jal Devalayam' in Andhra Pradesh;

v.) sign board of 8 X 6 ft. to be erected at a conspicuous location(s) giving all relevant details of the scheme, viz. JJM logo, total cost of scheme, implementing agency/ vendor, names & contacts of EE/ JE/ Paani Samiti chairperson and Secretary, commencement & completion date, etc. This is necessary to ensure transparency and keep the whole village community informed about the programme.

In villages where there is an existing functional piped water supply system, it needs to be retrofitted to provide FHTCs as follows:

i.) existing/ ongoing schemes that provide service level of minimum 55 lpcd through public stand-posts/ hand pumps, retrofitting will consist of distribution network, augmentation of supply, and other infrastructure like greywater management, leading to FHTCs;

ii.) existing/ ongoing schemes that provide service level of 40 lpcd through public stand-posts/ hand pumps, retrofitting will consist of drinking water source development/ augmentation, supply system augmentation to increase service level to minimum 55 lpcd and distribution network, greywater management, leading to FHTC.

Long-term sustainable planning of drinking water sources and schemes ensure safe drinking water availability even during distress period. The main aim of source sustainability is to ensure that water supply scheme function throughout its full design period. This is achieved through sustainability measures like rain water harvesting, artificial recharge, etc. For groundwater based sources, borewell recharge structures will be part of the estimate. For surface water based SVS, source sustainability measures like watershed management, water conservation, etc. must be taken up through convergence. Rain water harvesting structures in all public institutions will also be ensured, especially in water-stressed areas.

65-70% of the total water supply in rural areas emerges as greywater from the households. This broad category includes post-use water like bathing, washing dishes, laundry, kitchen, etc. When harnessed with the right treatment techniques, greywater becomes a useful resource for agriculture & other non-potable uses. Greywater management is a key component under JJM and the collection, treatment and reuse will form part of Village Action Plan and in-village infrastructure. The funds

for this may be utilized under convergence as mentioned in para 6.3. Fund for this component can be sourced from Swachh Bharat Mission and contribution from donors, CSR and MPLAD/ MLALAD to be encouraged. This will send right message about its proper management and its role in keeping villages clean.

In most of the villages in arid and semi-arid areas, soak pit will be a preferable option for disposal of greywater emerging from households. These waters can be used for adding greenery to village ambience and to also produce fruits for household consumption. Hence, it is suggested to plant i.) a tree for increasing green cover & shade; and ii.) fruit bearing tree around these structures, subject to availability of land. ISA should assist the VWSC and this should also be made part of IEC activity for dissemination and practice by individual households.

6.1.1 Scheme cycle

Ordinarily, in-village water supply infrastructure development may take 12 to 18 months. The same can be divided into following three phases:

i.) planning and mobilization phase;
ii.) implementation phase;
iii.) post-implementation phase.

For single village schemes, the scheme cycle can range between 12 to 18 months from the day of G.P resolution.

Planning and Mobilization phase (3-6 months)

The planning and mobilization phase commences from the time DWSM identifies to take up JJM in a particular village till the estimate for implementation of in-village infrastructure is approved by DWSM. This phase will consist of the following identified activities:

Activities	Agency responsible
Baseline mapping of existing FHTCs	DWSM
Identify villages to be taken up under JJM	DWSM
Assigning of ISA, PHED/ RWS Department official to villages	DWSM
Workshops for ISAs on JJM implementation	DWSM
Community familiarization with the objectives of JJM through IEC campaigns in coordination with PHED/ RWS Department	ISA
GP resolution for taking up JJM in village	GP/ Gram Sabha
Constitution of sub-committee of Gram Panchayat, i.e. VWSC/ Paani Samiti/ User Group, etc.	GP/ Gram Sabha
Undertake PRA activities	GP & ISA
Capacity building of Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. functionaries	ISA
Preparation of VAP	GP/ PHED/ RWS Department
Approval of VAP	Gram Sabha
Preparation & finalization of design and estimates and technical approval as per existing departmental procedures	PHED/ RWS Department
Administrative approval of estimates	DWSM
Determination of community contribution and its deposition in the bank account	GP
Obtaining necessary statutory clearances	DWSM
Award of work and issue of contract	PHED/ RWS Department & GP
Planning for work execution	PHED/ RWS Department & GP

Note: DWSM to prioritize villages that have successfully completed the planning and mobilization phase early.

Table 2

Implementation phase (6-12 months)

The implementation phase commences from award of work and start on the ground to commissioning of the scheme.

Activities	Agency responsible
Testing for yield and quality	PHED/ RWS Department
Development/ augment of source	GP & PHED/ RWS Department
Creation of infrastructure for water supply till FHTC including source sustainability	GP & PHED/ RWS Department
Entry into MB and preparation of running bills	PHED/ RWS Department
Greywater management works (to be executed in parallel with above)	DWSM & GP
Enabling payment post third party inspection	DWSM & GP
Geo-tagging of assets	PHED/ RWS Department
Create and maintain register for accounts	GP & PHED/ RWS Department
Trial runs	GP & PHED/ RWS Department
Installing water measurement devices, i.e. meter or sensor and integrating the same in IMIS	DWSM, PHED/ RWS Department, GP
Fixing & collection of O&M costs/ water tariff	GP
Scheme commissioning	GP & PHED/ RWS Department

Table 3

Post implementation phase (3-4 months)

The post-implementation phase commences once the scheme is commissioned.

Activities	Agency responsible
Water supply, O&M and water tariff collection	GP
Management of greywater	GP
Interaction with other well performing Gram Panchayat and/ or its sub-committee	DWSM/ SWSM
Continuous capacity building of Gram Panchayat and/ or its sub-committee	DWSM
Handing over incentive fund to Gram Panchayat and/ or its sub-committee	DWSM

Table 4

Wherever the agency responsible is Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc., ISA is by default involved.

In many villages, Gram Panchayats are very active and its sub-committees, i.e. VWSCs/ Paani Samitis/ User Groups, etc. have already been formed under erstwhile programmes like sector reforms, Swajaldhara, etc. In those villages where the sub-committees are functional, DWSM may decide to directly go for implementation phase and need for ISA may also be dispensed with.

6.1.2 Community contribution

For in-village piped water supply infrastructure and related source development to be implemented by Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc., communities will contribute 5% of the capital cost in cash and/ or kind and/ or labour in

hilly and forested areas, NE and Himalayan States and villages having more than 50% SCs and/ or STs population; and 10% of the capital cost in other villages.

Willingness of the community and contribution as mandated under JJM from at least 80% households of the village is a pre-requisite for taking up water supply scheme. Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. may consider exempting individual contribution from poor, infirm, *divyangjan* or widow with no source of steady income. However, this is an exception rather than a rule.

In order to reduce the burden of community to make upfront contribution in cash, Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. may allow individual households to pay in installments. Contributions from local Institutions, philanthropists, community-based organisations to be encouraged. However, such contribution will not be part of the community contribution. This will be taken as contribution towards overall cost of the scheme. Similarly, contribution from MPLAD, etc. will be counted as Central share, MLALAD, etc. will be counted as State share, DMDF as State share and other donations part of the overall cost. Contribution made by local Self Help Group (SHG) will form part of the community contribution. (This is further elaborated at para 7.11)

For on-going erstwhile NRDWP schemes, there will not be any community contribution towards the capital cost. However, while retrofitting to make them JJM compliant, community is to contribute 5% or 10% of the capital cost, as the case may be, in terms of cash and/ or kind and/ or labour towards the cost of retrofitting/ augmentation and/ or additional items like cattle trough, bathing and washing blocks, rain water harvesting, etc.

6.1.3 Incentive for community

The community would be rewarded/ incentivized in a phased-manner after the commissioning of the scheme to the tune of 10% of the capital expenditure on their respective in-village water supply scheme. This would serve as a 'revolving fund' to meet emergency repair/ maintenance of the scheme, which will be replenished by the user group/ local community.

6.1.4 Operation & Maintenance (O&M)

Operation & maintenance is important for ensuring functionality of household tap connections. O&M would involve recurring costs like electricity charges, chemical costs, expenditure on preventive and breakdown maintenance, remuneration of pump operator, etc. The community therefore has a key role to play in aspects such as:

i.) using the revolving fund received from government judiciously;

ii.) funds received as part of Finance Commission recommendation;

iii.) arranging operation of the system through a barefoot technician;

iv.) carrying out minor repairs;

v.) chlorination;

vi.) water quality testing/ surveillance;

vii.) ensuring proper use of infrastructure, cleanliness near sources, etc.

Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. will open an account to receive funds for O&M from different sources such as incentive fund from JJM, Finance Commission grants and community contribution to meet the recurring charges.

Management and O&M of the water supply scheme by the Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc., recovery of user charges and full O&M recovery will form the cornerstone of the long-term sustainability of the scheme.

6.2 Regional water supply and distribution network

In villages with water quality issues and paucity of surface water sources, especially in drought-prone and desert areas, to achieve water security bulk water transfer from long distances is a reality. Further, in drought-prone and desert areas, where it is not possible to have water supply through conjunctive use, a similar approach to transfer bulk water from long distance will be adopted. In States with water-scarce/ areas lying in rainshadow region with inadequate rainfall, it is necessary to plan for regional water supply schemes covering both urban and rural areas of this region by sourcing water from a perennial surface source.

Since the water is transferred from long distance at a very high cost, it is essential to have least loss of water during transmission. For this purpose it is necessary to have District Metering Area (DMA) with SCADA systems and/ or sensor-based mechanism to reduce non-revenue water.

Bulk water transfer/ multiple village schemes have higher per capita & maintenance costs, and require skilled human resources. Hence, the States have to judiciously plan these works, preferably as a last option, keeping in view the availability of resources and future O&M expenditure.

The schemes needing transfer of water will be planned, implemented and monitored by the PHED/ RWS Department/ Board/ Agency as decided by the SWSM/ State Government. However, the in-village water supply infrastructure of such schemes will be the responsibility of the Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. for which PHED/ RWS Department and Implementation Support Agency (ISA) will facilitate the same. Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. will pay bulk water charges to the supplier of bulk water as decided by the State Government or regulator, as the case may be.

The components for transfer of water consists of head work, intake work, tube well, pumping station, trunks/ mains/ lateral distribution network, treatment plants, Elevated Storage Reservoir (ESR), sumps, bulk meters, substations for handling bulk water supply, etc.

For Bulk water transfer/ regional water supply schemes covering multiple villages, individual EPC contract can be awarded in phases depending on number of such works to be taken up under the mission.

Some of the States like Gujarat, Telangana, Karnataka, Andhra Pradesh, Maharashtra have either established water grids/ surface water based large schemes or planning to take up such schemes to provide drinking water to all villages using surface water.

The States should diligently follow the CPHEEO norms for design, operation and maintenance of such mega schemes. The schemes should have the provision for bulk water meter at the delivery point, i.e. sump of the village/ habitation.

In case of MVS schemes, extent of land acquisition required, its schedule and cost along with timelines for various stages of acquisition needs to be given in the SAP. For in-village water work, land is to be provided by the Gram Panchayat. In case, such land is not available, the State Government will provide/ arrange the land. Cost of land will not be admissible under Central share of JJM.

6.3 Convergence

There are number of ongoing Central and State funded schemes for water conservation, ground water recharge, rain water harvesting and greywater management aiming to achieve water security. Convergence of JJM activities with such ongoing schemes will augment funds and enhance water resources in terms of quality, quantity and longevity. While convergence activities are to be taken up under in-village infrastructure, special efforts are to be made in DDP/ DPAP, forested and tribal areas, water quality-affected and water-stressed areas, etc. for achieving water security. In addition to water conservation activities taken up through convergence, the mission will also converge with other Central and State government programmes aimed at skill development, training, capacity building and awareness generation among communities.

Suggested names of ongoing Central government schemes that can be converged are:

Name of the Scheme	Central/ State Government Department	Components that can be converged
Swachh Bharat Mission - Grameen (SBM-G)	Department of Drinking Water and Sanitation, M/o Jal Shakti	Greywater management – soak pits (individual/ community), waste stabilization ponds, etc.
MGNREGS	M/o Rural Development	All water conservation activities under Natural Resource Management (NRM) component
Watershed Development Component (WDC) of PMKSY	D/o Land Resources	Watershed management/ RWH/ artificial recharge, creation/ augmentation of water bodies, etc.
Repair, Renovation and Restoration of water bodies	D/o Water Resources, River Development & Ganga Rejuvenation	Restoration of larger water bodies
Rashtriya Krishi Vikas Yojana (RKVY)	M/o Agriculture, Cooperation and Farmers Welfare	Watershed related works

Name of the Scheme	Central/ State Government Department	Components that can be converged
Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)	M/o Agriculture, Cooperation and Farmers Welfare	Provision of micro-irrigation for various water-intensive crops to reduce drawl of water from aquifers
Compensatory Afforestation fund Management and Planning Authority (CAMPA)	M/o Environment, Forests and Climate Change	Afforestation, regeneration of forest ecosystem, restoration and strengthening of springs, watershed development, etc.
Pradhan Mantri Kaushal Vikas Kendra (PMKVK)	M/o Skill Development and Entrepreneurship	Skill development, training, etc. for human resources required for rural water supply schemes
Samagra Shiksha	M/o Human Resource Development	Provision of drinking water supply in schools
Aspirational districts programme	NITI Aayog	Water conservation activities taken up under discretionary funds with District Collector
District Mineral Development Fund (DMDF)	State	Water conservation activities on large scale
MPLAD	Ministry of Statistics and Programme Implementation (MoSPI)	In-village infrastructure
MLALAD	State	In-village infrastructure
Grants under Article 275 (1) of the Constitution/ Tribal Sub Scheme (TSS)	Ministry of Tribal Affairs and State	In-village infrastructure
National Rural Livelihoods Mission/ State Rural Livelihoods Mission	M/o Rural Develoment	Developing women entrepreneurs and SHG led enterprises for water supply services

Table 5

Further, the Central and State Finance Commission grants can be used for taking up the source sustainability and greywater management activities.

Jal Shakti Abhiyan (JSA) is a time-bound mission-mode water conservation campaign in 256 water-stressed districts covering 1,592 blocks of the country. The Abhiyan converged with other water conservation schemes of Central and State governments and carried out activities like rain water harvesting/ recharge structures, etc. involving communities through intensive IEC campaigns. Under JSA, focus may be given to achieve drinking water security especially in these water starved districts.

Convergence can also be explored beyond Central and State government schemes, with Trusts/ Foundations/ CSRs/ donors/ community initiatives, etc. who are working/ willing to provide support for execution of water conservation activities for drinking water security. In case of donors who contribute more than 25% of in-village infrastructure cost, their name or the name they want to dedicate the effort to, can be mentioned at a prominent place at the site of water work.

Village drinking water security can be enhanced by de-silting of tanks/ water bodies/ lakes identified under VAP. This activity can be implemented in a cost effective way through convergence and collaboration with various stakeholders. The DWSM can explore CSR funds for hiring of heavy machinery for de-silting, funding of fuel under government programme and encourage farmers to take away the silt for use in their farmland/ orchards that would increase the productivity. Similarly, 'cleaning' of village ponds to be taken up to improve the water availability in villages. VAP is the basis of implementation at village level and all fund towards rural drinking water supply are to be spent in accordance with the VAP, thus optimizing utilzation of resources and avoiding any duplication. JJM will converge and collaborate with multiple stakeholders of the water sector to make water everyone's business.

Financial Planning and Funding

Jal Jeevan Mission (JJM) is a time-bound mission mode programme and for its successful implementation, robust financial planning, timely funding, mobilization of adequate resources and prudent utilization of funds are pre-requisites. In this direction, the SWSM/ DWSM will prepare year-wise financial plan by pooling all the available resources for rural drinking water supply like the Central fund, State fund, other programmes, MPLADS, MLALADS, DMDF, CSR fund, donations, etc.

Central financial assistance for Jal Jeevan Mission will have two sources namely Gross Budgetary Support (GBS) and Extra Budgetary Resources (EBR). The fund sharing pattern of the mission will be as under:

State/ Union Territory	Central Share In %	State Share In %
Himalayan and North Eastern States	90	10
Other States	50	50
Union Territories with Legislature	90	10
Union Territories without Legislature	100	-

Table 6

7.1 Costing

The fund requirement for capital expenditure for JJM has been arrived at on the basis of balance households to be provided with FHTCs as per 'per household cost' for different types of schemes. On the basis of data entered by States on IMIS, the balance households to be provided with FHTCs were decided. Average number of persons per household is considered as five. This has been done purely to arrive at total outlay for the Jal Jeevan Mission and it should not form the basis for approval of schemes. The per household average cost adopted to arrive at total fund requirement is given as under:

Type of scheme	Per household average cost (in Rs.)
Retrofitting of ongoing schemes for last mile connectivity to provide FHTC	7,500
SVS in blocks having both adequate quantity and good quality of groundwater	15,000
SVS based on treated groundwater/ in hard rock area	25,000
Multi Village Scheme	47,000
Mini solar based piped water supply scheme in isolated/ tribal hamlets	7,00,000

Table 7

The estimated outlay of the mission is Rs 3.60 Lakh Crore with Central and State share of Rs. 2.08 Lakh Crore and Rs.1.52 Lakh Crore respectively. Accordingly, the tentative outlay over the five years is as follows:

(Amount in Rs. Crore)

Year	GoI Share	State Share	Total
2019-20	20,798	15,202	36,000
2020-21	34,753	25,247	60,000
2021-22	58,011	41,989	1,00,000
2022-23	48,708	35,292	84,000
2023-24	46,382	33,618	80,000
Total	**2,08,652**	**1,51,348**	**3,60,000**

Table 8

7.2 Allocation/ earmarking of JJM fund at central level

A.) Annual allocation under JJM
(A) = (Gross Budgetary Support) + (Extra budgetary Resource)

B.) Earmarking for Department/ National Mission level activities = up to 2% of A (which includes fund for NCDWSQ)

C.) Earmarking for JE-AES = 0.5% of A which is to be allocated amongst JE-AES States as per the existing criteria in this respect

D.) Earmarking for NE States = 10% of A

E.) Earmarking for EAP of RWSSP-LIS = to be allocated among the States as per requirement to be decided by Steering Committee

F.) Allocation for NWQSM as per requirement of States decided by Department/ National Mission

G.) Balance amount for non NE states/ UTs = A-(B+C+D+E+F)

Now, the amount at D.) and G.) is to be allocated amongst NE states and non-NE states/ UTs respectively as per the following weightage criteria:

7.3 Criteria for allocation of fund

The criteria and weightage thereof, to be followed for fund allocation under JJM both for budgetary and extra-budgetary resources will be as under:

Criteria	% weight
Rural Population (**as per last Census**)	30
Rural SC and ST population (**as per last Census**)	10
States under DDP, DPAP, HADP and special category Hill States in terms of rural areas	30
Population (**as per IMIS**) residing in habitations affected by chemical contaminants including heavy metals (as on 31st March of preceding financial year)	10
Weightage for balance individual household connections to be provided	20

Table 9

Up to 5% and up to 2% of such allocated fund to a State/ UT will be utilized for support activities and WQM&S activities, respectively. Balance will be utilized to provide FHTCs to rural households. Funds for SCs and STs will be earmarked in the State at least in proportion to their population.

The component towards SC and ST indicated in the sanction orders to be used by States/ UTs for execution of rural water supply schemes to provide FHTCs to rural villages/ habitations having majority of SC/ ST population in the proportion prescribed.

7.4 Fund sharing pattern for components of erstwhile NRDWP subsumed under JJM

Several sub-components/ sub-missions that were part of erstwhile NRDWP will also be funded along with Functional Household Tap Connection (FHTC) as per following details:

S. No.	Sub-components/ sub-missions under JJM	Centre: State funding pattern
1.	i.) Coverage i.e., infrastructure for Har Ghar Jal (in terms of FHTCs provided to rural households)	• 100:0 for UTs without legislature • 90:10 for NE & Himalayan States & UTs with legislature • 50:50 for other States
	ii.) Support Activities iii.) WQM&S	• 100:0 for UTs without legislature • 90:10 for NE & Himalayan States & UTs with legislature • 60:40 for other States
2.	World Bank Assisted Rural Water Supply and Sanitation Project – Low Income States (RWSSP-LIS) in four States namely Assam, Bihar, Jharkhand and Uttar Pradesh	• 50% external assistance routed through JJM • 33% from coverage component released under JJM (erstwhile NRDWP share) • 16%* State contribution • 1% community contribution *16% averaged out figure considering all four States.
3.	JE-AES affected high priority districts (60 districts)	• 90:10 for Assam • 50:50 for other States
4.	NWQSM in Arsenic and Fluoride affected habitations	• 90:10 for NE & Himalayan States • 50:50 for other States

Table 10

Up to 2% of Annual Allocation will be set aside for the following activities at the Department/ National Mission level:

i.) administrative and capital expenditure related to NCDWSQ; and

ii.) for Department/ National Mission activities like PMU, professional services, third party functionality assessment, IEC & capacity building, M&E, R&D, action research, HRD, computerizing & MIS, centre of excellence, workshops, seminars, conferences, exhibitions, etc.

7.5 Financial planning

Every State has to prepare a five year State Action Plan wherein annual target of FHTCs and corresponding financial requirements will be projected. All Schemes sanctioned under JJM shall be implemented without cost and time overrun. In case of any cost escalation beyond the approved cost, it will have to be borne by the concerned State and UTs with legislature and no additional expenditure out of Central share will be permitted.

7.5.1 For on-going NRDWP schemes

i.) All schemes under erstwhile NRDWP which were scheduled to be completed on or before 31 March, 2019 and/ or during the year 2019-20 as per original approval, should be completed and the targeted FHTC to every rural household be provided by 31 March, 2020. No extension of time or cost escalation will be allowed for these schemes. However, for retrofitting, to provide FHTCs, additional fund from JJM can be utilized. Expenditure towards any such scheme that could not be completed within the given time frame will be borne out of State fund and no additional expenditure beyond Central Share is permitted;

ii.) All schemes sanctioned under erstwhile NRDWP where the stipulated completion date is after 31

March, 2020, are to be completed within the originally approved time schedule and as per approved cost by providing FHTC to every rural household. No extension of time or cost escalation will be allowed. However, for retrofitting to provide FHTCs, additional fund from JJM can be utilized. Expenditure towards completion of any such scheme that could not be completed in the approved time frame will be borne out of State fund and no additional expenditure beyond Central share is permitted to be incurred after the approved time limit.

7.5.2 For new Schemes under JJM

While planning new schemes under JJM, following timeline for completion of schemes may be adopted:

i.) maximum time allowed for completion of SVS and MVS is 18 and 36 months, respectively;

ii.) for schemes requiring up to 3 years to complete, contract must be awarded for implementation before March, 2021. No contract for such a scheme will be awarded after March, 2021. In a very special case, where such scheme is necessary, matter will be referred with detailed justification to DDWS/ Mission for its consideration/ approval;

iii.) for schemes requiring up to 2 years to complete, contract must be awarded for implementation before March, 2022. No contract for such a scheme will be awarded after March, 2022 In any special case, matter will be referred to DDWS/ Mission with justification;

iv.) no new scheme is allowed to substitute failure of an existing scheme, i.e. scheme that has stopped functioning before reaching its full design period. As an exception, if a State submits a proposal for replacement with justified reasons for discarding existing scheme, the same will be referred to DDWS / Mission.

7.5.3 Annual Action Plan (AAP)

Every year, States/ UTs will prepare an Annual Action Plan (AAP) in the month of February, in consonance with State Action Plan (SAP) and submit the same online in the formats developed by the Department/ National Mission. It will be firmed up based on consultation between the Department/ National Mission and State. AAP will *inter alia,* include

i.) number of FHTCs to be provided quarter-wise during the next financial year;

ii.) prioritizing number of FHTCs to be provided through retrofitting for last-mile connectivity, WQ affected areas, desert and drought-prone areas, JE-AES districts and SAGY villages;

iii.) annual fund requirement;

iv.) month-wise expenditure plan and FHTCs to be provided to achieve annual target;

v.) sources of fund apart from Central share;

vi.) support activities plan;

vii.) WQM&S plan.

After consultations with the States in the month of March/ April, the release of fund to States shall begin from month of April as per the details mentioned at para 7.8 of the guidelines. In addition to the new schemes under JJM, the States may also include ongoing/ completed erstwhile NRDWP schemes, completed State schemes for which work order has been issued after 1 April, 2019 by retrofitting to make them JJM compliant and thereby ensure a holistic AAP. In case of ongoing schemes taken up under State sector/ non-NRDWP scheme or some other source, FHTC is also to be covered from the same programme. Supplementation is to be avoided in such schemes from JJM fund.

7.6 Rewarding performance

JJM being time-bound country-wide programme, additional fund will be made available to better performing States/ UTs to incentivize their good performance out of the fund unclaimed by other States/ UTs at the fag end of the financial year, in proportion to their annual allocation. The deciding parameters for assessing performance of States/ UTs will be issued by Department/ National Mission.

For availing this fund, it is important that States/ UTs plan to complete the programme by providing extra fund for the mission from its own budgetary resources/ State Extra Budgetary Resources/ external assistance, etc. so that additional fund provided by the Central Government is utilized in the same financial year. The additional fund will be distributed out of GBS or EBR or both as the case may be, among performing States/ UTs, based on the criteria of allocation as per para 7.3, which is to be used only to meet coverage of FHTCs.

7.7 Extra Budgetary Resources (EBR)

While approving the Jal Jeevan Mission, the Government also approved accessing extra budgetary resources. Every year, on the basis of fund requirement, Ministry of Finance would enable Department/ National Mission to access extra budgetary resources. These additional resources would also be allocated to the States/ UTs along with the regular budget in the beginning of every financial year as per the allocation criteria as mentioned in para 7.2. Department/ National Mission will review utilization of fund under GBS and assess the requirement of EBR periodically. Accordingly, demand will be raised for EBR as and when required.

7.8 Procedure for allocation and release of fund

With the approval of Union Minister, Jal Shakti, State/ UT wise allocation of fund both GBS and EBR will be made as per approved criteria at the beginning of every financial year. Annual allocation will be released in two equal installments and each installment to be released in two tranches. Concurrence of Integrated Finance Division of DDWS will be obtained for release of installments as a whole for all eligible States/ UTs and thereafter Department will release the fund in tranches after assessing the utilization of fund by the States/ UTs. Thus, releases are planned in consonance with 'Just In Time' principle of Ministry of Finance so as to avoid any undue parking of fund.

7.8.1 Release of funds by Department/ National Mission to the States

The installments will be released to the States/ UTs based on the utilization of fund as reflected in PFMS platform/ IMIS. The funds will be available for following sub-components/ sub-missions under JJM:

a.) Coverage

b.) JE-AES

c.) RWSSP-LIS

d.) NWQSM

For RWSSP-LIS, JE-AES and NWQSM sub-components, allocation and release procedure stipulated in the respective existing guidelines will be followed. The detail of procedure for release of fund of these components is at Annex-XIII. For coverage sub-component, the following release procedure will be applicable for release of 1st and 2nd installment:

7.8.1.1 Release of 1st installment

I.) To States/ UTs that have drawn the 2nd installment during the previous financial year

The amount towards the 1st installment will be 50% of the total allocation admissible to a State in the financial year and the fund release towards 1st installment will be the balance amount after subsuming excess OB beyond 10% of the previous year, at the time of release. The release of 1st installment will be phased and made in two tranches. The releases will be made automatically based on its utilization as shown in PFMS portal/ IMIS. Approval of competent authority and concurrence of IFD for release of entire 1st installment will be obtained.

1st tranche will be equal to 50% of the 1st installment after subsuming excess OB and it will be released in the month of April. The release of 2nd tranche of the 1st installment will depend on its utilization as shown in PFMS portal/ IMIS. As soon as the progress of utilization of available fund, i.e. opening balance of the FY and 1st tranche of the 1st installment released, crosses 80%, the second tranche of first installment will be released automatically by the Department/ National Mission (i.e. release without any proposal and reference to IFD).

However, balance of 1st installment, i.e. fund subsumed while releasing part of 1st tranche of 1st installment on account of excess OB, will be released as and when States furnish the UC showing expenditure of at least 60% of available fund of central and state share. The release of 2nd tranche of 1st installment will be made automatically based on 80% utilization of available fund (OB + fund release under complete 1st tranche of 1st installment).

The UC furnished by States/ UTs at any point of time should be countersigned by Principal Secretary or Secretary or equivalent officer of the States/ UTs.

ii.) To States/ UTs that have NOT drawn the 2nd installment during the previous financial year

Fund will be released only after getting the formal proposal from the State/ UTs along with requisite documents including UC, ASA, etc. (check list at Annex-II & Annex-III.)

While releasing this part of the fund, the excess amount over and above the prescribed limit of OB (10% of the previous year release) will be subsumed. However, balance of 1st installment i.e. fund subsumed while releasing part of first installment on account of excess OB, will be released as and when States furnish the UC showing expenditure of at least 60% of available fund of Central and State share.

The release of 1st installment will be phased and made in two tranches. The releases will be made based on its utilization as shown in PFMS portal/ IMIS.

1st tranche will be equal to 50% of the 1st installment after subsuming excess OB. It will be released as and when the complete formal proposal seeking release of 1st installment will be submitted by the State. As soon as the progress of utilization of available fund i.e., opening balance of the FY and the fund released in 1st tranche of the 1st installment, crosses 80%, the second tranche of first installment will be released automatically by the Department/ National Mission (i.e. release without any proposal and reference to IFD).

7.8.1.2 Release of 2nd Installment

The amount towards the 2nd installment will be 50% of the total allocation admissible to a State in the financial year and the release of fund towards 2nd installment will also be phased in two tranches in line with the procedure followed for the 1st installment.

For the release of 2nd installment, the financial progress shall be assessed based on the following documents to be submitted by the State:

i.) provisional UC for the current year for the amount equivalent to 60% of available balance (Central fund) and State matching share;

ii.) report of the AG for the year preceding the previous year/ ASA from CAG empanelled CA of previous year and

iii.) final Central and State UC for the previous year.

1st Tranche will be equal to 50% of the 2nd installment and it will be released as and when the State/ UT submits aforementioned documents related to financial progress. As soon as the progress of utilization of available fund (Central and State share) crosses 80%, the 2nd tranche of the 2nd installment will be released automatically by the Department/ National Mission (i.e. release without any proposal and reference to IFD).

The last date for receiving any release proposal including that of 2nd installment by the States/ UTs which is complete in all respects as per the checklist at Annex-II and Annex-III is 15 February of every financial year. Opening balance in the next financial year will be allowed to the extent of 10% of the total amount released. The amount for which sanction order issued in the month of March will not be taken into consideration while subsuming in the excess OB.

7.8.1.3 Release of Additional fund to the performing States/ UTs

i.) the availability of additional fund will be firmed up at the fag end of every financial year;

ii.) the eligibility of States will be decided by Department/ National Mission;

iii.) the additional fund will be released as reward for performing States/ UTs as per allocation criteria;

iv.) the additional fund will be brought into two sets of common pool, i.e. one for NE States and other for non-NE States/ UTs and will be released to the performing States/ UTs of respective sets of NE/ non- NE States in proportion to their annual allocation.

7.9 Fund flow

SWSM will open a single nodal account in any scheduled commercial bank. SWSM will obtain details from these banks operational in State headquarters on services like PFMS compliance necessary for JJM implementation. The releases by the Government of India to the State Government will be made to their State treasuries from where States will be transferring the fund to the single nodal account of SWSM within 15 days along with the corresponding matching State share. The SWSM can use the existing single nodal account of erstwhile NRDWP or may open a new account in any scheduled commercial bank at the State Headquarters for maintaining the nodal account under JJM, in case there is no single nodal account.

Any change in the nodal account will be allowed only with the concurrence of Department/ National Mission. A written undertaking from the Bank needs to be made available to the effect that the bank will follow the Guidelines of Government of India for making payments from Department/ National Mission Fund. The SWSM will communicate the details of the Bank branch, IFSC code and the account number to Department/ National Mission. Bank will allow transaction in nodal account only when the request for making the transaction is received through PFMS mode and if done through treasury, same will be captured/ reflected in PFMS system by making suitable interface between concerned State treasury and PFMS systems and then only transaction be allowed. Bank will agree to abide by the instructions issued from time to time by Department/ Mission regarding operation of the Account.

The Integrated Management Information System (IMIS) software would support Accounting System and would

be enabled to allow rural water supply department/ SWSM and Bank branch concerned to make data entry online for the transactions to be made by them.

Money accruing as interest will be credited to the same account and reflected in the Utilization Certificate (UC) of the relevant year. The expenditure out of the interest amount will be made on items of work as permitted in the guidelines. Any deviation of expenditure will be guided by the instructions/ guidelines to be issued by Department/ National Mission from time to time. The Bank will intimate to the SWSM the interest amount credited by it to the account on quarterly basis.

The State Government/ SWSM will decide about the matching fund as per the prescribed funding pattern. On receipt of the Central and State share of JJM by the SWSM in the single nodal account, its allocation among the Districts, based on the annual district action plans (DAP) finalized by the respective SWSM shall be made within two weeks. Based on the allocation, a drawl limit will be set for every district by the SWSM and it will authorize districts to raise payment advice and payment will be made from Single Nodal Account. DWSM will get the work implemented as per the DAP and fund available at the district level, through Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group or PHED/ RWS Department as the case may be.

After execution of the work, PHED/ RWS Department will raise the bill to DWSM/ SWSM as the case may be, who in turn will get the work inspected by an empanelled third-party agency. Thereafter, subject to due satisfaction of quality and quantity of work performed, the DWSM/ SWSM, as the case may be, will arrange to make the payments to the agency. The payments advice in PFMS mode will be raised by the DWSM/ SWSM to make payment to the agency for the executed works subject to fund allocation/ drawl limit set for the district by SWSM for that particular year. Payment advice generated through treasury mode will only be allowed only if the same is captured in PFMS system, by making suitable interface between concerned State treasury and PFMS. The payment advice will be sent by DWSM/ SWSM in PFMS mode to make the payments from Single nodal account to the account of concerned agency as authorized. No advance to any other account be made except to that of executing agency towards mobilization advance as per contract.

7.10 Inadmissible expenses

State Government/ SWSM will decide about the expenses which are not eligible to be funded under the Central share of JJM, such as cost escalation, tender premium and other programme expenses which are inadmissible under central share. Further, no centage will be charged from grant-in-aid to be provided by the Government of India. In case, such necessity arises, the same will be the responsibility of the State Government/ UT Administration. From Support activities, no 'salary' to regular employees will be paid and only remuneration/ honorarium to personnel/ professional/ consultant hired on contract can be paid. From Government of India fund provided under JJM, no expenditure on O&M, viz. payment of electricity bills related to water works, etc. will be made. Suggestive list of inadmissible expenses is at Annex-IV.

7.11 Community contribution

As mentioned in para 6.1.2, community contribution can be in the form of cash and/ or kind and/ or labour. The contribution made in the form of kind and/ or labour will be computed and the cash equivalent of the same along with the cash contribution will be entered and maintained in a separate register by GP and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. The same may be audited and made available as and when required by the concerned authorities as per para 7.16 of the guidelines.

The community contribution made in cash towards in-village infrastructure creation will be deposited in the respective Bank account of Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. that may be opened with any scheduled commercial bank. This account will be operated jointly by chairperson of Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. and respective Panchayat Secretary. Separate ledgers have to be maintained for receiving community contribution (towards in-village infrastructure creation), incentive received and also for user fee provided by households towards meeting O&M requirements. The community contribution will be paid to Agency/ vendor as decided by DWSM.

7.12 Funds from other sources towards in-village infrastructure creation

Elected representatives (Members of Parliament, Members of Legislative Assembly, etc.), various

organizations, institutions under CSR arm, philanthropists may also contribute towards setting up a rural water supply system under JJM. The contribution made by the MP towards setting up of rural water supply system are to be treated as central share towards capital cost of scheme and accordingly, Central share of the scheme may be revised by deducting the contribution. Likewise, the contribution made by MLA or any elected representative of the State will be treated as State share and accordingly, State share of the scheme may be revised by deducting the contribution.

Fund received for drinking water supply schemes from other Ministries/ Departments of Government of India would invariably have FHTCs as its goal. Government of India's share of these schemes, if they are partly funded under JJM, would be treated as Central share towards capital cost. Any new externally aided project proposed by the State having rural water supply provision would be supported only if it has provision of or leading to FHTCs. In both cases, they would be included as part of the Department's IMIS for counting the number of FHTCs provided.

The contribution of other organizations, institutions under Corporate Social Responsibility (CSR), philanthropists, etc. towards the cost of in-village infrastructure will be deducted against the total cost of in-village infrastructure of the scheme and mandatory community contribution may be revised as a proportion of the remaining amount. All such contribution will be considered as part of capital expenditure of the scheme. The calculation of Centre share, State share and community contribution will be done after the deduction. Community contribution will still be mandatory on the remaining cost of the in-village component of the scheme. All the contributions made will be captured in the IMIS.

DWSM/ SWSM may coordinate, converge and collate all such efforts of different agencies towards activities envisaged under VAP prepared for water supply. There will be no parallel works outside the approved VAP, thus optimizing utilization of resources & avoiding duplication.

7.13 Incentive fund

The Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. are eligible to receive the incentive when the scheme has been successfully managed for a year ensuring that every rural household covered under the scheme receives water in adequate quantity of prescribed quality on regular basis and water tariff for O&M has been regularly collected. SWSM may develop tangible and transparent criteria for providing this fund which is meant to encourage sustainability of water supply system and O&M by Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc.

The incentive will be 10% of the in-village infrastructure cost distributed in a phased manner over a period of five years. The incentive fund will serve as a revolving fund for meeting any urgent repair costs of in-village infrastructure which might disrupt water supply and the same will be replenished by community. The incentive fund will be provided out of the fund available with the State under JJM (Centre and State matching share) in the prevailing funding pattern.

7.14 Flexi fund available under JJM

As per Office Memorandum 55(5)/PF-II/2011 dated 6.9.2016, placed at Annex-VII, and subsequent modifications issued by Ministry of Finance, Department of Expenditure, flexi fund under JJM can be used to achieve the following objectives:

i.) to undertake mitigation/ restoration activities in case of natural calamities, or to satisfy local requirements in areas affected by internal security disturbances ;

ii.) to pilot innovation to improve efficiency;

States/ UTs are advised to set aside 5% of the annual allocation under JJM to take care of unforeseen challenges/ issues arising out of natural calamities and internal disturbances, which may be used by the State at the fag end of the financial year, if remain unutilized. Further, States/ UTs may also plan innovation under JJM as part of AAP. Refer chapter 8 for further details on technological interventions.

7.15 PFMS

All transactions under JJM are to be made mandatorily through PFMS and instructions issued from Government of India on PFMS from time-to-time need to be followed. Fund utilization by States/ UTs under JJM will be monitored through PFMS. Release of funds in future will be linked to the fund availability and utilization in PFMS and physical and financial progress monitored through IMIS.

7.16 Audit

i.) In case of a society, the SWSM will ensure that the accounts are audited by a Chartered Accountant

empanelled by the Comptroller and Auditor General within six months of the close of the financial year. The audit will be supported by a statement of reconciliation with the accounts of implementing agency and a certificate of the Chartered Accountant on its accuracy;

ii.) DWSM to ensure that every account/ ledger being maintained by Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. for receiving community contribution, incentive money etc. is audited every financial year;

iii.) Concurrent auditing of GPs or it's sub-committee's accounts be done regularly with the help of retired local audit officials;

iv.) A format for the Audit Report from States with respect to the JJM is at Annex-III. In addition to the Audit by the Chartered Accountant, the works under this mission would be subject to audit by the Comptroller and Auditor-General of India (C&AG). The Audit by the C&AG may cover aspects of quality of the work done, in addition to financial audit;

v.) In case the report from Accountant General/ CA is not received because of any unforeseen reason, the release will not be withheld, if State Government/ UT Administration is able to provide specific reasons for delay and gives undertaking for furnishing the same after the receipt of the same from the office of the Accountant General/ CA. In case, in the report of AG/ CA, some discrepancies/ deficiencies are reported, the same will be adjusted in subsequent releases/ follow up action taken by State;

vi.) Statement from the Bank Authority is required to be submitted along with Audit report in respect of available balance along with interest accrued with the SWSM as on 31 March of the financial year.

7.17 Alternative financing options/ models

States may meet additional fund requirement through innovative financing mechanisms like Public Private Partnership (PPP), Hybrid Annuity Model (HAM), Viability Gap Funding (VGF), etc. Further, Government of India will facilitate in accessing fund through multilateral agencies like World Bank, Asian Development Bank, etc. who are willing to support projects in rural water supply. Project proposals that may be submitted for external funding will need to adhere to the JJM objectives.

7.18 Rashtriya Jal Jeevan Kosh (RJJK)

As part of Indian ethos to help in providing drinking water; various individuals, corporate/ industrial houses, charitable institutions, etc. contribute/ donate regularly. Further, as per Companies Act, 2013, every company having net worth beyond the prescribed thresholds during any financial year shall spend at least 2% of its average net profits towards Corporate Social Responsibility (CSR) activities. In order to facilitate all such donations/ contributions, Rashtriya Jal Jeevan Kosh is being set up under NJJM which will serve as a receptacle for charitable contributions/ donations and CSR fund to achieve goals of JJM.

The following activities will be financed from the Kosh:

i.) development of drinking water sources (both surface and groundwater) & infrastructure for providing safe drinking water to rural households under JJM;

ii.) R&D and innovative projects to provide rural drinking water supply especially water quality-affected areas;

iii.) greywater management in the village;

iv.) innovative proposals for demonstration purpose;

v.) capacity building of the communities;

vi.) skill development of identified personnel involved in the implementation of JJM at various levels; and

vii.) providing/ funding human resources at State and/ or District level in consonance with JJM implementation requirements;

viii.) any specific activity requested by the donor which is in consonance with the goal of JJM.

Technological Interventions and Innovations

Rural Water Supply sector faces a number of challenges in terms of terrain, availability of quantity and quality water (both ground and surface) due to natural and other causes (pollution), bringing water from long distance, meeting power requirement for pumping, sustenance of technological interventions already made (their regular maintenance and proper disposal of sludge/ waste generated, etc.), difficulty in day-to-day monitoring/ management due to systems spread far and wide, leaking distribution systems, misuse/ overuse of water, etc. Technology offers solutions to address most of the challenges. However, in some cases, due to complex nature of challenges, the available technology is unable to provide a comprehensive solution and hence innovative solutions are required.

In areas having harsh climatic conditions as in high altitude cold deserts and in areas facing extreme terrain challenges or sparsely populated hot deserts, it might not be feasible to provide household tap connection to every household. In such areas, local innovations/ technological solutions will be explored. Innovations in drinking water sector will enable communities to optimize the existing infrastructure, capital investments, operating costs, and thereby provide safe drinking water at an affordable cost. Emerging technologies like Artificial Intelligence[18] (AI), Data Analytics, block-chain technology, machine learning, nano-technology, etc. can ensure safe water availability and functionality of water supply system and tap connections. Suggestive technological solutions to address challenges in the supply of drinking water are as under:

8.1 Solar Energy based stand-alone water supply systems for scattered/ isolated/ tribal/ hilly villages

A standalone water supply system powered by solar energy with minimal O&M costs is to be explored in scattered/ isolated/ tribal/ hilly villages. A dedicated mini water supply system with solar panels and battery back-up, storage tanks of adequate capacity with sensors like motor on-off sensors, dry-run sensor and water level sensor, steel stages can be set up. Such systems are reported to be operational in parts of Maharashtra, Odisha, Chhattisgarh and Jharkhand.

8.2 Community Water Purification Plant (CWPP) in Groundwater Contaminated Areas

The CGWB report[19] details about the prevalence of six parameters in groundwater namely Arsenic, Chloride, Fluoride, Iron, Nitrate and Salinity. Out of 6,834 blocks/ firkas/ mandals/ taluks in the country, there are 3,559 affected ones with any of the six parameters. In order to provide immediate relief in Arsenic, Fluoride, Iron and other heavy metal affected habitations, CWPP can be installed to provide 8-10 lpcd as short term measure for drinking & cooking purpose. However, as a permanent measure, safe groundwater (from nearby village) or surface water supply based systems will have to be installed to provide FHTC with service level of 55 lpcd. This is to be accorded priority and all out efforts to be made to provide potable water in these quality-affected habitations, especially with contaminants like Arsenic, Fluoride, Uranium, etc.

The choice of technology is left to States to ensure that such CWPP systems have robust post installation O&M systems and safe disposal of residue so that they continue to function as per prescribed standards. While there are a number of water treatment solutions available for different contaminants such as Nano technology based, Reverse Osmosis[20], Capacitive De-ionization, Adsorption, Electrolytic De-fluoridation, etc., the major considerations while selecting a particular technology are i.) availability of filter media, ii.) reject management, and iii.) cost effectiveness of the solution, etc.

8.2.1 Reject management

A RO based treatment plant installed in a village produces reject water that is currently disposed off either in open drains or discarded nearby creating a pool. The quantum of water rejected is usually in large quantity based on the recovery ratio of the plant and is estimated to be around 60% of the feed water. In order to properly manage the reject water, it is suggested to store it separately in structures specifically constructed for this purpose and use it for non-potable non-agricultural uses, i.e. washing of vehicles, agricultural equipments, house-washing, vessels, flushing/ cleaning of nearby community toilets, etc. Signage/ warning against the use of the reject water for potable

[18]Artificial intelligence can be used for ascertaining the data uploading, detecting mechanical failures, optimizing water usage, etc.
[19]Groundwater quality in shallow aquifers in India 2018
[20]RO technology should be adopted only after due diligence regarding recovery ratio, reject water management and NGT's order in this regard

and agricultural uses should be painted/ put up on and around the stored RO reject water structures.

8.3 Cold deserts/ hard rock/ hilly/ coastal areas

8.3.1 Cold deserts

Cold deserts are primarily located in high altitudes in Himalayan region of Arunachal Pradesh, Ladakh, Himachal Pradesh, Uttarakhand, etc. The primary source of water in these areas is Glacial melt, which is being impacted because of climate change. Further, the water gets frozen in the pipelines during winters disrupting the water supply. Solutions may be explored to enhance and store run-off water in small tanks - traditional water harvesting structure, i.e. zing. Further, artificial glacial reservoirs may be created by diverting the run-off to freeze & store as glacier. During early spring, it will serve as both drinking water and irrigation source. Promoting use of micro-irrigation can reduce the irrigation requirement and increase the drinking water security.

8.3.2 Hard rock areas

In hard rock areas, Bore-blast technique, fracture seal cementation, stream blasting, etc. may be explored under skilled supervision for accessing groundwater.

8.3.3 Hilly areas

In hilly areas, especially at higher altitudes, it is uneconomical to pump water from the valley for a very small number of houses. In these places, adopting spring-based sources, rain water harvesting and stand-alone bore-well systems (if feasible) will be economical. Spring based systems would require careful identification and delineation of spring-sheds, locating the aquifers contributing water to springs and injection recharging them for sustaining them.

Communities may be encouraged to adopt the traditional wisdom of rain water harvesting (like bamboo based ones in NE States) for water security. In such areas, there is a need to focus on WQM&S.

8.3.4 Coastal areas

In coastal areas, augmentation of services can be done with energy efficient small desalination plants with high recovery ratio. Further, in order to avoid the ingress of sea water, sub-surface dykes can be constructed in rivers that can also improve the groundwater based drinking water sources in the adjoining areas. Funds under MGNREGS, State schemes can be utilized for this purpose.

8.4 Use of technology in planning and monitoring

With advent of smart technologies, it is possible to have centralized and continuous monitoring in real-time. Use of Internet of Things (IoT)[21], Geographic Information System (GIS) software, etc. will be required to achieve this. Use of data analytics will enable analyzing data collected from rural areas to be used for various purposes by the utilities for smart management and better services. It could be helpful for policy level interventions required for welfare measures.

The following uses are to be employed:

Planning

i.) use of HGM Maps for location of groundwater sources. GIS technology will help in finding the locations of existing water source;

ii.) use of available village digital 3D contour maps prepared by MeITY for location of drinking water infrastructure and identifying gaps in the in-village water supply infrastructure;

iii.) digital inventory of existing assets and overlaying them on GIS map (hand pumps, infrastructure, etc.) for planning of additional infrastructure required.;

iv.) use of project management software for monitoring of implementation;

v.) prioritization of village for taking up schemes;

vi.) Decision support systems to support implementation across asset types.

Monitoring

i.) use of sensors for monitoring water level, discharge, water quality, automatic motor operation, data logger for capturing the data, etc.;

ii.) use of Supervisory Control and Data Access (SCADA) system in MVS for monitoring treatment plants (parameters like pressure, water quality, flow rate, etc.) and distribution system;

iii.) use of IoT for capturing and transmitting the above data using mobile networks for analysis and use as decision tools;

[21]Sensor based monitoring system will ascertain the supply of water in villages/ habitations with respect to periodicity, quantity and quality.

iv.) Department/ National Mission will maintain IMIS of JJM to capture real-time physical and financial progress. This would be available in public domain for social monitoring;

v.) real time dashboard to constantly monitor the functionality of household tap connections;

vi.) use of GIS technology and IoT based sensors to monitor the status of functionality of assets created under JJM;

vii.) use of AI technologies/ machine learning to assess water supply infrastructure in all types of schemes (pipes, valves, pumps, motors, etc.) to plan and carry out preventive O&M;

viii.) use of suitable block chain technology for credible physical and financial data;

ix.) monitoring tools to be used by PHED/ RWS Department, etc.

States have to plan use of technology/ innovation and integrate it with preparation of DPR.

8.4.1 Use of HGM maps

With the support from DDWS, National Remote Sensing Centre (NRSC), Hyderabad, has prepared Hydro-Geo-Morphological (HGM) Maps (4,898 Nos) in 1:50,000 scale for the country which can be used to determine the probable location of ground water availability and also the locations for recharge of the aquifers. The HGM maps are based on the Survey of India topo-sheets in which the local features are also available and some States have successfully taken up them to determine the location of borewells. Since the States have expressed the need to have maps on 1:10,000 scale, they must prioritize to get such maps of villages/ habitations prepared based on demand and actual needs.

Ground Water prospect maps have been handed over to States and are available in the website of Department/ National Mission in PDF format. HGM maps help in identifying correct sites for production wells and sustainability structures for artificial groundwater recharge. Use of these maps along with geo-physical studies help to cut down the failure of bore wells/ tube wells and also help in in-situ dilution of certain chemical contaminants.

8.4.2 Use of space technology

Space technology provides real time spatial and temporal data. Space based images provide information on water resources availability and quality using direct and indirect approaches respectively. Using remote sensing satellites, it is possible to have forecast on water availability, predict the water quality of surface waters serving as drinking water sources, narrow down the potential areas for groundwater availability for field investigations and help to identify alternate water sources in cases of drought. The Mission is to assist States/ UTs in using space technology to achieve drinking water security.

8.5 Technical Committee

In 2014, the then Ministry of Drinking Water and Sanitation constituted a Standing Committee for Examination of best Technologies concerning Water and Sanitation. The committee was chaired by Dr. Mashelkar, former Director General, Council for Scientific and Industrial Research. Many technologies on water and sanitation were considered by the Committee and approved for use in the sectors.

To achieve the goal of universal coverage by FHTC to every rural household by 2024, on this scale and with speed, there are huge challenges for which innovative solutions with the use of new technologies would be required. Keeping this in view, a Technical Committee under the chairmanship of Principal Scientific Advisor to Government of India has been constituted. The Terms of Reference (ToR) of the new Committee are as follows:

i.) invite innovative technologies in drinking water, sanitation, greywater management and solid waste management sectors through Department/ National Mission portal;

ii.) shortlist technologies for techno-economic appraisal;

iii.) facilitate techno-economic appraisal of technologies as per the ASSURED matrix framework;

iv.) consider appraised technologies for acceptance;

v.) recommend any non-technological interventions needed to achieve scaling up the use of such technologies;

vi.) any other aspect/ activities required to be undertaken in respect of appraisal of the technologies.

The Committee would identify specific challenges faced in the provision of water supply with assistance

of States, invite online proposals for solving them, decide and recommend further action including demonstration projects to address the challenges and develop performance and technology standards.

8.6 Innovation and R&D

Based on the data available with Department/ National Mission NIC, ISRO and States, a digital data platform would be created for planning, implementation and monitoring of Jal Jeevan Mission in States/ UTs. The platform will have multiple GIS and remote sensing based layers detailing the drainages, watershed, existing pipeline network, geo-genic contaminants etc. This would help States to prioritize the areas as well as to identify the type of intervention to be adopted in different areas within the State.

Further, high-end proposals related to water and sanitation received from R&D institutions and innovators will be taken up for demonstration purpose on pilot basis. After approval of the proposals by Technical Committee, Department/ National Mission will decide the place of demonstration, in consultation with States. This will be a boost for young entrepreneurs/ start-ups working in the field of water to provide cost effective solutions. Further, action research and concurrent evaluation studies will be taken up every year by Department/ National Mission, SWSM for adopting evidence based policy interventions to manage rural water supply effectively.

8.7 Water audit and water security

With water availability becoming scarce due to multiple reasons, time has come to enforce audit of water supplied regularly to reduce the losses in the distribution system. There are two types of losses, real and apparent losses. Real loss includes water lost through leakages in distribution systems, service connections and storage tanks (including overflow). Apparent loss includes meter and record inaccuracies and unauthorized water uses such as theft and unauthorized connections. In order to improve the efficiency of the water supply systems, States are to regularly take up water audit of identified systems for effective improvement.

In order to ensure that the investments made under the Jal Jeevan Mission lasts on long-term basis, it is important to prepare the water budget of the village by assessing the total available water from all sources (both ground and surface). Further, water use for domestic/ agriculture/ industrial purposes, etc. have to be assessed.

Overdraw of and its inefficient use in agriculture leads to depletion of ground/ surface water sources in villages, seriously affecting the drinking water security. The water budget prepared as part of the VAP is to be disseminated among the local community so that they can be sensitized to improve the agriculture water-use efficiency by adopting micro-irrigation and/ or adopt cropping pattern suiting the agro-climatic zone. In addition to the above, using funds available under various schemes like MGNREGS, State schemes, PMKSY, etc., scientific recharge of depleted ground water aquifers in the village can be done, thereby enhancing ground water levels and ensuring water security for drinking during summer months.

Many States have already taken up such conservation measures and have improved the groundwater availability. The recently concluded Jal Shakti Abhiyan, an intensive campaign for conservation of water, has generated awareness among the public and farmers on water conservation and improved agriculture water use efficiency. States can take up such campaigns under IEC activities for long-term water security.

Support Activities

To achieve the goal of providing FHTC to every rural household by 2024, along with development of water supply infrastructure there is a need to spread awareness and sensitize communities on judicious use of water, community contribution and ownership, build capacities of GP and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group etc. to plan, implement, manage, operate and maintain in-village infrastructure, focus on setting up long-term sustainable institutional mechanisms, build skills of various human resources required, viz. masons, plumbers, electricians, motor mechanics, pump operators, etc. These activities will help in developing responsible and responsive leadership among communities ensuring long-term sustainability of the water supply systems.

For this purpose, the Mission has made provision of up to five per cent of annual allocation to the States as support activities fund. All States will develop a detailed implementation strategy for taking up support activities as a part of AAP.

The support funds would be available for States to carry out the following functions:

i.) Information, Education and Communication (IEC) among local communities;

ii.) Human Resource Development (HRD);

iii.) public utility and leadership development;

iv.) training and skill development;

v.) mobilization of local communities;

vi.) third party inspection;

vii.) change management;

viii.) Key Resource Centres (KRCs);

ix.) knowledge centre;

x.) documentation of best practices, success stories, publications, etc.;

xi.) conducting conferences, seminars, workshops, review meetings, exposure visits on JJM;

xii.) IMIS support and related IT infrastructure.

The support activities will be monitored through the JJM portal. No support activities fund will be utilized for issuing of advertisement in newspapers/ magazines, gifts, hosting avoidable functions for publicity, etc.

9.1 Information, Education and Communication (IEC)

JJM is not just about creating water infrastructure, but also aims at building capacities of different stakeholders especially local communities, responsible and responsive leadership to own, manage, operate and maintain in-village water supply systems. Therefore, IEC strategies, planning and their effective implementation will be the key to success of JJM. Mission will undertake IEC activities such as PRA activities, Inter Personal Communication (IPC), Behavioural Change Communication (BCC) and all other related communication activities. SWSM will lead IEC/ Behavioral Change Communication (BCC) plans and will be responsible for embedding of such interventions across the State.

Presently, WSSO is carrying out this work in some States/ UTs. Once WSSO is subsumed in the SWSM, an Annual plan/ calendar of activities for IEC, HRD, training, capacity building will be prepared by the SWSM and will be part of AAP. These activities will be part of key activities under JJM and is to be given primacy.

The objectives of the IEC activities are to:

i.) drive positive behavioral changes among stakeholders with respect to judicious use of water, safe handling and storage, ownership of water supply system, etc.;

ii.) create awareness and motivate people to take up affirmative action for protection of drinking water sources and against misuse of water;

iii.) create awareness and motivate people to conserve water resources;

iv.) promote behavior change towards health and hygiene aspects;

v.) have effective communication strategy involving all stakeholders;

vi.) inculcate sense of responsibility to manage, operate & maintain their water supply systems to ensure service delivery;

vii.) encourage community contribution towards capital cost to instill 'sense of ownership';

viii.) encourage community to measure water and promote water tariff/ user charges;

ix.) recognize performance of various stakeholders.

Department/ National Mission will issue IEC guidelines separately outlining IEC/ PRA activities for States and Districts. However, SWSM is advised to firm up policy on earmarking of support fund for IEC activities and ensure its subsequent and effective utilization.

9.2 Human Resource Development (HRD) & Training

HRD support activity identifies and develops key competencies through capacity building of various stakeholders such as:

i.) Key Resource Centers (KRCs) to take up capacity building programmes on cascading approach;

ii.) contractual staff engaged under SWSM and DWSMs;

iii.) Implementation Support Agencies;

iv.) Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc.;

v.) village level skilled human resource such as masons, plumbers, electricians, pump operators, etc.

Central and State level Training Institutes, KRCs, which are centrally empanelled can be engaged directly by States and districts at pre-defined rates, empanelled NGOs/ ISAs with experience in capacity building are to be engaged for such training. The AAPs will contain capacity building action plan for aforementioned stakeholders.

Department/ National Mission is already implementing 'Sujal aur Swachh Gaon' training programme to build capacities of representatives from every Gram Panchayat.

9.3 Public utility, leadership development and change management

A public utility is an undertaking that provides essential services. JJM envisages a mindset change in the provision of drinking water supply services. The service provision should change from 'infrastructure development approach' to a 'utility based approach'. For this, it is required to re-orient both engineering and other human resources. This would be undertaken through customized orientation programme, exposure visits, etc. It would be duty of such institutions to provide water supply to every rural household under JJM as per the service standards prescribed for both quantity and quality. They would also be responsible for collecting water tariff/ user charges as prescribed and timely address the public grievances arising out of such service provision. The personnel managing the water supply services at all levels, i.e. village, GP, district and State, need to be provided with customized training and leadership programmes so as to enable them to discharge their role in managing these utilities.

Change management is 'a structured approach for ensuring that changes are thoroughly and smoothly implemented and that the lasting benefits of change are achieved'. It is the process of ensuring that an organisation institutes and supports behaviours and tools that are necessary to achieve short and long-term goals more efficiently.

As part of these objectives, customised annual training calendar to be framed for engineering and managerial cadre of the PHED/ RWS Departments in States. The programme should be customized to suit different levels covering various technical, managerial and leadership aspects. It would compulsorily to have a two-week training and exposure visit to countries that have excelled in rural water supply provision and the Department/ National Mission would identify suitable partners/ institutions both within the country and abroad. For long-term water security, concerted efforts need to be made to bring the mindset change to make engineers as Public Health Engineers and Utility/ Service managers.

9.4 Skill Development & Entrepreneurship

To achieve the goal of FHTC, to every rural household, in every village/ habitation on long-term basis, skilled human resource in areas like masonry, plumbing, fitting, electricity, etc., will be required. Also, agencies executing the schemes will need high quality human resources on a very large scale since quantum of work will continue to multiply manifold during the project period. For continuous O&M, local skilled persons would be required to service these requirements.

There is a need to plan for skilled human resource in each district and for each village, for which convergence with Pradhan Mantri Kaushal Vikas Kendra (PMKVK) operational in each district will have to be worked out. States have to identify district-wise requirement of such skilled human resource and training of them will have to be taken up on priority through PMKVK. Proper training manual in local vernacular language is to be prepared. It is recommended that such trained persons should be issued certificates and services of such people are utilized in the schemes/ work taken up under JJM.

The skilled human resource will be encouraged to become rural entrepreneurs and start enterprises in the rural water supply sector to meet the emerging demands of plumbing, mason, electrician, motor mechanics, etc.

9.5 Mobilization of local communities

Mobilization of communities is required to be undertaken on a large scale to make JJM a 'Jan Andolan'. More on this will be issued separately as part of IEC guidelines.

9.6 Third Party Inspection

SWSM will empanel third party verification agencies based on the ToR issued by Department/ National Mission, to check the quality of work executed by the agencies, quality of materials used for construction and quality of machinery installed in each of the scheme.

9.7 Key Resource Centers (KRCs)

KRC is an institution engaged across more than one state in capacity building, reorientation of different stakeholders, disseminating knowledge and information, documenting best practices, etc. to achieve the sectoral goal of rural drinking water supply. Objectives of KRC are as follows:

i.) organize leadership development programmes for District Magistrates/ Deputy Commissioners/ PHED engineers to cope with the change management in context of JJM implementation;

ii.) upgrade knowledge, skill and attitude of PRI functionaries, master trainers and other stakeholders;

iii.) update personnel about latest technologies and innovations in the water sector;

iv.) organize exposure visits for key personnel involved in planning and execution;

v.) enhance knowledge and skills about convergence with other similar programmes;

vi.) promote better understanding of professional requirements as well as sensitization to social, economic, technological and political environment for effective implementation; and

vii.) enhance the capacity of communication and capacity development unit.

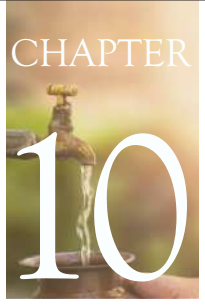
Department/ National Mission will empanel KRCs and provide funds to national KRCs on a 100% grant-in-aid basis and select them based on the track record, viz. national standing, overall experience, previous work in rural drinking water sector, etc.

9.8 Knowledge Centre

Knowledge centre or Centre of Excellence will be set up by Department/ National Mission in reputed Indian Universities/ Institutions for conducting continuous research, studies, providing inputs for policy making, programme development, etc. Universities/ Institutions will be selected based on research achievements, their experience, potential and other contributions in the field of water and sanitation.

9.9 Documentation

States will document the best practices/ success stories from districts and villages. Further, publications/ newsletters required for mission activities in vernacular and other languages will be met out of these funds.



Water Quality Monitoring and Surveillance

Water testing is important for monitoring the operation of water supply, verification of the safety of drinking water, investigation of disease outbreaks, validation process and preventive measures. Water quality testing tools need to be used for deciding safety of drinking water: at the source; within a piped distribution system; or at the end of consumer.

Drinking water quality monitoring and water quality surveillance are distinct yet, closely related activities. The drinking water quality will be monitored by the PHED/ RWS Department, i.e. supplier/ agency responsible/ mandate for water quality whereas the surveillance of water quality at grass roots will be responsibility of the GPs/ rural community.

Monitoring of water quality involves laboratory and field testing of water samples collected from water sources and FHTCs. Facility of laboratories for Water quality monitoring of rural areas already set up at State/ District/ Sub-division/ Block/ level will be used. Also, mobile water quality testing laboratories will be put into operation to the extent possible.

Every Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. is to identify and train five women in every village to undertake surveillance activities. Water quality surveillance is undertaken with the local community as per the specified timelines. The water quality surveillance activities include:

i.) use of FTKs at GP level to know the extent of contamination and refer the positively tested samples to the nearby water quality testing laboratory for confirmation; and

ii.) sanitary inspection: an investigative activity to identify and evaluate factors associated with drinking water that may pose a risk to health. The inspection takes care of prevention and detection of risks and help in taking timely remedial action before public health problems occur. Also, identification of the sources of outbreaks of water-borne disease get known timely and corrective action as may be required get taken promptly.

Note: *A sanitary inspection is an on-site inspection of a water supply facility to identify actual and potential sources of microbiological contamination for evaluation of the physical structure and operation of the system and external environmental factors (such as toilet location). The information can be used for deciding appropriate remedial action to improve or protect the drinking water source and supply system. Sanitary inspections will be carried out for all new and existing sources of water from time to time. The results of the sanitary inspections and remedial actions that need to be taken to improve conditions will be discussed with the community. In JE-AES and Acute Diarrhoeal Diseases affected districts, it is advised to undertake sanitary inspection twice in a year.*

The decline in water availability and its quality associated with rise in population growth, expansion of industrial and agricultural activities and climate change driven alterations to the hydrological cycle has become a global phenomenon. The monitoring and surveillance of water quality is now imperative.

It is important to note that, the community accords great priority for access to water, but water quality issues do not attract similar attention. This is because, at grassroots, water quality is usually ascertained only by color, odour and taste of the water. The presence of most of the chemical contaminants does not exhibit any change in terms of color, odour or taste in comparison with potable water and the communities continue to consume the quality-affected water in ignorance of potential threats of consuming such contaminated water. Some communities believe that boiling the water will secure it from harmful contaminants and continue to use quality-affected water for cooking purposes. Hence, there is a definite need to generate awareness and education on water quality and engage communities in water quality surveillance.

The activities for water quality monitoring and surveillance include:

i.) awareness and education programmes on water quality in Schools, Anganwadi centres, Health centres, GPs/ PRIs, etc.;

ii.) Awareness generation and capacity building of all stakeholders at all levels on various aspects of

water quality, it's importance, water borne diseases, health effects, safe handling, storage, etc.;

iii.) engage communities in surveillance activities such as mandatory sanitary inspections;

iv.) enable communities to undertake presumptive testing of water quality using FTKs;

v.) share the results of water quality testing within community by way of SMS/ post cards to all the major stakeholders in community viz. Sarpanch, up-Sarpanch, GP members/ VWSC/ Paani samiti members, etc. The positive results will be uploaded on IMIS and alerts to be sent to officials wherever intervention from PHED/ RWS or Health Department is required, etc.;

vi.) Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. to identify, train and appoint 5 women from local community to conduct water quality tests using FTKs/ bacteriological vials and report the results;

vii.) strengthening of water quality testing laboratories by setting-up/ upgradation of State district/ sub-division/ block/ mobile laboratories and monitoring by undertaking laboratory assessment and improvement plans. The laboratory assessment will include HR available and their training need analysis, physical infrastructure (laboratory environment), equipments & instrumentation, annual maintenance contract mechanisms, number of samples being tested against the target and requirement. The improvement plans for each laboratory will mention the process to fill the identified gaps;

viii.) setting up a system to procure/ refill FTKs/ bacteriological vials and monitoring their utilization;

ix.) providing guidance and training to personnel at different managerial levels in water quality testing, monitoring, data interpretation and reporting;

x.) corrective actions by State PHED/ RWS Department in case of major water quality contamination, if required, alerting Health Department for mitigation and/ or corrective actions especially in Arsenic/ Fluoride, Uranium contaminants and bacteriological contaminations;

xi.) accreditation of drinking water quality testing laboratories as per IS/ISO/IEC:17025 at least for parameters of basic water quality importance and gradually upgrading to other parameters as per local conditions;

xii.) cross verification of water quality data and integration with other laboratories of State/ Central government agencies.

PHED/ RWS Departments in the States/ UTs may refer to 'Uniform Drinking Water Quality Monitoring Protocol'. The Protocol is suggestive in nature and has advisory value for guiding and supporting the States/ UTs in water quality testing, monitoring and surveillance activities effectively. The protocol defines the water quality parameters needed to be tested in laboratories at different levels and for testing by using FTK at GP level. The salient features of the revised version of Protocol include; i.) institutional framework that can strengthen laboratories, ii.) roles and responsibilities of PHED/ RWS departments and laboratories, iii.) monitoring framework for quality, iv.) ranking of State and district laboratories, v.) pre-defined roster of sources and vi.) third party verification. Specific focus has been given to procurement processes especially using GeM portal, NABL accreditation, incorporating advanced instruments for improving standards of water testing and accountability.

The States/ UTs are encouraged to explore Public-Private Partnership wherein the PHED/ RWS Department may collaborate with NABL/ ISO/ other suitably accredited private firms as Support Organization (SO) and utilize their strengths following all SoPs as per government procedure. Example: Hub and spoke model in healthcare sector, West Bengal PHED model in drinking water quality testing sector are valuable contributions. Additionally, Public-Public Partnership may also be explored wherein the PHED/ RWS Department will collaborate with the water quality testing laboratories of other similar State/ Central Government agencies. Further, States/ UTs may also designate any NABL/ ISO/ other suitably accredited Public or Private water quality testing laboratories/ firms on turnkey basis following all codal formalities prescribed in Government procedures. Example: Himachal Pradesh IPH Department Model.

States/ UTs may also encourage & promote rural entrepreneurship and enterprises for water quality testing at local level. The local enterprises could be responsible for a cluster of villages, or block(s) and make water quality testing easy to access.

States/ UTs may explore possibility of engaging laboratories established in colleges/ universities/ polytechnic institutes for water quality testing on nominal payment basis agreed among DWSM and concerned institution.

Supply of prescribed quality of water is a crucial factor which decides functionality of HTCs. For ensuring this, water quality testing laboratories established under erstwhile ARWSP, NRDWP and now JJM will also make provision for getting water samples collected by general public tested at a nominal rate that may be fixed by the Department. Wide publicity about this be given so that public gets to know about this initiative.

10.1 Frequency of testing

The broad guidelines for undertaking testing of sources/ samples at different level:-

i.) **Sub-division/ block laboratory:** It is suggested that Sub-divisional/ block lab will test 100% water sources under its jurisdiction; once for chemical parameters and twice for bacteriological parameters (pre and post monsoon) in a year, covering all sources of a block at least for 13 basic water quality parameters[22]. The positively tested samples will be referred to the district laboratory immediately. The other parameters may be tested as per local contamination. In case, block level laboratories are not available, services of laboratories of nearby educational institutions or universities may be explored and availed.

ii.) **District laboratory:** It is suggested that district lab will test 250 water sources/ samples per month (i.e. 3,000 in a year as per the target of roster available on Department/ National Mission IMIS) covering all sources randomly spread geographically including the positively tested samples referred by the sub-division/ block laboratory/ mobile laboratory on at least for 13 basic water quality parameters. The district lab will also refer the positively tested samples to the State laboratory immediately. The other parameters may be tested as per local contamination at district level.

iii.) **State laboratory:** The State lab will test at least 5% of the total drinking water samples across all district level laboratories with random and uniform geographical spread including positively tested samples referred by district/ sub-division/ block/ mobile lab. If the number of districts in any State/ UT is large (>50), then the testing of samples/ sources may be restricted to 3% for the State lab. Remaining 2% may be integrated with other regional/ district laboratories.

iv.) **Testing of water quality using Field Test Kit (FTK)** at Gram Panchyat level: Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. will ensure to test 100% drinking water sources including private sources and sanitary inspection under its jurisdiction using FTK. The test results and sanitary inspection report will be submitted to the concerned PHED/ RWS Department.

10.2 Funding

i.) Up to 2% of the allocation to States can be utilized for carrying out WQM&S activities;

ii.) all the above activities shall have a funding pattern of 90:10 for NE and Himalayan States and 60:40 for remaining States. The fund sharing pattern for UTs shall be 100:0 between Centre and UT Administration in UTs without legislature and 90:10 for UTS with legislature;

iii.) the fund may be utilized for activities like setting up of State level laboratory (building cost permitted only for State Level Laboratory), new district/ sub-divisional laboratories (building cost to be borne by the State Government, rental charges could be booked under this fund), laboratories under PPP mode, upgrading of existing water quality testing laboratories which *inter-alia* include procurement of equipments, instruments, chemicals/ reagents , glassware, consumables, hiring of outsourced human resources (regular staff to be paid salaries by the State Government/ UT Administration), hiring of vehicles for transportation of water samples collected from the field to the laboratory and expenses incurred for NABL accreditation process (consultant fee, audit cost, application fee and annual fee);

iv.) these funds can also be used for procurement of FTKs, refills and bacterial detection kits;

v.) salary of regular staff and any services, expenditure incurred in excess of the 2% allocation will be met from fund of the State Government. SWSM may also decide to pay honorarium to a dedicated person at GP level for ensuring water

[22]The 13 basic water quality parameters are placed at Annex-XI

quality tests through FTKs/ bacteriological vials in prescribed time and submit data to higher authorities.

10.3 Water quality monitoring in quality - affected areas

There may be water sources where the concentration of chemical contaminants is found to be at border line, i.e a little lower than the permissible limit as prescribed in BIS:10500. To ensure that the water supply through FHTC is of prescribed quality, villages using such water sources necessitate periodic monitoring and may be enlisted as 'hot spots'. The list of such 'hot spots' is to be shared by PHED/ RWS Department with SWSM, DWSM and GP. PHED/ RWS Department is to undertake regular monitoring of water quality of such water sources and water quality surveillance will be done by GP and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. and local community. Corrective measures need to be taken wherever and whenever required.

Water quality data of water sources in 'hot spots' will specifically be monitored through JJM IMIS. Before selecting any such water source for piped water supply system, it will be discussed by Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. and approved through *Gram Sabha*, as mentioned in Chapter 6.

10.4 List of training and IEC activities

i.) display of details of nearest water quality testing lab in prominent locations in villages/ blocks/ districts;

ii.) water quality training of departmental stakeholders, Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc., ISAs, PRIs, barefoot technicians, etc.;

iii.) awareness generation on water quality issues, water-borne diseases and health impacts;

iv.) water safety planning;

v.) behavioral change communication on- 'strictly avoiding water from quality-affected source';

vi.) inter-personal communication (door to door contact) on importance of good quality drinking water in nutrition;

vii.) audio-visual publicity on ill effects of consuming contaminated water, importance of sanitary inspection, process of getting private water quality sources tested, etc.;

viii.) wall writings promoting tap water as- 'it is free from contamination' and;

ix.) slogans, group meetings, street plays, PRA activities, exhibits, etc. on water quality.

10.5 Monitoring

Use of latest technology to capture water quality data automatically will enhance decision making and performance of water supply utilities. PHE will also employ water quality sensors and IoT based monitoring systems. The current process of monitoring through online portal and field visits by SWSM/ PHED/ RWS Department will be followed. The States/ UTs will hold regular review meetings to monitor the water quality status. The data will be made available on public domain.

The JJM IMIS portal will capture the following:

i.) water quality monitoring through laboratory tests at all levels as per the frequency;

ii.) water quality surveillance undertaken by community through FTKs in all villages as per the frequency of testing;

iii.) progress of FHTCs provision in water quality-affected districts and JE-AES districts;

iv.) separate reports will be generated to monitor villages affected with Arsenic, Fluoride and Iron. And, any other as may be decided by Department/ National Mission;

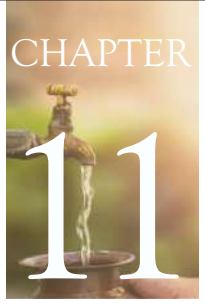
v.) laboratory assessments and respective improvement plans;

vi.) number of State/ District laboratories having NABL accreditation and No. of Block/ sub-divisional laboratories;

vii.) lab ranking;

viii.) use of FTKs/ biological vials by communities as per recommended number of tests;

ix.) emerging cases of water quality issues.



Monitoring and Evaluation

11.1 Monitoring

Effective monitoring mechanisms will ensure functionality of tap connections, i.e. drinking water supply in adequate quantity of prescribed quality on regular basis.

JJM monitoring mechanisms comply with the global standards, viz. Global Competitiveness Index (GCI). GCI measures national competitiveness defined as 'set of institutions, policies and factors that determine the level of productivity'. GCI includes following two indicators:

i.) exposure to unsafe drinking water: It measures a population's exposure to unsafe drinking water, taking into account the extent of exposure by risk level and the severity of that risk's contribution to disease burden;

ii.) reliability of water supply: This is based on how reliable is the water supply (lack interruptions and flow fluctuations).

Measurement of water supplied for monitoring

What cannot be measured cannot be managed. In order to manage both the in-village infrastructure meant for SVS, large scale infrastructure projects for MVS and those piped water supply schemes with a stand post, it is necessary to have data on water supplied every day, the quality of water supplied as well as depth of water in bore wells. Further, in case of MVS, the water made available to various villages every day is also to be measured. Since rural water supply schemes are spread far and wide, it is necessary to leverage the IT tools like sensors, IoT, customized dashboards, etc. for regular capturing and analysis of data for management decision making by the management. The following are suggested in this regard:

i.) in SVS and piped water supply with stand posts, it is necessary to have sensors to measure water drawn every day from different sources, water level in the bore-well in case of groundwater based scheme, switching on and off of pumps on the basis of overflow sensors in the storage tanks. Also, some basic sensors for measuring water quality aspects like pH, presence of nitrates, salinity, etc. can be explored and installed. This data would be captured at regular intervals and stored in a data logger for manual retrieval or transmitted to cloud server using a SIM;

ii.) in case of MVS, a bulk water meter is to be installed in every village that receives water in their sump. Also, sensors for switching on and off of pumps, measuring sump water level are to be installed. SCADA systems for large treatment plants are mandatory for both operation of the plant as well as for monitoring. States can also explore and adopt SCADA for distribution systems for measuring the pressure, leakage and quality aspects of supplied water;

iii.) the MIS should be developed for capturing the data collected through sensors and analyzing them. It is important to have same data capturing formats and protocols across the States for data handling consistency. The States can also tweak the existing MIS, if they have, to meet the data consistency requirements;

iv.) dashboards need to be created to capture the following:

a.) Planning

b.) Execution

c.) Operation and Maintenance

d.) Daily water supply details of villages including quantity and quality.

It should be ensured that, these aspects should be organically integrated from the planning stage itself as part of the estimates so that they can be tested and commissioned along with the scheme/ project.

Department/ National Mission would create an IMIS for capturing financial and physical progress of the Mission and the Rural Water Supply/ PHE Department would be responsible for entry of data in IMIS.

11.1.1 Integrated Management Information System (IMIS)

A dedicated JJM IMIS is designed to capture every Functional Household Tap Connection (FHTC). The JJM IMIS will include:

i.) provision for uploading VAPs, DAPs, SAPs and State-wise AAPs;

ii.) monitoring of constitution of Gram Panchayat sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc., bank account opening, community contribution, etc.;

iii.) monitoring ISAs performance in allotted villages, viz. resource mapping, PRA activities, etc.;

iv.) monitoring physical and financial progress of all schemes;

v.) monitoring of water quality laboratories and surveillance by communities using FTKs;

vi.) monitoring of change management activities;

vii.) monitoring of support activities, etc.

The reports generated would be used for regular monitoring through field visits, workshops, video conferences, etc. A digital district inventory of drinking water assets would be created for better management of schemes and monitoring them. Every MVS network system will be monitored through SCADA system at State level for ensuring its proper functioning.

It would be ensured that the data from States in respect to physical progress of various projects, geo-tagging of assets, expenditure made on the projects, functionality status of projects would be captured on JJM IMIS and will be kept in public domain through which there is a scope of social audit as well as overseeing by end-users and various institutional structures.

Sensor-based water supply measurement for periodicity of supply, quality and quantity is to be employed. Its integration with control and command and IMIS is required to be taken up to monitor functionality of water supply system continuously.

11.1.2 Real-time dashboard

A real time dashboard would capture all the essential monitoring parameters i.e., number of FHTCs provided so far, number of FHTCs remaining to be provided before 2024, number of functional tap connections provided and non-functional ones. This data would be available in public domain.

11.1.3 Geo-tagging assets

To bring transparency and for monitoring, States are required to geo-tag all the assets of water supply schemes. Every infrastructure asset either new or otherwise will be geo-tagged including washing and bathing places, greywater collection and treatment plants, source sustainability structures, etc.

11.1.4 Linking FHTCs with Aadhar

For targeted delivery and monitoring of specific outputs, it is proposed that FHTC is to be linked with the Aadhar number of the head of the household, subject to statutory provisions.

11.1.5 Surveillance by community

Community will closely observe the functioning of their water supply scheme and will be responsible to manage, operate and maintain their in-village water supply infrastructure. The community will also undertake regular sanitary inspections as detailed in chapter 10 and collectively decide on mechanisms to prevent misuse of water. The community will be empowered to file grievances with respective DWSM/ SWSM through a dedicated toll free number, online portal, etc.

11.2 Evaluation

Functionality assessment

Functionality is defined as having infrastructure, i.e. household tap connection providing water in adequate quantity (55 lpcd) of prescribed quality (BIS:10500) on regular basis (everyday or as decided by GP and/ or its sub-committee). It will also include long-term source and system sustainability.

Functionality of tap connections will be categorized based on the parameters as shown under in table 11.

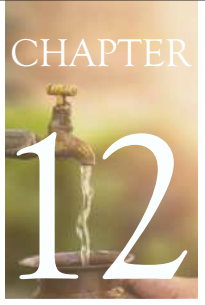
Since source sustainability is one of the conditions for deciding the functionality of tap connections, the functionality assessment criteria will also include questions on source sustainability measures carried out/ executed for different types of schemes and with convergence through MGNREGS, IWMP, etc. (refer Para 6.3 for more on Convergence)

Government of India will carry sample survey to assess the functionality of household tap connections. Based on the functionality assessment, funds will be released to States. The functionality assessment[23] will also capture other necessary information to ascertain long-term sustainability of the system.

	Fully-functional	Partially-functional	Non-functional
Quantity	>= 55 lpcd	> 40 lpcd < 55 lpcd	< 40 lpcd
Quantity	Potable	Potable	Non potable
Regularity	12 months or daily basis	9-12 months < daily basis	< 9 months < daily basis

Table 11

[23]Functionality assessment is placed at Annex-VI

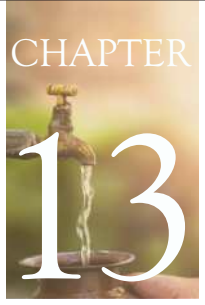


Measuring Outputs and Outcomes

Jal Jeevan Mission's primary output is providing all rural households with a Functional Household Tap Connection (FHTC) by 2024. In parallel, the Mission also strives to achieve 4 key measurable outcomes such as improved health conditions of rural communities; reduction in drudgery faced by women and girls and empowerment of women, reduced school dropout rates of upper primary level girls; and increase in employment opportunities for rural communities. Such an approach would ensure socio-economic wellbeing of rural households. The specific outcomes in the results framework are detailed below:

Output-Outcome Frame Work of JJM		
Outcome 1: Reduced waterborne diseases and healthy rural communities.		
Outcome Indicator: % Reduction in numbers of Acute Diarrheal Diseases reported compared to all episodes reported in last bulletin of National Health Profile 2019.		
Outputs	**Indicator(s)**	**Means of Verification**
Functional Household Tap Connection [FHTC] provided to every rural household by 2024.	Number of FHTCs provided	IMIS data, Visible FHTCs, functionality assessment, social audits
	Number of FHTCs delivering water in adequate quantity, i.e. 55 lpcd	Flow meters, household meters, Functionality assessment
	Number of FHTCs delivering water of prescribed quality, i.e. BIS standards	FTKs/ bacteriological vials distributed, samples tested at laboratories, . functionality assessment, community feedback
	% reduction in water borne disease at households	Health data, Number of hospital visits, data with ASHA worker
Outcome 2: Reduced drudgery of women.		
Outcome Indicator: Number of womenfolk who are relieved of drudgery of carrying water from distant sources.		
Outputs	**Indicator(s)**	**Means of Verification**
FHTC in all rural households increased productive household time of women.	Increased participation of women in GPs and SHGs	Review of GP and SHG minutes of the meeting.
Outcome 3: Reduced drop out of upper primary school girls		
Outcome Indicator: Upper primary school girl's dropout rates decreased from -% to -% and increase in attendance from -% to -%		
Outputs	**Indicator(s)**	**Means of Verification**
FHTC in all rural households relieved upper primary school girls from travelling long distances in fetching drinking water.	% increase in number of upper primary girls going to school.	School enrolment and attendance register.
Outcome 4: Increased employment opportunities for rural communities.		
Outcome Indicator: Wellbeing of the rural households improved with- % increase in the household incomes.		
Outputs	**Indicator(s)**	**Means of Verification**
FHTC in all rural households opened opportunities for employment.	% increase in number of days of employment per year	Local employment/payment register, Number of local enterprises set up.

Table 12



Disaster Management

Climate change driven extreme weather events like droughts and floods are unpredictably altering the current and future availability of freshwater. The adverse impacts resulting from uncertain availability of adequate and quality water, in turn affect availability of food, health parameters, nutrition and livelihood security. Also, the increasing instances of landslides, earthquakes, etc. at times damage water supply infrastructure resulting in disruption of drinking water supply. This poses a challenge for urban/ rural planners working for providing safe drinking water to communities and hence, JJM will strengthen the efforts of States/ UTs in implementing their disaster management plan.

The key challenges in a disaster situation are:

I.) advance planning and preparedness to mitigate/ minimize the impact of disaster;

ii.) rapid response at time of disaster; and

iii.) restoration of the services with a robust and resilient supply system post disaster.

Thus, the plan has to address the above challenges in the context of drinking water supply.

Pre-disaster: This is the planning phase. Concrete planning and efficient deployment of resources during this period reduces losses at time of a disaster.

Prevention and Mitigation

I.) improvement in water storage capacity of aquifers is the best long-term strategy. Passive recharge of aquifers particularly in forested areas is the most effective water conservation method for future drinking water security. Forests can hold larger volume of water for longer durations on the forest floor that acts like a sponge to slowly release water into streams; an example of how certain ecosystems ensure water availability and flood risk reduction. However, this involves long-term planning and action;

ii.) efforts towards increasing availability of quality-water from shallow and deep aquifers will ensure water availability during periods of drought and delayed monsoon;

iii.) presence of resilient infrastructure is rewarding in crisis situation and it is very effective in prevention/ mitigation and for minimizing impact of the disaster. While laying pipelines in hilly areas, care should be taken to avoid landslide prone areas. Also, anchoring of pipes has to be done effectively so that they do not get washed away by floods/ mud flows. The location of water supply infrastructure like treatment plants, underground reservoirs, public drinking water access points, etc. should be selected carefully so as to have protection from floods and cyclone, landslides, land slips, impact of earthquake, etc.;

iv.) at the time of creation of RWS infrastructure, compliance with the standards/ codal provisions/ guidelines issued for earthquake/ flood or cyclone/ landslide prone areas, by institutions like Bureau of Indian Standards (BIS)/ Central Public Health and Environmental Engineering Organisation (CPHEEO) will ensure creation of infrastructure having long life;

v.) the SLSSC while sanctioning the schemes should verify the vulnerability of proposed water supply infrastructure to disasters and should record their comments, keeping in view afore-mentioned aspects, in the minutes of the meeting;

vi.) while preparing VAP, local communities' knowledge and information on these aspects should be taken into account while finalizing sites and plan.

Disaster preparedness: This process involves measures that enable Governments, communities and individuals to respond rapidly to disaster situations and cope with them effectively.

Contingency plans must mention the location of sustainable water sources and the design of water-supply systems. This knowledge is critical in effective disaster preparedness and post disaster recovery. Hazards to catchments, reservoirs and distribution systems also need to be considered in the contingency plan.

In disaster prone areas, like coastal areas, flood prone tracts, Himalayan States etc. States should plan for

stationing permanent mobile water purification plants at the nearest possible safe locations and develop an inventory of these plants. Similarly, lot of spot sources like hand pumps have been created under erstwhile NRDWP and various State schemes. In the event of a natural disaster like cyclones and floods, the hand pumps provide interim solution to provide potable water until the water supply through pipelines is re-established. Thus, there is a need to ensure upkeep of these hand pumps by periodic checking of their functionality. Raising of platforms of hand pumps will prevent mixing of flood water and this activity can be done by using funds available with States for disaster preparedness or State fund.

Emergency preparedness for response

Preparedness at all levels, i.e. Departmental (State level), district and village level is of utmost importance. Key elements of preparedness are:

I.) identification and access to trained human resources for post disaster damage & needs;

ii.) assessment and planning for providing transitional services and; restoration of disaster impacted systems. A sound and integrated training in related sectoral courses should be imparted by the state government;

iii.) prepositioned emergency water supply kits to provide transitional services in camps and other mass displacement situations;

iv.) water quality surveillance with reference to disease surveillance as part of concurrent monitoring;

v.) adapt or design new systems to minimize local flooding, sewage overflow routing or storage; and

vi.) build in preventive maintenance to clear drains and sewers regularly.

During disaster: During this period, the needs and provisions of affected people are met to alleviate and minimize suffering.

Key elements of response to disaster will be:

I.) access to trained & skilled human resources for providing transitional services;

ii.) access to prepositioned emergency water supply kits camps and other mass displacement situations;

iii.) setting up of mobile water purification plants in affected area;

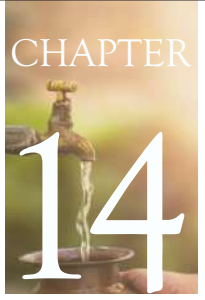
iv.) water quality surveillance with reference to disease surveillance using field test kits;

v.) supply of adequate purification kits.

Post-disaster: Providing potable drinking water and sanitation facilities during and post disaster situations like flood, cyclone, earthquake, etc. is one of the biggest issues and should be treated as a top priority. After a disaster, the key challenge is to achieve rapid and durable recovery which does not reproduce the original vulnerable conditions. Post disaster reconstruction aim is to restore pre-disaster water supply condition. This includes activities such as quick and effective replacement of damaged water source and water supply infrastructure. While doing so, due care needs to be taken for long-term development prospects and potential disaster proneness and ensure 'build back better' the water supply infrastructure. Thus, a conscious integration of disaster resilience into the material selection as well as construction planning will be done for disaster proofing of the water supply infrastructure rather than reproducing the same conditions as were before.

As per the instructions of Ministry of Finance, 25% of the Centrally Sponsored Scheme's annual allocation of funds to the States can be used as flexi-funds. For meeting the immediate requirement of funds for post disaster recovery works, flexi-funds available with States under JJM can be used. States/ UTs are advised to set aside at least 5% of the annual allocation under JJM to take care of unforeseen challenges/ issues arising out of natural disasters/ calamities and internal disturbances, which may be used by the State for coverage at the fag end of the financial year, if remain unutilized.

In addition to the above, States are also provided State Disaster Response Fund (SDRF) by successive Finance Commissions. The same can also be used for post disaster recovery works for providing drinking water and sanitation. Further, if the disaster demands additional funds, on the request of the State/ UT Administration, Inter-Ministerial Central Teams are constituted by the Ministry of Home Affairs/ Agriculture as the case may be, and they visit the State and make assessment of the disaster and recommend funds. Based on this recommendation, funds over and above SDRF is made available under National Disaster Response fund (NDRF).



Externally Aided Projects

Externally Aided Projects (EAPs) are an important source of additional funding available to the States for filling the funding gap that may arise in JJM implementation. States to ensure that ultimate goal of such EAPs is provision of FHTCs, and such projects can cover both rural and urban areas. States/ UTs are encouraged to seek external financial assistance through EAPs funded by bi-lateral and multi-lateral agencies.

The proposal for EAP would clearly mention the number of FHTCs that can be provided under it and increase in the overall percentage of rural FHTCs based on SAP. The States have to follow the procedure laid down by the Department of Economics Affairs, vide their communications No. 8/1/2019-BPC&T dated 25.11.2019 (Annex IX) which is the nodal Department for processing external assistance.

The brief procedure for seeking external assistance is as under:

i.) all State/ UT Governments to prepare a Preliminary Project Report (PPR) proposal with tentative financial details as per the prescribed format by Department of Economic Affairs. The PPR is to be submitted only in the DEA's online portal[24]. The nodal officer of the State/ UT would verify/ endorse the PPR online and mark online in the portal itself, to line Ministry of Govt. of India and NITI Aayog. In case activities relate to more than one Ministry, it should be endorsed to all Ministries. To illustrate, to seek external assistance for projects involving both urban and rural water supply, while submitting the PPR, the States should tag the PPR for both DDWS and M/o Housing and Urban Affairs;

ii.) in case of NE States, the PPR, in addition to line Ministries, should also be marked online to M/o DoNER, MHA and MEA. In case of UTs with Legislature, the PPR is to be marked to MHA for information. For UTs without Legislature, the PPR would be verified/ endorsed by nodal person in MHA and mark the PPR online to other GoI Ministries / Departments;

iii.) the nodal Ministries/ Departments to whom the PPR has been marked are to give their comments online within 45 days and 30 days in case of NE and other States respectively;

iv.) the EAP proposal should align with development priorities of the State as well as Government of India. A special emphasis is laid on “finance plus” elements of the project;

v.) the Line Ministry/ Department after undertaking necessary technical appraisal will forward its report to DEA for further necessary action, online. In case of UTs, a copy of the report shall also be endorsed to MHA for information;

vi.) the PPRs received online with recommendations / comments will be placed before the screening committee of DEA. Projects not satisfying the criteria would be rejected or returned by DEA, as the case may be.

[24]https://eapdea.gov.in/ppr/

i.) Auditor's Report

To
The State Water and Sanitation Mission

Address:

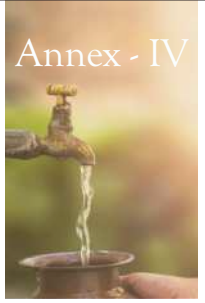
1. We have audited the attached Balance Sheet of State Water and Sanitation Mission ('the Grantee') "Account – Erstwhile National Rural Drinking Water Programme (NRDWP) and Jal Jeevan Mission (as the case may be)" as at March 31, 20..and also the Income and Expenditure Account and Receipts and Payment Account for the year ended on that date annexed thereto. These financial statements are the responsibility of the Grantee's management. Our responsibility is to express an opinion on these financial statements based on our audit.
2. We conducted our audit in accordance with auditing standards generally accepted in India. Those Standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.
3. Further to our comments in the Annexure referred to above, we report that:
   i. We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purposes of our audit;
   ii. In our opinion, proper books of account as required have been kept by the Grantee so far as appears from our examination of those books;
   iii. The balance sheet, income and expenditure account and receipts and payment account dealt with by this report are in agreement with the books of account;
   iv. In our opinion, and to the best of our knowledge and according to the explanations given to us and subjects to our observations annexed herewith we report that :
   a. The Balance Sheet, gives a true and correct view of the state and affairs of the Grantee "Account – on Erstwhile National Rural Drinking Water Programme(NRDWP)/ Jal Jeevan Mission-JJM (As case may be) " as on 31.3.20..
   b. The Income and Expenditure Account gives a true and correct view of excess of income over expenditure for the period ended 31.03.20.
   c. The receipts and Payment Account gives a true and correct view of the transactions under the programme/scheme for the period ended on 31.03.20.
   v. Expenditure reported in the Income and Expenditure account is properly reflected in the Utilization Certificate(s) for the same period.

Signature of Chartered Accountant with Seal)

Name in full_____

Membership No._____

CAG Empanelment No. & Year/ Contact No.



Suggestive list of inadmissible expenses

i.) Purchase of land, vehicle, etc.

ii.) Centage charges

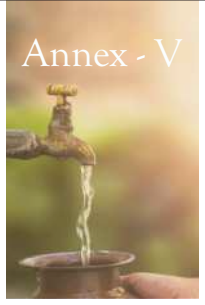
iii.) Construction/ Renovation/ Repair of building, office building, extension of building, conference hall, guest house, residential building, etc.

iv.) Tender premium

v.) Diversion of fund from JJM schemes to State schemes

vi.) Expenditure beyond estimated/ approved cost of the schemes

vii.) Payment of salary to permanent employee



Criteria for selection of Implementation Support Agencies (ISAs)

SWSM will identify suitable ISAs through a transparent process who are working in the field of

i.) Drinking water and community management

ii.) Water quality

iii.) Rain water harvesting/ recharge, water resources management

iv.) Capacity building and awareness generation

v.) Public health engineering

vi.) Gender & water

The eligibility criteria for the ISAs would be

i.) A minimum 3 years experience as a registered organization for organizations under 4(a) including organizations under Registration of Societies Act 1860, or a Public Trust registered under Indian Trust Act 1982 or a corporation registered under Section 8 Companies Act. Or, experienced Self Help Groups (SHGs) within districts;

ii.) the organization should be a not-for-profit organization or use its profits, if any, or other income in promoting charitable objectives;

iii.) at least 3 years work experience in the aforementioned fields of the NGO chairpersons/ board/ or relevant authority who is proposed to lead the initiative;

iv.) experience of using Participatory Rural Appraisal (PRA) techniques and other communication tools in community mobilization;

v.) last three years duly audited and properly maintained accounts and income tax return and published Annual Report.

The selection process of ISAs would be as follows:

i.) The organizations wishing to get empanelled will get registered on JJM portal and SWSM will adopt a transparent selection process for ISAs from the portal and empanel them for their State;

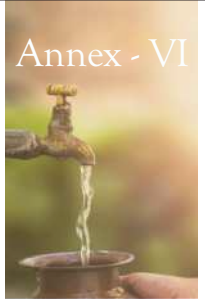
ii.) only such organizations having a good track record in the related fields may be considered and preference may be given to ISAs with technical expertise of facilitating community-based rural water supply.

Prerequisites of ISAs:

i.) Separate bank account to receive financial assistance will be opened by the organisation

ii.) Working in rural drinking water sector should reflect in their Memorandum of Association as one of the activities

iii.) The organisation will be open to inspection by an officer/ third party agency authorized by the Department.



Functionality Assessment

1. DDWS, GoI will carry out functionality assessment of FHTCs
2. The survey will be done for a sample set of completed SVSs and MVSs as well as households which are covered within these schemes.
3. Functionality of FHTCs will be assessed with following parameters:

   I.) Quantity, quality and regularity of water supply through FHTCs:

	Fully-functional	Partially-functional	Non-functional
Quantity	>=55 lpcd	>40 lpcd <55 lpcd	<40 lpcd
Quantity	Potable	Potable	Non potable
Regularity*	12 months or daily basis	9-12 months < daily basis	<9 months < daily basis

   i.) Whether sub-committee of Gram Panchayat has been constituted? If so, does the O&M responsibility lie with thm?

   ii.) Is water tariff being collected? If so, what's the mechanism in place?

   iii.) Is there a borewell recharge structure? What are the other source sustainability measures?

   iv.) Has provision been made for greywater management through waste stabilization pond or other structures?

   v.) Has provision been made for rain water harvesting?

Guidelines for flexi-funds within Centrally Sponsored Schemes

F.No. 55(5)/PF-II/2011
Ministry of Finance
Department of Expenditure
Plan Finance-ll Division

New Delhi,

dated 6th September, 2016

Office Memorandum

Subject: Guidelines for Flexi-Funds within Centrally Sponsored Schemes

1. *Reference is invited to this Department OM of even no. dated 6"" January, 2014 on the subject mentioned above. It was stipulated that the Central Ministries should provide 10% of their budget under each CSS as a flexi-fund, except for schemes which emanate from a legislation or where the whole or a substantial proportion of the budgetary allocation is flexible.*

2. *Based on the recommendations of the Sub-Group of Chief Ministers and consultations with stake holders, NITI Aayog has issued instructions for Rationalization of CSS, vide OM No. O-11013/02/2015-CSS & CMC dated 17" August, 2016. As per para 6 of the said OM, flexi-funds available in each CSS has been raised from the current level of 10% to 25% for States, and 30% for UTs, of the overall annual allocation under each scheme.*

3. *These instructions will be applicable for Centrally Sponsored Schemes, except those which emanate from a legislation (e.g. MGNREGA), or, schemes where the whole or a substantial proportion of the budgetary allocation is flexible (e.g. Rashtriya Krishi Vikas Yojna, Border Area Development Program, Shyama Prasad Mukherjee Rurban Mission etc.). The provisions of this Department's OM No.55(5)/PF-II/2011 dated 6" January, 2014 ibid are substituted as follows:*

Objectives

4. The flexi-fund component within the Centrally Sponsored Schemes can be used to achieve the following objectives:

   (i) To provide flexibility to States to meet local needs and requirements within the overall objective of any given Scheme at the sub-head level;

   (ii) To pilot innovation to improve efficiency within the overall objective of any given Scheme at the sub-head level;

   (iii) To undertake mitigation/ restoration activities in case of natural calamities, or to satisfy local requirements in areas affected by internal security disturbances.

Fund Allocation and Approval

5. States may, if they so desire, set aside 25% of any Centrally Sponsored Scheme (including the central and state share for any given scheme in a financial year) as flexi fund to be spent on any sub-scheme or component or innovation that is in line with the overall aim and objectives of the approved Scheme.

6. The States, who want to avail of the flexi-fund facility, should constitute a State Level Sanctioning Committee (SLSC) on the lines of RKVY to sanction projects or activities under the flexi-fund component. However, participation of the concerned Central Ministry would be mandatory in the SLSC before the flexi-fund facility is invoked under any Centrally Sponsored Scheme.

7. It may be noted that the Name, Acronym and the Logo are the core feature of any Centrally Sponsored Scheme, which must be retained for the flexi fund component as well. If the States change any of these core features, the central contribution will cease and the flexi fund component will become a purely state scheme.

Use of flexi-funds

8. The flexi-fund would continue to be part of the parent Centrally Sponsored Scheme. It may be operated at the level of the Scheme, Sub-scheme and its Components, but not at the level of the Umbrella Program, for example, flexi-funds can be spent on any sub-scheme or component, including creation of a new innovative component, under the primary education scheme, but cannot be used to move primary education funds to the higher education or to any other sector. However, it would be permissible to use flexi-funds to converge different schemes under an umbrella program to improve efficiency and effectiveness of outcomes, for example, nutrition mission can be used to converge anganwadi services with maternity benefits, and health care networks can be used to provide a continuum of health care services across the primary, secondary and tertiary levels.

9. It may also be noted that the purpose of flexi-funds is to enable the States to satisfy local needs and undertake innovations in areas covered by the Centrally Sponsored Schemes. Elexi-funds should not be used to substitute State's own schemes and project expenditures. It should also not be used for construction/repair of offices/residences for government officials, general publicity, purchase of vehicles/furniture for offices, distribution of consumer durables/non-durables, incentives/rewards for staff and other unproductive expenditures.

Monitoring, Evaluation & Audit

10. Web-based reporting for the use of flexi-funds may be designed by adding modules to the existing MIS. Outcomes (medium term) and outputs (short term) should be part of the MIS along with pictures/images and good practices to ensure greater transparency and learning across States.

11. Evaluation of flexi-funds may be done through the existing evaluation mechanism, including those set by the Ministries, NITI Aayog, or by independent third parties. Terms and conditions for evaluation may be designed in such a manner that outcomes of the Scheme as a whole, as well as the flexi-funds are well identified and measurable.

12. Flexi-funds within each CSS will be subject to the same audit requirements as the parent Centrally Sponsored Scheme, including audit by the Comptroller & Auditor General.

13. *These guidelines issue with the approval of the Finance Minister and come into force with immediate effect.*

6/9/2016
(Arunish Chawla)
Joint Secretary to the Government of India

1. Secretaries, All Departments/Ministries, Government of India.

2. Chief Secretaries, All States/Union Territories.

Suggested criteria for selection and Terms of Reference (ToR) for third-party inspection agencies to be empanelled by States

Criteria for selection of third party inspection agencies:

i.) The firm/ agency/ institution should have a minimum of 5 years of experience of undertaking inspection of project works relating to water supply and/ or civil infrastructure;

ii.) The firm should have monitored at least two projects;

iii.) The firm/agency should have multi-disciplinary engineering human resource in the field of civil/ mechanical/ electrical and environment;

iv.) The firm should have a minimum turnover of Rs 5 Crore.

ToR of third party inspection agencies:

1.) To carry out inspection of all engineering works relating to civil, mechanical and electrical components executed under in-village infrastructure covering the following aspects

a. Sample checking of

i.) test report of the materials used for construction;

ii.) quality control measures adopted at the time of construction in the field;

iii.) safety measures adopted at the time of construction in the field;

iv.) payment for labour by the executing agency.

b. Quantity and quality of works executed as per the bill for payment claimed

c. Recommendations on the payment for the work executed.

d. Functioning of the in-village infrastructure during trial run

2.) To carry out inspection of all engineering works relating to civil, mechanical and electrical components executed works executed other than in-village infrastructure (intake structures, treatment plants, intra and inter district distribution network, balancing/ intermediate reservoirs, pumping and electrical systems etc.,) covering the following aspects

a. Sample checking of

i.) test report of the materials used for construction;

ii.) quality control measures adopted at the time of construction in the field;

iii.) safety measures adopted at the time of construction in the field;

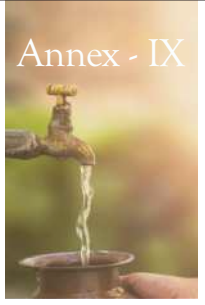
iv.) payment for labour by the executing agency.

b. Quantity and quality of works executed as per the bill for payment claimed

c. Recommendations on the payment for the work executed.

d. Functioning of the infrastructure during trial run

3.) Any other work as decided by the State Government/ UT Administration from the point of view of third party inspection.



Guidelines for Posing, Implementation and monitoring of EAPs

No. 8/1/2019-BPC&T
Ministry of Finance
Department of Economic Affairs
(BPC&T Section)

Dated 25 November 2019

Subject: Guidelines for Posing, Implementation and Monitoring of Externally Aided Projects (EAPs)

1. Department of Economic Affairs (DEA) functions as the political and administrative focal point in India for all engagements (loans, credits, grants, technical assistance etc.) with Multilateral Agencies, Bilateral Agi,ncies, and International Financial Institutions. External finance is received in the shape of loans/credits/Official Development Assistance (ODA)/Technical Assistance (TA) from Multi_lateral Development Banks (MDBs), Bilateral Agencies, and International Financial Institutions (!Fis). Project proposals seeking external financial assistance received from Ministries/Departments in Government of India as well as from State Governments are examined and processed by DEA, and then posed to the agency/institution concerned.

2. From time to time, DEA has issued guidelines pertaining to project proposals for external assistance in order to streamline the processes involved and make the external funding more effective. Reference is invited .to thj_s Department's O.M.s No.3/3/2004-PMU dated May 9, 2005, No.3/6/2017-BPC & Tdated April 5, 2018, and No. 3/9/2015-BPC&T dated May 17, 2018, vide which these guidelines were issued for posing, implementation and monitoring of EAPs. In supersession of the guidelines referred to above, the following guidelines are issued in this regard:

3. Preparation and Submission of Preliminary Project Report (PPR) - State Sector Projects: In case of State Sector Projects, the State Government/Project Implementation Authority (PIA) will submit a Preliminary Project Report (PPR) online through the web portal of DEA developed for this purpose [http://eapdea.gov.in/ppr]. The web portal is functional since 1st January 2019, and only proposals submitted online are considered for examination by DEA. The PPR so submitted is to be verified/ endorsed online by the nodal officer concerned of the State. The proposal needs to.be marked online by the nodal officer (on the portal itself) to the line ministry concerned in the Government of India, and National Institution for Transforming India (NIT!) Aayog. In case the activities relate to the domain of more than one central line ministry, the proposal should be marked to all such ministries. The central line ministries concerned and NITI Aayog will examine the proposal and offer their recommendations/comments and upload the same on the web portal itself within 30 days of receipt of the proposal on the portal and mark to the inistry/department/institution concerned. If no comments are received within the stipulated time period, it will be assumed that the ministry/department/institution concerned has no comments to offer.

4. State Sector Projects in North East Region: In case of State Sector Projects received from States in the North East (NE) region, the State Government/Project Implementation Authority (PIA). will submit the PPR online through the web portal referred to earlier. The PPR so submitted is to be verified/ endorsed online by the nodal officer concerned of the State. The proposal needs to be marked online by the nodal officer to the line ministry concerned in the Government of India, and NITI Aayog. In case the activities relate to the domain of more than one central line ministry, the proposal should be marked to all such ministries. In addition, the proposal should also be marked to Ministry of Development of North Eastern Region (MDoNER), Ministry of Home Affairs (MHA), and Ministry of External Affairs (MEA). The central ministries concerned and NITI Aayog

will examine the proposal and offer their recommendations/comments and upload the same on the web portal itself within 45 days of receipt of the proposal on the portal and mark to the ministry/ department/institution concerned. If no comments are received within the stipulated time period, it will be assumed that the ministry/department/institution concerned has no comments to offer. As the nodal ministry for the NE region, it will be MDoNER's responsibility to ensure that comments from Central ministries concerned as well as NITI Aayog, along with MDoNER's own comments, are received within the stipulated time.

5. Central Sector Projects: In case of Central Sector projects, Central Ministries/ Departments/PIA will submit the Preliminary Project Report (PPR) online through the web portal referred to earlier. The PPR so submitted is to be verified/endorsed online by the nodal officer of the ministry/department. The proposal needs to be marked online by the nodal officer to NITI Aayog. Comments/concurrence of NITI Aayog must be received online within 30 days of receipt of the proposal on the portal. If no comments are received within the stipulated time period, it will be assumed that the NITI Aayog has no comments to offer.

6. The proposals seeking external financial assistance should generally be aligned with the developmental priorities of the State Government as well as Government of India. The development cooperation programmes/ Country Partnership Framework/ Country Partnership Strategy of the external multilateral and bilateral funding agencies also aligned with the priorities of Government. While processing the proposal for external funding, a special emphasis is laid on "finance plus" elements of the project, as EAPs are not viewed as merely meeting the financing needs.

7. The PPRs received only through the online mode with recommendations/comments will be placed before the Screening Committee of the DEA. The projects which do not satisfy the criteria for posing the proposal for external assistance would be rejected or returned by DEA, as the case may be.

8. Proposals from Union Territories

(I) **Stand alone Projects of Union Territories with Legislature:**

(i) The procedure for project approval, fund flow and administration in UTs with Legislature will be similar to the procedure followed in respect of EAPs of State Governments.

(ii) Concerned UT Government will submit the PPR, duly approved at its competent level (by its Cabinet, if required) through the web portal referred to earlier. The PPR so submitted is to be verified/ endorsed online by the nodal officer concerned of the State. The proposal needs to be marked online by the nodal officer (on the portal itself) to the line ministry concerned in the Government of India, and NITI Aayog. In case the activities relate to the domain of more than one central line ministry, the proposal should be marked to all such ministries. The proposal would also be marked to MHA for information. The central ministries concerned and NITI Aayog will examine the proposal and offer their recommendations/ comments and upload the same on the web portal itself within 30 days of receipt of the proposal on the portal and marked to the ministry/department/institution concerned. If no comments are received within the stipulated time period, it will be assumed that the ministry/department/institution concerned has no comments to offer.

(iii) The Budget Division of DEA, on the advice of concerned Multilateral/ Bilateral Division in DEA, will make necessary budget allocation for such EAPs in the Demand for Grants of the respective UT, in the Expenditure Budget.

(iv) The fund flow for such standalone projects in UTs with Legislature will also be on back-to- back basis. Since UTs with Legislature have their own Consolidated Fund, the receipts from external debt through Central Government and repayments thereof will be reflected in the Public Debt of the respective UT Governments, as well.

(v) The monitoring of execution of such projects shall be the responsibility of the concerned UT Government. However, MHA will do administrative coordination, wherever required.

(II) Stand alone Projects of Union Territories without Legislature:

(i) In case of UTs without Legislature, such UTs will submit the PPR on the web portal referred to above. The PPR so submitted is to be verified/ endorsed online by the nodal officer concerned of the MHA. The proposal needs to be marked online by the nodal officer (on the portal itself) to the line ministry concerned in the Government of India, and NIT! Aayog. In case the activities relate to the domain of more than one central line ministry, the proposal should be marked to all such ministries. The central ministries concerned and NIT! Aayog will examine the proposal and offer their recommendations/ comments and upload the same on the web portal itself within 30 days of receipt of the proposal on the portal and marked to the ministry/department/institution concerned. If no comments are received within the stipulated time period, it will be assumed that the ministry/department/institution concerned has no comments to offer. It will be the responsibility of MHA to ensure that comments from Central ministries concerned as.well as NIT! Aayog, along with MHA's own comments, are received within the stipulated time.

(ii) MHA will subsequently take all necessary administrative approvals, including Standing Finance Committee (SFC)/ Expenditure Finance Committee (EFG)/ Cabinet approval, based on details received from the line Ministries.

(iii) The Budget Division of DEA, on the advice of the concerned Division of DEA / office of Controller of Aid, Accounts and Audit (CAAA), will make the necessary budgetary allocation for such EAPs in the Demand for Grants of the respective UT, in the Expenditure Budget.

(iv) UTs without Legislature do not have a separate Consolidated Fund. Their revenues flow into the Consolidated Fund of India (CFI), and their expenditures are also met out of the CFI, through the functional Major Heads. Therefore, the funds raised on account of EAPs of UTs without Legislature will flow through Union Government Accounts and will be counted in the Central Government debt.

(v) The execution/ implementation of such projects shall be monitored by the concerned line Ministry. However, MHA will be responsible for overall coordination and administrative supervision of such proposals.

(III) EAP Projects in UTs with or without Legislature for Multi-State/Central Sector

(i) Concerned UTs with legislature will propose their requirements directly to the concerned line Ministries, keeping MHA informed. UTs without legislature will propose their requirements to the line Ministry through MHA.

(ii) Concerned line Ministry will prepare, pose and get approval for such Multi State/ Central Sector project, with UT's component following the existing process.

(iii) Budget provision in context of such schemes will be provided in the Demands for Grants of line Ministry/ Department under the functional Major Heads in respect of UTs without legislature and under the Major Head '3602- Grants-in-aid for UT Governments with legislature' in respect of UTs with Legislature.

9. Submission of Detailed Project Reports (DPRs): Upon approval of the proposal by the Screening Committee of DEA, the State Governments/UTs should submit the Detailed Project Report (DPR),.duly approved by the competent authority, to the line ministry and the funding agency cit the earliest. In case of Central Sector projects, the DPR should be submitted by the Ministry/Department concerned with the funding agency. The Detailed Project Report should adequately reflect the strategic elements of techno-economic (economic viability, social cost benefit, value addition, etc.), ecological (land use, ecological sustainability etc.), socio-cultural (target population and gender matters, participation, social impact, etc.) and institutional (institutional and organizational analysis, capacity building, training etc.) dimensions in the project design in measurable terms.

It should be in accordance with the generic structure as suggested in Department of Expenditure's O.M. No.1(2)-PF-11/03 dated 7th May, 2003. An objective oriented project design in a matrix format along with

work plan, cost and time schedule indicating target/output, cash flow statement etc. should also be a part of DPR. An indicative outline of above matrix is attached for guidance (Annexure).

10. Counterpart Funding & Budget provisions: State Governments/Central Ministry concerned need to ensure that counterpart funds for the project, wherever applicable, are made. They also need to ensure that adequate budgetary provisions are made for EAPs. Necessary instructions issued in this regard vide D.O. letters No. 5/1/99-FB-II dated 12th May, 1999 and No. 12/24/94-EFC (Coord.) dated 20th September, 1994 may be referred to (copies enclosed).

11. Technical Assistance Proposals: All proposals for Technical Assistance (TA) grant or lending TA will also be submitted by PIAs/State Governments/Central Ministry concerned in the format prescribed for loan/credit (PPR) and submit the same online through the portal. Proposals seeking Transaction Advisory Services from MDBs/lFIs/Bilateral agencies should also follow the same pattern.

12. Other Procedural Requirements: The EAP should be processed for seeking approval of the EFC/ Public Investment Board (PIB), as the case may be, immediately after the appraisal is completed by the external funding agency and before negotiations are undertaken. It would also be necessary to obtain the approval of the competent authority for the project. Financial Advisers of the concerned Ministries/Departments may initiate timely action for seeking approval of EFC/PIB on a fast track basis and they may also initiate timely action for seeking approval of EFC/PIB for the schemes/ project immediately after lapse of four weeks of the circulation of EFC/PIB Memo. Detailed instruction may be seen in the Department of Expenditure's circulars No: 1(1) PF.11/2011 dated 31st March, 2014.

13. If the project proposal is to be implemented under a 'reform programme, or reforms are , to be brought in through modifying framework conditions (e.g. introduction/abolition/reduction, _user charges, recovery of O&M cost, providing of incentive/subsidy, rehabilitation schemes, etc.) for creating an enabling environment for implementation of the project, such measures should be completed before the project is sent to Department of Economic Affairs. The project proposal should indicate the role of other organizations (such as NGOs, voluntary organizations/civil societies) in the project implementation, and their accountability. It should also indicate organizational/ institutional set up (ownership) of the project on its completion, for ensuring its sustainability.

14. For all externally aided projects, a project implementation team should be established and it should be held fully responsible for the project execution within the approved time and cost. The team should not have any concurrent responsibility and its continuity during the project implementation period must be ensured. It may also be ensured that appropriate training to the Project team is imparted before the implementation of the Project. The EFC/PIB memo should bring this out clearly. No project would be considered without such arrangements being clearly established.

15. Proposal for external assistance shall not be sent directly by any Central Ministry or State Government to the bilateral or multilateral funding agencies. The terms and conditions of the external assistance should not be negotiated with the external funding agencies except through Department of Economic Affairs. State Governments l Central Ministries are, therefore, requested to follow the procedure set out above for seeking external financial assistance/technical assistance from MDBs/lFIs/bilateral agencies.

16. Monitoring and Evaluation: Project authorities shall improve monitoring of the projects by including comprehensive evaluation of the project, both of performance and impact, in the project design itself. Evaluation arrangements for the project, whether concurrent, mid- term or post-project should be spelt out in the project proposal. Concurrent evaluation shouldfocus on in-depth reflection at a point considered significant in the project cycle / programme.

This could be at the end of a work phase or whenever special circumstances demand or at the closure of the project. Evaluation may be carried out by expert agencies if it is commensurate with _ the cost and objectives. Best practices adopted by external funding agencies with respect to concurrent evaluation of projects may be adopted.

17. Project authorities are expected to submit (a) project completion report on the physical-financial parameters and (b) evaluation report on the project objective achievement parameters after completion of the project. Two or three years after completion of the project, an Impact Assessment Study may also be conducted on selected project, preferably by reputed neutral institution or organization to ascertain the actual achievement and retention of project objectives vis-a-vis the targeted project objectives. Such long-term impact evaluation is expected to help create a shelf of projects with high impact-retention which should be encouraged and replicated, and the negative shelf of projects which were poor in attaining stated objectives, may be improved. The responsibility of monitoring and evaluation of Central Sector Projects will lie with the concerned central sectoral Ministry/ Department. In case of State/ UT sector projects, the concerned State/UT will be responsible for carrying out the monitoring and evaluation of projects.

27/11/2019

(Rajat Kumar Mishra)

Joint Secretary to the Govt. of India

Tele: 011 23094818

To,

1) Secretaries of all Central Ministries/Departments

2) Chief Secretaries of all State Governments/ Uts

3) CEO, NITI Aayog

3) Divisional Heads of all Credit Divisions in DEA

Department of Expenditure
OM No:1(2) – dated 7th May, 2003

Generic structure of the DPR

(i) **Context/ background:** This section should provide a brief description of the sector/ sub-sector, the national priority, strategy and policy framework as well as a brief description of the existing situation.

(ii) **Problems to be addressed:** This section should elaborate the problems to be addressed through the project/ scheme at the local/ regional/ national level, as the case may be. Evidence regarding the nature and magnitude of the problems should be presented, supported by the baseline data/ surveys/ reports. Clear evidence should be available regarding the nature and magnitude of the problems to be addressed.

(iii) **Project Objectives:** This section should indicate the Development Objectives proposed to be achieved, ranked in order of importance. The deliverables/ outputs for each Development Objective should be spelt out clearly. This section should also provide a general description of the project.

(iv) **Target beneficiaries:** There should be clear identification of the target beneficiaries. Stakeholder analysis should be undertaken, including consultation with stakeholders at the time of project formulation. Options regarding cost sharing and beneficiary participation should be explored and incorporated in the project. Impact of the project on weaker sections of the society, positive or negative, should be assessed and remedial steps suggested in case of adverse impact.

(v) **Project strategy:** This section should present an analysis of alternative strategies available to achieve the Development Objectives. Reasons for selecting the proposed strategy should be brought out. Involvement of NGOs should be considered. Basis for prioritization of locations should be indicated (where relevant). Options and opportunity for leveraging government funds through public-private partnership must be given priority and explored in depth.

(vi) **Legal Framework:** This sector should present the legal framework within which the project will be implemented and strengths and weakness of the legal framework in so far as it impacts on achievement of project objectives.

(vii) **Environmental impact assessment:** Environmental impact assessment should be undertaken, wherever required and measures identified to mitigate adverse impact, if any. Issues relating to land acquisition, diversion of forest land, rehabilitation and resettlement should be addressed in this section.

(viii) **On-going initiatives:** This section should provide a description of ongoing initiatives and the manner in which duplication will be avoided and synergy created through the proposed project.

(ix) **Technology issues:** This section should elaborate on technology choices, if any, evaluation of options, as well as the basis for choice of technology for the proposed project.

(x) **Management arrangements:** Responsibilities of different agencies for project management and implementation should be elaborated. The organization structure at various levels as well as monitoring and coordination arrangements should be spelt out.

(xi) **Means of Finance and Project Budget:** This section should focus on means of finance, evaluation of options. project budget, cost estimated and phasing of expenditure. Options for cost sharing and cost recover (user charges) should be considered and built into the total project cost. Infrastructure projects may be assessed on the based on the cost of debt finance and tenor of debt. Options for raising funds through private sector participation should be considered and built into project cost.

(xii) Time Frame: This section should indicate the proposed 'Zero' date for commencement and provide a PERT, CPM chart, wherever relevant.

(xiii) Risk analysis: This section should focus on identification and assessment of project risks and how these are proposed to be mitigated. Risk analysis could include legal/ contractual risks, environmental risks, revenue risks, project management risks, regulatory risks, etc.

(xiv) Evaluation: This section should focus on lessons learnt from evaluation of similar projects implemented in the past. Evaluation arrangements for the project, whether concurrent, mid-term or post project should be spelt out. It may be noted that continuation of projects/ schemes from one Plan period to another will not be permissible without an independent, in depth evaluation being undertaken.

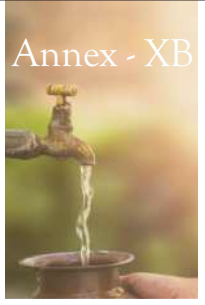
(xv) Success criteria: Success criteria to assess whether the Development Objectives have been achieved should be spelt out in measurable terms. Base-line data should be available against which success of the project will be assessed at the end of the project (Impact assessment). In this regard, it is essential that base-line surveys be undertaken in case of large, beneficiary-oriented projects.

Success criteria for each Deliverable/ Output of the project should also be specified in measurable terms to assess achievement against proximate goals.

(xvi) Financial and economic analysis: Financial and economic analysis of the project may be undertaken where the financial returns are quantifiable. This analysis would generally be required for investment and infrastructure projects, but may not always be feasible for social sector projects where the benefits cannot be easily quantified.

(xvii) Sustainability: Issues relating to sustainability, including stakeholder commitment, operation and maintenance of assets after project completion, and other related issues should be addressed in this section.

Note: Requirements of the EFC/PIB format may also be kept in view while preparing the DPR.

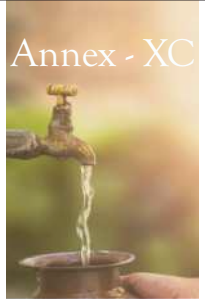


District Action Plan (DAP)

District Water and Sanitation Mission is responsible for preparation and finalization of DAP. The plan would be based on aggregation of all Village Action Plans prepared in the district. The plan, apart from giving the road-map to achieve the FHTCs within 2024, would also include the long term drinking water security of the district. For this, it would prepare a district annual water budget based on the quantum of surface and groundwater available, water available from long distance water transfer and assess the uses by domestic, agriculture, industrial, etc. It would also contain details of water conservation activities to be taken to ensure drinking water security by augmenting surface sources by rejuvenation and restoration of water bodies and recharging the groundwater aquifers.

The plan would also focus on capacity building of all stakeholders by training them, organizing workshops/ seminars/ symposia's at district level, exchange visits to other districts, etc.. A suggested format for preparation of the plan is given below.

S. No.	Name of the component	Remarks
I	**General** i.) Name of the district ii.) Full contact details of Collector/ DM, CEO of District Panchayat and Executive Engineer in-charge of Rural Water Supply with mobile numbers and email ids. In case multiple departments are involved in rural water supply, provide contact details of all district level officials from these departments. iii.) No. of Blocks iv.) No. of GPs v.) No. of census coded revenue villages vi.) Total no. of households in the villages vii.) No. of villages to be included under Jal Jeevan Mission viii.)No. of households already having FHTCs ix) Balance FHTCs required to be provided by March 2024	
II	District water security. a. Whether district water budget has been prepared? b. On the basis of the water budget, whether availability of water is sufficient to ensure drinking water security for the entire year? c. Conservation efforts required to be undertaken for achieving water security – groundwater recharge, rain water harvesting, surface water source augmentation through restoration/ rejuvenation of water bodies in the districts, grey water management etc. d. Proposed action plan for water conservation and identifying funds for the same. e. Year-wise details of works to be undertaken and along with identified funding sources.	

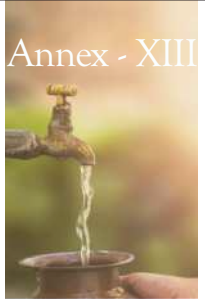


State Action Plan

State Water and Sanitation Mission is responsible for preparation and finalization of SAP which would be approved by the NJJM. The plan would be based on aggregation of all districtAction Plans prepared in the State. The plan, apart from giving the road-map to achieve the FHTCs within 2024, would also include the long term drinking water security of the State. For this, it would prepare a State annual water budget based on the quantum of surface and groundwater available, water available from long distance water transfer from outside the State if any (like Krishna water waters for Tamilnadu, Indira Gandhi Canal in Rajasthan), regional water tyransfers planned within the State, innovative/ technological interventions for scattered/ hilly/ difficult terrain areas etc. and assess the domestic, agriculture, industrial, etc water uses. It would also contain details of water conservation activities to be taken to ensure drinking water security by augmenting surface sources by rejuvenation and restoration of water bodies and recharging the groundwater aquifers.

The plan would also focus on capacity building of all stakeholders by training them, organizing workshops/ seminars/ symposia's at State level, exchange visits to other States, etc.. A suggested format for preparation of the plan is given below.

S. No.	Name of the component	Remarks
I	**General** i.) Name of the State ii.) Full contact details of Principal Secretary/ Officer heading the SWSM/ Engineer-in –Chief/ Chief Engineer of Rural Water Supply with mobile numbers and email ids. In case multiple departments are involved in rural water supply, provide contact details of all State level officials from these departments. iii.) No. of districts iv.) No. of Blocks v.) No. of GPs vi.) No. of census coded revenue villages vii.) Total no. of households in the villages. viii.) No. of villages to be included under Jal Jeevan Mission ix.) No. of households already having FHTCs x.) Balance FHTCs required to be provided by March 2024	
II	State water security. a. Whether State water budget has been prepared? b. On the basis of the water budget, whether availability of water is sufficient to ensure drinking water security for the entire year? c. Conservation efforts required to be undertaken for achieving water security – groundwater recharge, rain water harvesting, surface water source augmentation through restoration/ rejuvenation of water bodies in the districts, grey water management etc. d. Proposed action plan for water conservation and identifying funds for the same. e. Year-wise details of works to be undertaken and along with identified funding sources.	



Procedure for Release under JE-AES Purpose and RWSSP-LIS Purpose

Releases will be made in 2 installments.

a) Release of 1st Installment (50%):

i.) For the states which have drawn the 2nd installment during the last financial year - Funds will be released after subsuming excess opening balance beyond 10% of the last year release.

Or

ii.) For the states which have not drawn the 2nd installment during the last financial year–Funds will be released after getting the request proposal along with requisite documents including UC, check list and after subsuming excess opening balance beyond 10% of the last year release.

iii.) While releasing this part of the fund, the excess amount over and above the prescribed limit (10% of the previous year release) will be deducted. However, balance of 1st installment will be released as and when States furnish the UC showing expenditure of at least 60% of available fund.

iv.) Carry over funds in the next financial year will be allowed to the 10% of the total amount released. If any amount for which sanction order has been issued in the month of March, the same will not be accounted for subsuming on account of excess Opening balance.

b) Release of 2nd Installment (50%): On the receipt of the request proposal from the States along with:

i.) Provisional UC for the current year for the amount equivalent to 60% of available balance (Central fund) and State matching share;

ii.) AG's report of the year preceding the previous year / ASA of previous year;

iii.) Final Central and State UC for the previous year.

In the eventuality of availability of this fund during the fag end of the financial year, the methodology and apportioning procedure would be as per the direction of the competent authority.

Procedure for Release under NWQSM Purpose: For NWQSM, a separate guideline has been issued and releases will be made as per the same and following GFR provisions in this respect.