



Aspirational Blocks Programme

Drinking Water Sector (Module for One-day Training)

NITI Aayog, New Delhi
&
National Institute of Rural Development and Panchayati Raj
Government of India

Preface

Foreword

Abbreviations

ABP	-	Aspirational Block Programme
ABY	-	Atal Bhujal Yojana
BDO	-	Block Development Officer
CPHEEO	-	Central Public Health & Environmental Engineering Organisation
CSR	-	Corporate Social Responsibility
DM	-	District Magistrate
DPR	-	Detailed Project Report
DRD	-	Department of Rural Development
FHTC	-	Functional Household Tap Connection
GPDP	-	Gram Panchayat Development Plan
HH	-	Household
ICDS	-	Integrated Child Development Services
JJM	-	Jal Jeevan Mission
LPCD	-	Litres Per Capita Per Day
LSDGs	-	Localised Sustainable Development Goals
MGNREGS	-	Mahatma Gandhi National Rural Employment Gurantee Scheme
MoPR	-	Ministry of Panchayati Raj
MLALADS	-	Member of Legislative Assembly Local Area Development Scheme
MPLADS	-	Member of Parliament Local Area Development Scheme
MVS	-	Multi Village Scheme
MSDE	-	Ministry of Skill Development and Entrepreneurship
OHT	-	Over Head Tank
PVTG	-	Particularly Vulnerable Tribal Groups
PHED	-	Public Health Engineering Department
PMKVY	-	Pradhan Mantri Kaushal Vikas Yojana
PWSS	-	Piped Water Supply Schemes
RWS	-	Rural Water Supply
SBM-G 2.0	-	Swachh Bharat Mission – Grameen 2.0
SVS	-	Single Village Scheme
VAP	-	Village Action Plan
VWSC	-	Village Water and Sanitation Committee
WASH	-	Water Sanitation and Hygiene
WDC-PMKSY	-	Watershed Development Component – Pradhan Mantri Krishi Sinchayee Yojana
WQMIS	-	Water Quality Management Information System

One-day Training on Aspirational Blocks Programme with a focus on Drinking Water Sector

Time	Session Title	Session Objectives	Training Methods & Materials
09.30 – 10.00	Arrival & Registration	<ul style="list-style-type: none"> Registering attendance 	Registration forms Play: Mission PaaniAntham (A R Rahman)
10.00 – 10.15	Welcome & Purpose of the training Programme	<ol style="list-style-type: none"> Clarify what Aspirational District Programme, and Aspirational Blocks Programme intend to achieve Put across the purpose of the training, and what they can hope to learn in this one-day training 	Notes + PowerPoint Slides Programme Schedule
10.15 – 11.30	Critical Issues in Jal Jeevan Mission, and Highlighting Solutions	<ol style="list-style-type: none"> Define Functional House Tap Connection (FHTC), and the criteria one has to fulfil to be able to report having provided FHTC to every rural household of India Highlight the critical issues that cause stumbling block in providing FHTC to every rural household, and ways to accelerate the programme implementation. 	Brainstorming and Type on the computer screen; or Give cards to the participants to write issues & ways to solve
11.30 – 11.45	TEA BREAK		
11.45 – 01.00	Scheme Convergence for Sustainable water supply	<ol style="list-style-type: none"> Sensitize the participants on the concept and need of convergence. Orient the participants on the areas of convergence so as to successfully surmount the issue of drinking water insecurity and ensure regularity of supply. Familiarize the participants on the need of linkages of different central/state flagship programmes for achieving source sustainability and contribute to the achievement of LSDGs through integration with GPDP. 	Notes and PowerPoint Slides prepared from the Training Module – JJM. LCD Projector White Board & markers Play videos suggested in the Training Module

01.00 – 2.00	LUNCH BREAK		
02.00 – 3.15 pm	<i>How they did it?</i> Success Story presentation and Discussion	<ol style="list-style-type: none"> 1. Recognise and appreciate the lessons from the drinking water sector that are widely varied in nature – ranging from issues of - quality – quantity – access - dependability etc. 2. Apply the lessons to the context of the Block or villages in question, and develop solutions, improvisations that may help address such critical issues 3. Accelerate implementation removing the stumbling blocks that hampered effective implementation of JJM in Aspirational Blocks 	PowerPoint Presentations Play videos suggested in the Training Module
3.15 – 3.30	TEA BREAK		
3.30 – 4.00	Monitoring Framework & Block Development Strategy	<ol style="list-style-type: none"> 1. Introduce the contents of a monitoring framework to be used at Block level 2. Offer clarity on the role to be played; and indicators to be monitored at various levels: Household, GP, Block, Dist. 	PowerPoint Presentation. Distribute copies of the framework to participants
4.00 – 4.45	Group Work on Developing Block Development Strategy	<ol style="list-style-type: none"> 1. When do you think JJM saturation will be achieved in your block (SWOT Analysis) 2. What are the challenges and opportunities in achieving saturation of JJM? 	Template for Block Development Strategy
4.45 – 5.00	Plenary Presentation	<ol style="list-style-type: none"> 1. Let the participants present their plans / strategies. 	Open House Discussion
5.00 – 5.15	What Next? & Thanks	<ol style="list-style-type: none"> 1. Suggest what actions can be prioritised, and what support the Young Fellows will provide, and what support to seek from the District level to achieve the Block Development Strategy prepared for achieving FHTCs by March 2024. 	Collect the papers for consolidation

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Introduction

- **Aspirational Blocks Programme**

The Government of India has identified 500 Aspirational Blocks, following the success of Aspirational District Programme. Geographically, Aspirational Blocks are backward, and receive poor rainfall. They are drought-prone, often remote and susceptible to many uncertainties and volatilities.

Jal Jeevan Mission aims at providing Functional Household Tap Connection (FHTC) to every rural household by March 2024. The critical issues an Aspirational Block has to surmount to be able to fulfil the FHTC promise are multiple, and different from the regular issues that any average Indian village has to face.

- **Purpose of this Training**

The task in hand is to ensure that every household in inaccessible and distant areas of this country also receive FHTC as soon as possible. To able to do this, there is a need for a better understanding of critical issues that cause tight spot in the implementation of JJM in Aspirational Blocks; and highlight ways (find appropriate solutions) in order to accelerate programme implementation.

- **Jal Jeevan Mission**

The vision of JJM is that every rural household has drinking water supply in adequate quantity of prescribed quality on regular and long-term basis at affordable service delivery charges. Thus, JJM focuses on drinking water service delivery at household level.

To have full understanding of JJM, the trainers may go through the Operational Guidelines for the Implementation of JJM (<https://jaljeevanmission.gov.in/guidelines>). This training module assumes that the users of this module have undergone training on the guidelines of the Jal Jeevan Mission, and that they have a fair understanding of the rural drinking water supply programmes.

Session -1

Identification of Critical Issues & Highlighting Solutions

Session Objectives

Upon completion of this session, the participants shall:

1. Define Functional House Tap Connection (FHTC), and the criteria one has to fulfil to be able to report having provided FHTC to every rural household of India
2. Highlight the critical issues that cause stumbling block in providing FHTC to every rural household, and ways to accelerate the programme implementation.

Duration

75 minutes

Methods

Active lecture cum Discussion& Play video

Materials Required

- Technical Notes provided in this Training Module, (along with FAQs)
- White Board / Computer with LCD projector (where critical issues pointed out by the participants can be listed out for discussion)
- Post cards. As an alternative to white board, the trainer can also provide cards (post card size) to the participants to write one critical issue in each card, and to write the proposed solution on the reverse side. The cards can be collected and taken up for discussion one by one.

Session Outline

- Functional House Tap Connection - as defined by the Ministry of Jal Sakthi
- Essential parameters to report about the ‘functionality’ of a house tap
- Critical Issues in Planning & suggested ways to address them
- Critical Issues in Implementation & suggested ways to address them

Box – 1: Note to the Trainer

There are certain specific words and concepts used in drinking water sector. The trainer is expected to be familiar with these terms before commencing the session. So, please go through the glossary of terms given in the Operational Guidelines for Implementation of Jal Jeevan Mission.

Technical Notes to the Trainer

Before getting down to discuss about the critical issues, it's good to have some clarity on what is meant by Functional House Tap Connection (FHTC).

Definition of FHTC: Jal Jeevan Mission aims at providing Functional Household Tap Connection (FHTC) to every rural household by March 2024. Functionality of a tap connection is defined as:

- (i) having the necessary infrastructure and house tap connection at every house, with a single point or three points within the house, as the household may prefer;
- (ii) providing adequate quantity of water, i.e. at least 55 Litre per capita daily (lpcd), and an additional 15 lpcd for animals in villages with animals;
- (iii) of prescribed quality, i.e. BIS:10500 standard;
- (iv) regularly i.e. on a daily basis;
- (v) on a long-term basis i.e., for the entire design period of the infrastructure;
- (vi) irrespective of seasons.

There are many challenges and critical issues to be tackled before we can accomplish the vision stated above. We will be in a position to face many of the challenges and resolve critical issues if we can tap on:

- (a) the good practices and the lessons learnt in similar contexts elsewhere; and
- (b) through convergence of various programmes of the Government of India and State governments.

Precisely, this is what this module aims at doing. Our goal is to provide FHTC to the maximum number of families by March, 2024. Saturation should serve as the pointer to

guide our discussion. The following pages raise some of the often confronted critical issues that cause stumbling block in programme implementation. Against each critical issue, we also state in brief, the possible or proposed solution or ways to address them. The trainers may find it useful - during a training programme - to generate a discussion on critical issues in a given block, and to be able to suggest ways to resolve such issues.

Box – 2: Note to the Trainer

The scope of discussion in this session is only to:

- (a) raise critical issues;
- (b) provide an opportunity for the participants to raise critical issues they are facing or they faced in the past and resolved;
- (c) provide an opportunity for them to explain how they resolved it;
- (d) put across some of the solutions proposed in this module for them to consider for adoption.

Obviously, the critical issues and possible solutions given below are only indicative. Let them know that in the subsequent sessions they will come to know – through case studies and good practices - how others in similar contexts resolved such issues; and how meaningful convergence of programmes of the Government of India, and the state government can resolve some of the issues. This may accelerate the implementation of JJM, leading to achieve saturation earlier than expected.

The trainer should take up for discussion the experiences of participants collected in cards. The table below is only to aid the discussion. The list below is NOT meant for teaching. It is to aid the trainer to confidently conduct the discussion – what issues are most likely to be brought up by the participants.

Critical Issues & Possible / Proposed Solutions

Sl.No	Critical Issues	Possible / Proposed Solutions
1.	Unverified / Incorrect baseline of households that require to be given FHTC.	<ul style="list-style-type: none"> • The purpose of baseline survey should be accurate identification of households (HH) without FHTC. • Identify households missed out, if any, and include in the baseline. In villages where project got completed, include such HH in the upcoming GPDP.
2.	Inadvertent omission of local institutions such as schools, and anganwadi building from being provided with FHTC.	<ul style="list-style-type: none"> • Include in the baseline. • In villages where project got completed, include such HH in the upcoming GPDP.

3.	Existing infrastructure not taken into account while planning.	<ul style="list-style-type: none"> • It must be made known to the community that not taking into account the existing infrastructure will result in <u>community having to pay high contribution towards the capital cost.</u> • Secondly, the expenditure the GP may have to incur due to excessive infrastructure must be made known to the people so that they can rationalise what they ask for.
4.	Community NOT informed of the mandatory financial contribution to avail JJM; and they are not informed of the Rough Cost Estimate which renders collecting community contribution towards capital cost very difficult, leading to delay in execution, and scheme commissioning.	<ul style="list-style-type: none"> • Rough Cost Estimate of the infrastructure being planned and the amount of community contribution to be paid must be presented to the Gram Sabha so that people can rationalise their demand. • They can also ask for other technical options be presented for the community to take an informed-decision. • The SC/ST sub-plans should also prioritise JJM and also use unspent for this purpose
5.	Searching for availability of land for drilling bore-wells, instead of searching for dependable water source.	<ul style="list-style-type: none"> • Gathering local knowledge on nearby bore-wells, water yields, and historical evidences of previously dried-up sources are crucial, along with scientific observations related to sources for accurately identifying dependable drinking water resources. • Taking Hydro-geo-morphological maps (HGM maps) that incorporate all available scientific data can be instrumental in identifying the water source and aiding in the planning process.
6.	Executing an agreement to drill bore-well in a private land for use as a source, without verifying if such private property is under any litigation / dispute.	<ul style="list-style-type: none"> • When private land is used for drilling bore well, always verify and make sure that such lands are not under any dispute or litigation.
7.	Commissioning the JJM Project on an <i>undependable or partially dependable water source</i> – be it new or rejuvenation schemes.	<ul style="list-style-type: none"> • Gathering local knowledge on nearby bore-wells, water yields, and historical evidences of previously dried-up sources are crucial, along with scientific observations related to sources for

		accurately identifying dependable drinking water resources.
8.	Out of the 500 Aspirational Blocks, data on groundwater is available for 424 Blocks. ABs have <i>Critical-6; Semi-critical-39; Over exploited-39; Saline 3</i> . This indicates source is a critical issue, <i>constraining JJM from providing adequate supply</i> .	<ul style="list-style-type: none"> • Propose: recharge structures, • Water Conservation measures, • Percolation tanks,(use MGNREGS) <p>This issue will be dealt with in detail in Session - 3 on ‘Convergence’.</p>
9.	Coastal districts face challenges during summer seasons due to groundwater depletion and saltwater intrusion.	Solutions involve exploring alternative sources, and adopting sustainable groundwater management practices.
10.	High variation in the quantity of water received across head, middle, and tail end houses.	Go for technical solutions such as use of flow control valve or ferrule that ensures a flow of 12 Lrs per minute at all points. Meddling with flow control valve stops the flow at the point where it is interfered.
11.	Delays in administrative and technical approvals.	<ul style="list-style-type: none"> • Propose Fast-track approval process: Ensure quick approval of the techno-economic design from the competent authority, especially for ABs. • Set timelines for project clearance: Establish clear timelines for obtaining technical approvals and project clearance. • Special fast track approval and giving high priority to granting drinking water sanction for ABP area • Regularly review the status of approved schemes: Check and review the approval status of schemes on a state-level dashboard to monitor progress. • Facilitate timely payments (scheduled with timelines and stages) to contractors to maintain the pace of implementation of the program. • Incentives for timely commissioning: Consider awarding incentives to executing agencies that successfully complete the scheme within the target period.

12.	Scattered households in some areas result in a significant increase in the cost of the project or cost per household.	<ul style="list-style-type: none"> Higher costs for such cases to be considered and system for technical and administrative approval should be put in place for ABs.
13.	Executing agency / contractors not following the CPHEEO manual and norms. Poor quality materials used. Poor quality work executed.	<ul style="list-style-type: none"> The DLP(Defect Liability period) for vendors and executing agencies may be extended to 5 years, thereby making the vendors and executing agencies more responsible. Make sure vendors procure all the material from the approved vendors only. Once materials have been cleared after quality assessment, ensure they are transported to the destination with the specified stamping by the vendor. Third-Party Quality Inspection
14.	When the progress in blocks are slow...	<ul style="list-style-type: none"> Saturation Approach: Adopt a saturation approach by prioritizing small villages or habitations in the block, thereby inspiring other habitations within the block. Engage and place Young Fellows at the Block Development Office (BDO) to monitor and nudge not only the BDOs but also the GP functionaries in the planning, execution, and operation and maintenance activities.
15.	Contractors abandoning / leaving the work mid-way incomplete.	<ul style="list-style-type: none"> Contractors abandon work when they find it highly unviable or due to lack of support from the GP or from the government machinery side. Establish a committee at the block levelled by the Executive Engineer and assisted by the Block Development Officer (BDO), agencies/contractors, and community leaders, will assess the bottlenecks and devise appropriate solutions.
16.	Pressure for the contractor to go for retrofitting, where it is technically unviable. In other words, pushing the contractor to do retrofitting, where complete	<ul style="list-style-type: none"> Determine Techno-Economic Viability: Assess the techno-economic viability of retrofitting and make a decision on whether to proceed with the retrofitting option.

	new scheme might be required.	<ul style="list-style-type: none"> Set Milestones for Retrofitting: If retrofitting is recommended, establish clear milestones to expedite the work.
17.	Absence of trained manpower at the local level to attend to preventive maintenance, or leakages in pipelines or give a new FHTC.	<ul style="list-style-type: none"> Arrange for training through DDU-GKY & RSETI Skilling Centres. PM Koushal Vikas Yojana (PMKVY) may be contacted by selecting the local youth who are willing to take up such jobs.
18.	No Source Protection planned as part of VAP, leading to source contamination (an issue of Water Safety - Water Quality)	<ul style="list-style-type: none"> Source Protection measures (and if need be source recharge arrangements) should be taken up in VAP or in the upcoming GPDP.
19.	Poor idea of chlorination among the water supply operator coupled with people complaints of chlorine taste in water weans the water supply operator from supplying chlorinated water. This brings up the issues of bacteriological contamination in water / water safety issues.	<ul style="list-style-type: none"> Tank operator must be trained in the correct methods of chlorinating drinking water. Even a local chemistry teacher, who understands the dosage chlorine, can train him. Right amount of <i>residual chlorine</i> in water may not be an issue to people. Regular cleaning of OHT and right amount of residual chlorine is essential. There should be a minimum of 0.2 - 1 mg/L of free chlorine residual present (this ensures microbiologically clean water). Four grams of chlorine is enough to chlorinate 1000 Lrs of water. It cannot exceed. If chlorine level is more, the easy way to reduce the residual chlorine level is by pumping additional ground water. Or dechlorinating tablets can be used.
20.	Frequent Power Failures in villages hamper regularity of supply / dependability of FHTC.	<ul style="list-style-type: none"> Solar-based pumping can help resolve such issues, while at the same time reduce power bills the GP has to pay.

Three Scenarios

Tips to the Trainer: There are three Case Scenarios presented below. The Trainer needs to be sensitive about the type of issues that may have to be tackled in each of the scenario. When plans and strategies are proposed, the Trainer needs to assess involving the participants, if the action / activities proposed are suitable to the scenario we are in.

- **Scenario 1:** The block X is having coastal zones, is in final stage of implementing Jal Jeevan Mission. How should the block strategy be approached?
- **Scenario 2:** The block Y is falling under drought prone area where around 55% progress of FHTCs. The block is also fluoride affected region. How should the block strategy be approached?
- **Scenario 3:** The block Z is in a hilly terrain and falls within conflict affected area. Availability of good contractor agencies is a challenge. The block is also weak in terms of human resources at the department level. How should the block strategy be approached?

For Trainer:

Scenario 1: The strategy should focus on Salinity and related issues in coastal areas through spatial transfer of water from non-saline areas in addition to focussing on capacity building, source sustainability, grey water management, O&M, etc.

Scenario 2: The strategy should focus on Fluoride mitigation processes in WQ affected areas which can be filtration at source/ household level based on the situation and local context. Awareness of fluoride contamination should be taken up on priority while focussing on the remaining targets. Capacity building, source sustainability, grey water management, O&M, etc. should be a focus here as well.

Scenario 3: Building on protection of natural water sources such as springs etc. and linking these with the PWS could be a focus through skill training and capacity building of local NGOs and CBOs. Availability of material also needs to be focussed. Customized ToRs together with added incentives for attracting contractor agencies can be considered or seeking support from specialized agencies (ex. Technical cells of the paramilitary forces, etc.). Capacity building, source sustainability, grey water management, O&M, etc. should be a focus here as well.

Further Reading / Views

1. Operational Guidelines for the Implementation of JJM (Download)
2. View a video on Village Action Plan under Jal Jeevan Mission
(<https://www.youtube.com/watch?v=QKFjjeOt31w&t=19s>)
3. A R Rahman | the mission paani anthem official song
(<https://www.youtube.com/watch?v=-t8h7LPtq8k>)

Note: Some of the success story videos and A R Rahman's Mission Panni Anthem can be played while waiting for all the participants to arrive.

Session 2: *How they did it?* A Series of Success Stories from across India

Introduction

It is remarkable to note the innovations and contributions made by schemes such as Jal Jeevan Mission, MGNREGS, PMKSY and other private sector players, NGOs and CSRs in addressing the issues of water quality, inadequacy, undependability and irregularity. Today a significant number of Indian villages receive adequate quantity of safe water throughout the year.

The conditions under which some of these projects got executed are unfathomable. They include areas highly inaccessible making it difficult to transport materials; hard terrains to hit at water table; chemical contamination in groundwater much beyond the permissible limits; scarcity of water ranging from semi-critical to extremely critical in terms of groundwater availability; the oddity of cultural practices beyond the comprehension of outside agencies, and so on and so forth.

Successful implementation of water supply projects in such areas always leaves us not only with satisfaction and confidence, but also with vital lessons that help tackle such issues in similar contexts elsewhere. The best way to acknowledge - such wonderful works and related documentation - is through replication, and taking those lessons for wider dissemination. This section aims at doing it.

Session Objectives

Upon successful completion of this session, the participants will be able to:

1. Recognise and appreciate the lessons from the drinking water sector that are widely varied in nature – ranging from issues of - quality – quantity – access - dependability etc.
2. Apply the lessons to the context of the Block or villages in question, and develop solutions, improvisations that may help address such critical issues
3. Accelerate implementation removing the stumbling blocks that hampered effective implementation of JJM in Aspirational Blocks

Session Outline

Case # 1: Rejuvenation of springs, in the absence of contractors, Madhya Pradesh.

Case # 2: Water Security and Groundwater Management, Kutch Gujarat

Case # 3: Addressing Salinity in Water through Recharge wells, Kerala

Case # 4: Small-scale Greywater Management System, (many locations)

Case # 5: Adaptive Water Management in Rajasthan

Case # 6: Project Bhujal: Watershed Rejuvenation in Uttar Pradesh

Case # 7: Trained manpower at local level ensuring functionality, Madhya Pradesh

Case # 8: Water Quality Monitoring and Surveillance, (Many locations)

Case # 9: Spring Rejuvenation in hilly areas, Tamil Nadu, and states in NER

Materials

CASE #1: Tapping Traditional Water Sources for Assured water supply

Methods

Tips to the Trainer: Method of facilitation is important in case / success story presentations. The context must be described. The problem can be narrated. Before, revealing how the problem was resolved in the context, the trainer may ask the participants to ponder over the problem. Therefore, after narrating the problem, give it a pause. Let them come out with their ways of addressing the problem. Then the trainer can reveal and explain how it was resolved in the context under reference. The trainer can also recognise and point out some of the interesting and doable solutions that the participants came out with.

Duration of the Session

Each case can take about 20 minutes for discussion, and to point out lessons. Pick and choose relevant case keeping in view the states involved in the training.

Suggestive session facilitation process

After describing (a) the context, and (b) narrating the problems, the trainer can ask: *In the above scenario – How do you visualise providing FHTCs?* Then give it a pause, generate ideas of the participants, before you reveal how it was actually resolved.

Technical Notes to the Trainer

CASE #1: Tapping Traditional Water Sources for Assured Water Supply

Background

- Kapoti habitation in Daldalkapoti village in Dindori Madhya Pradesh
- Inhabited by Baiga – PVTGs. It is a forest village
- Total HHs in the village - 45 with 55 families residing
- Total Population - 250 people
- Preferred source of drinking water - springs

Problems

- Remote habitation – erratic (electricity) power supply
- Cultural beliefs: Spring water preferred for drinking
- Although they got used to taking water from unprotected spring sources, at times, unnoticed contamination caused by animals rendered it unsafe, leading to people falling ill.
- Increasing human activity in such areas, coupled with deforestation; reducing vegetative cover led to drying up of springs aggravating drudgery of women, and young girls skipping schools
- Multiple permissions required to be taken
- Unavailability of quality contractors - high cost of labour
- Community socio-economically poor - cost of maintenance is high, which becomes a challenge against sustainability

Interventions Undertaken

- Spring based piped water supply scheme connecting all HHs
- Source protection measures made as essential part of DPR
- Gravity based water supply system - no electricity required.
- Roping in a local SHG into contract, and inviting VWSC to be the monitoring agency of implementation. The scheme was departmentally

executed using SHGs, employing masons, and plumbers sourced from neighborhood villages.

- Community resolution for protection of spring - rejuvenation work undertaken.
- Community engagement, training women on water quality - health issues and health implications, of taking contaminated water.
- Community contribution in form of labor for construction of slow sand filter in order to ensure water safety
- Locally trained youth for basic O&M

Achievement

- Pump Operator - Indrapal Singh felicitated by the District Collector in 2022 for his commitment to operate and maintain the system with a sense of ownership.

Lessons Learnt

- Traditional water sources may be tapped in remote regions.
- Community participation tends to be high, when the work is aligned with their requirement and cultural practices
- Aligning interventions to community beliefs - helps garner community support.
- Gravity based system – not depend on power supply to operate
- Train local youth to attend to minor break downs and leakages
- Involve local SHGs and VWSC in contracting and monitoring programme implementation.
- Do not plan a new / costly power-dependent water supply system away from spring sources. It may go against the local cultural practice
- A local person nurtured as a protector of the system, and recognized by Gram Sabha and the Block / District Administration tend to sustain efforts.

Case – 2: Water Security and Participatory Groundwater Management, Kutch District, Gujarat

Background

- The Kutch in the north western region of Gujarat is known for water scarcity and drought-proneness for several years.
- The problem of drinking water is acute, despite having one of the largest piped water supply schemes in the state that covers 92% of the villages in this region.
- Water Tanker plying up and down busy is a scene one can witness anytime of the day.
- All these are impact of relentless extraction of groundwater without initiating any measures for rainwater harvesting or groundwater recharge.

Problems

- The Kutch region in Gujarat has been experiencing a steady decline in the groundwater level.
- This, along with salinity and persistent droughts, has made the region extremely water-stressed.
- Traditionally, local communities relied on talabs (ponds) and wells, along with dependence on rainfall, to meet their water requirements.
- The village grew heavily dependent on the Narmada to meet their growing demands.
- However, the frequency of the water supplied through the Narmada was insufficient and unreliable.

Interventions Undertaken

- Arghyam – an NGO prepared a participatory groundwater management framework, which included Water Security Plans for the region.
- Components of WSPs converged with permissible works under MGNREGS.
- Community resource persons (or jaldoots) were identified to anchor the initiative in villages and for conducting a baseline survey.
- The trends in water levels and quality are regularly monitored and discussed with the community
- Activities such as de-silting of existing ponds, building storage wells and check dams, assigning recharge zones in alluvial areas, and reviving old ponds are done by the community, with the support of a local NGO Samerth, technically guided by Arghyam.
- MGNREGS was leveraged to incentivize community members to contribute their labour for these activities.

- The water conservation activities listed under MGNREGS guidelines were very liberally included in the framework. MGNREGS fully supported to tide over the situation.

Achievements

- The project has ensured security of drinking water in the region.
- Sufficient availability of water throughout the year.
- The villages are no longer dependent on tankers. *f*
- Apart from this, the community renovated two nearby talabs, which were also connected to the Narmada.

Lessons Learnt

- A comprehensive participatory groundwater management framework was prepared using the baseline data collected from villages.
- It helped prepare robust Water Security Plans for execution across Gram Panchayats.
- All identified works converged with MGNREGS and PMKSY for financial assistance.
- Technical assistance and community preparation provided by local NGOs and expert organization such as Arghyam.

Case – 3: Addressing Salinity in Water through Recharge Wells
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Background

Rural Kerala fulfils its drinking water needs by using water collected in open dug wells. Open wells are slowly becoming a thing of the past, due to depleting groundwater.

Problems

- Rural Kerala fulfils its drinking water needs by using water collected in open dug wells.
- But increase in dependency on groundwater has led to drying up of these wells and has deteriorated the quality of existing water sources.
- Those still using open dug wells, find salinity as a new problem, possibly due to sea-water intrusion as the available groundwater get depleted.

Interventions Undertaken

- In this context, the Thrissur District Administration along with various NGOs working in Kerala launched an artificial groundwater recharge program called *Mazhapolima*, meaning ‘bounty of rain’.
- In the rainy season, the rooftop rain water is led through pipes with sand filter at the end, to open dug well to replenish the aquifer..
- Under this initiative, employees of 100 NGOs received training to install roof water harvesting systems.
- The intervention gives subsidies to poorer households especially in overexploited groundwater blocks and in areas of high salinity.
- When multiple wells are recharged in that area, the groundwater table starts rising.

Achievements

- Abundance of drinking water (rise in groundwater levels) free from nitrates, Iron content and reduced salinity.
- 20,000 well recharging units established, with 1, 00,000 people benefitted.
- Money earlier spent on obtaining drinking water through tankers is now spent on building self-sustaining rooftop rainwater harvesting structures.

Lessons Learnt

- As groundwater level keeps going down, the chances of fresh water becoming saline are high. This is most probably due to sea water intrusion, especially in coastal regions.
- One of the best mitigation interventions is roof water harvesting, which in turn should serve as groundwater recharge structures.
- The idea is when water table raises due to construction of rainwater infiltration wells, and recharge structures, it yields double benefits. One is raising water table, and the other is addressing the issue of salinity, and other water quality related issues.

Case – 4: Small-scale Grey Water Management System

Background

Recently in Indian villages, the amount of wastewater disposed has increased manifold, which is an unintended after effect of Jal Jeevan Mission. This is an obvious outcome, when every rural household is provided with a FHTC. Lack of drainage

facilities in many villages, and complete absence of thinking about proper disposal systems render wastewater disposal unplanned or ill-considered.

Problems

- In Algarwadi – a village in Chakur block of Latur district, Maharashtra. Open drains were the only system available to manage the generated greywater.
- As it happens in many Indian villages, households used to sweep off kitchen refuse into the drainage lines.
- Their irregular maintenance and choking were recurring problems.
- All the more, at the tail end of the open drain it was haphazard disposal of wastewater into a gully, which served as a breeding spot for mosquitoes.

Interventions Undertaken

- Villagers received orientation about the construction of soak pits from Nanded Zilla Parishad.
- Later, a demonstration for their construction was also shown to them.
- Following this, the construction of soak pits was extensively undertaken covering households and common areas using MGNREGS and village funds. It took about nine months for the construction of 307 soak pits (290 household level and 17 in common areas)

Achievements

- Now, with extensive coverage of soak pits, there is no stagnant greywater anywhere in the village.
- This development has broken the reproduction chain of mosquitoes, and kept the vector-borne diseases in check.

Lessons Learnt

- Similar cases are there in many places in Telengana, Haryana etc. There are some places, where soak pits fail. Communities in such places have chosen to construct leach pits, like it happened in the case of Ibrahimpur in Telengana, which is known as a Mosquito-free village. Same is the case with Basara village, Panipat district, Haryana. This is replicable especially in villages where households are mostly scattered.

Case – 5: Adaptive Water Management in Mandli, Rajasthan

Background

- Mandli is a Village in Baltora Tehsil in Barmer District of Rajasthan
- The main source of water for the village was a pond called the Gawai Talaab which has the capacity of 2,869 cubic meter.

Problems

- Owing to its small catchment area and improper construction, the pond (Gawai Talaab) would become dry and women had to collect water from afar.
- The existing water supply was saline and inadequate. People had to use it for lack of alternatives.

Interventions Undertaken

- The villagers of Mandli, inspired by success of Jal Sabha's in Rajasthan came together and formed a Jal Sabha with active women participation in their own village to deal with the problem of drinking water insecurity.
- The members undertook a participatory planning exercise and decided to increase the area of pond, which would allow it to take more water.
- The members of the Jal Sabha generated funds through contribution of every household in the village. The money was then pooled into a Jal Kosh and to ensure maximum accountability.
- The pond was sufficiently enlarged to provide water throughout the year.
- The pond has since been able to provide water even in drought years and has greatly solved drinking water crisis in the area.

Achievements

- Availability of sweet drinking water round-the-year, water security ensured even in a severe drought year.
- Expansion of capacity of Gawai Talab from 2869 to 5218 CuM and that of Narsingh Nasa from 2308 to 26601 CuM was undertaken.
- Thirteen villages benefit through this intervention by sourcing water through tankers.
- The Jal Sabha has achieved a sustainable financial source for regular maintenance of the talaab through a coupon system put in place.
- The village, has been able to adapt to changing climatic patterns and recurring droughts

Lessons Learnt

- Revival of water holding structures are important and it is possible through building sustainable community systems and institutions.
- Local institutions building and technical guidance were provided by a local NGO called Jal Bhagirathi Foundation, which indicate the contribution of local NGOs besides the government in tackling water crisis
- The coupon system introduced, and the revenue collection system can help sustainable maintenance of the technical structures

Case – 6: Project Bhujal: Watershed Rejuvenation

Background

- Bundelkhand region comprises seven districts of Uttar Pradesh and six districts of Madhya Pradesh.
- This region is known as hotspot of water scarcity

Problems

- The Bundelkhand region of central India is the hotspot of water scarcity.
- Degraded lands, poverty stricken area along with inefficient institutions for health and education have worsened the situation.
- This led to a poor socio economic condition of the whole region, leaving people to walk miles for drinking water.

Interventions Undertaken

- The region of intervention, Parasai-Sindh watershed of Jhansi district, comprises of three villages and covers nearly 1,250ha land.
- From 2012, the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) along with local community has successfully implemented watershed interventions in this area.
- The steps taken up were the construction of 6 check dams and 15 farm ponds, renovation of 60 existing structures, recharging of 100 wells along with contouring in 8 locations.
- Project Bhujal specifically aimed in rejuvenating the watershed and it created a storage capacity of 100 million liters of water, which resulted in drinking water sources also to come back to life.
- The framework included development of essential infrastructure, sourcing labour mostly from among the local people

Achievements

- Watersheds rejuvenated creating a storage capacity of 100 million liters of water, which resulted in drinking water sources also to come back to life.

Lessons Learnt

- The solution of problem often emerges from within the system but an effective transparent institution is required.
- It is important to train each individual and ensure no one is left to stand away watching. Thus, give them a sense of belongingness to the intervention.
- NGOs and CSR joining hands to work for collective good of the people demonstrate better ways of mobilising the community

Case – 7: Local Trained Manpower & Functionality

Background

- Women and children often bear the burden of carrying water to meet drinking water needs of the family from miles away.
- Young girls, often times, have to miss school because they walk miles to provide water for their families.
- Productive time available for women in rural areas is also decreased drastically

Problems

- No piped water supply. 90 HHs in Radha Meena's village were covered under erstwhile CM Nal Jal Yojana. For the women in rest 287 HHs – access to safe drinking water at doorstep was a distant dream.
- Maintenance of the earlier scheme was also an issue as often, motor breakdowns would take days to be repaired.
- Community was not paying water tax – panchayat struggled to maintain the existing scheme.
- Village had no formal Water User Committee/ VWSC in place, day to day affairs managed by panchayat. Panchayat over-burdened.

Interventions Undertaken

- JJM related discussion came up in the Gram Sabha

- Participatory Village Action Plan developed to ensure connections to all left out HHs under JJM.
- RadhaMeena, volunteered to be a member of VWSC and also received training on basics of O&M for performing the role of a pump operator.
- Develop water supply bye laws for her village based on principles of equity and inclusion.
- Developed a roster for daily water supply to all habitations with fixed timings of supply.
- A detailed O&M budget was developed to determine the amount of water tariff per HH (Rs. 105 per HH was decided).
- Collaborated with women in her village to undertake regular water quality testing and facilitate HH level tariff collections.
- Locally trained manpower to reduce downtime of PWSS

Achievements

- 4.28 Lakhs collected from 340 out of 377 households
- Ensured equitable distribution of drinking water & functionality

Lessons Learnt

- Assured supply of water translated to community paying.
- Keeping community involved at every stage promotes ownership.
- Women taking leadership of key roles translates to better community participation.
- Proper planning for O&M requires placing institutional, technical and financial systems in place.

Case – 8: Water Quality Monitoring and Surveillance
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Context

- Water Quality is often the main challenges that communities in rural areas are facing. Lack of decent sanitation facilities in the rural areas lead to contaminations of water points.

- With decentralized management of drinking water being provided under JJM, the need for regular community led water quality monitoring and surveillance is of utmost importance.

Problems

- Members of the community had frequent visits to the health centres with complaints of dysentery, diarrhea etc.
- Low awareness of the community on safe handling of drinking water and health implications from consuming unsafe water.
- Lack of clarity of the key stakeholders at the village level – community, VWSC and panchayat on their roles and responsibilities.
- Training of women on water quality is being done but focus is not beyond.
- Community unaware of implications of water quality or the test results.

Interventions Undertaken

- BabitaLiloriya was one of the 5 women trained in Nayapura village, Dewas, who was trained on water quality. Started training women in each habitation focussing on importance of safe drinking water for the benefit of family.
- All women registered on WQMIS
- Regularized testing (source, storage & distribution line – 1st middle and last HH of every habitation – every month) and encouraged record maintenance at the village level.
- Water quality records verified and seen by VWSC and panchayat, validated.
- System put in place – if contaminations are found, that would be escalated to department through panchayat.
- Lab testing once in 6 months carried out by panchayat. Results shared with community.

Achievements

- Community led Water Quality Monitoring and Surveillance in place.
- Ensured equitable distribution of safe drinking water & functionality

Lessons Learnt

- Need to identify natural local leaders

- Processes need to be set in place to ensure sustainability
- Transparency of information is essential to minimise misreporting of data.
- Focus must be to translate knowledge to action

Case – 9 Springs Rejuvenation in hilly areas

Background

- The Nilgiris in Tamil Nadu are known for their significant biological and cultural diversity.
- The region relies heavily on state water supply systems and on a network of springs and wells in the discharge areas.

Problems

- Issues of falling water levels and wells running dry have become common in the region.
- Wetlands that were the primary source of drinking water were under threat
- Water quality tests revealed coliform presence across the Coonoor area.
- To protect these spring sources, it is important to identify issues, protect water sources, and conserve them.

Interventions Undertaken

- The main intervention undertaken were reviving and conserving springs and for spring-shed management in the region
- Wetlands that were the primary source of drinking water were identified again.
- A nursery was raised and saplings planted with the participation of the community, panchayat and a local school.

Achievements

- The springs that used to dry up in the summers have now become perennial. A small shola forest has ensured sustained water levels in the wells. *f*
- An intensive greening programme, and plantation programme has rendered the place, almost how it originally was about decades ago.
- The community has responded positively to the intervention and is happy with the water availability in its springs and wells even during the lean season

Lessons Learnt

- Keystone Foundation – an NGO has been there to generate a discussion about it, and discovered that everyone was aware, but no one had the spark to initiate action.
- The people were concerned about it, and they cared for it gave the NGO the impetus to get down in action with the support of a few people, which started receiving massive support that was required.
- Protection of vegetation, simple tree plantation drives, and protecting the spring sources from being contaminated can render spring water sources to serve as perennial source of safe water for hill tribes.
- There are many such similar stories from many hilly areas (Uttarakand) in the Himalayan and NER regions such as Sikkim, Meghalaya, and Nagaland. They serve as proof that such interventions work across states in similar contexts.

Overall Learning from these Success Stories

- In all these cases we find some individual (elected / official / NGO person) or an institution has been there to initiate, discuss, and guide the villages through.
- Properly constructed groundwater recharge structures help augment groundwater.
- Recharge structures should be fitted with properly designed filter media to avoid contamination of aquifer.
- Maintenance/ rejuvenation of existing structures like desilting water bodies, clearing the inlet channels of encroachments/ jungle clearance, strengthening of bunds, repairs to regulatory control assets etc may be regularly taken up.
- Protective fencing around the pumping well and plantation of shrubs and small trees in the 50 m radius essential
- District authorities should ensure regular risk assessment of villages.
- To stop wastage of precious groundwater sources, filling up of farm ponds/ tanks by pumping groundwater should be discouraged.
- Water bodies should be kept clean and dumping of garbage in water bodies should be banned
- Well Head Protection is essential

Caution to Note: Within of 50m radius of Tube well/ Bore well:

- No Land fill site
- No disposal of toxic /polluting substance
- No direct infiltration of wastewater/ greywater
- Afforestation of area
- No soak pit/ magic pit
- Avoid sinking of additional Tube well/ Bore well within a radius of 200m of existing groundwater scheme

GW Monitoring

- Monitoring of extraction in 500 radius of the pumping well-constructed under JJM.
- Monitor tube well/ bore well extracting groundwater within 500m radius of existing JJM source.

PowerPoint Slides for the session

References / More Cases

- Koshishoki diary
- Compendium of Best Practices in Water Management 2.0
(https://www.niti.gov.in/sites/default/files/2021-11/Compendium-of-Best-Practices-in-Water-Management_03-11-2021_compressed.pdf)
- Model Village under JJM:
<https://www.youtube.com/watch?v=TTuDxJS36E&t=3s>
- Ted Talk - Mr. Anupam Mishra
(https://www.youtube.com/watch?v=eJCTAXb_BWs)
- Springshed Development in Sikkim
(https://www.youtube.com/watch?v=3p_oGP-UpRw)
- Mission Water Conservation Under MGNREGS
(<https://www.youtube.com/watch?v=qM6cYWyaVyA>)

- Role of Village Water & Sanitation Committee (VWSC) under [#JalJeevanMission](https://www.youtube.com/watch?v=QG3c_ISt3zg) (https://www.youtube.com/watch?v=QG3c_ISt3zg)
- Skill Development under [#JalJeevanMission](https://www.youtube.com/watch?v=Z_tYqk3bClU&t=55s) II Employment opportunities under [#HarGharJal](https://www.youtube.com/watch?v=Z_tYqk3bClU&t=55s) (https://www.youtube.com/watch?v=Z_tYqk3bClU&t=55s)
- Village Action Plan under Jal Jeevan Mission (<https://www.youtube.com/watch?v=QKFjjeOt3lw>)
- Community Participation under [#JalJeevanMission](https://www.youtube.com/watch?v=fMuTc9PUw_Q&t=51s) to make it a 'Jan Andolan' (https://www.youtube.com/watch?v=fMuTc9PUw_Q&t=51s)

Session -3: Scheme Convergence for Sustainable Rural Water Supply

Title of the Session:

Convergence of Schemes for Regular / Dependable Water Supply through FHTCs

Session Objectives:

- 1) To sensitize the participants on the concept and need of convergence.
- 2) To orient the participants on the areas of convergence so as to successfully surmount the issue of drinking water insecurity and ensure regularity of supply.
- 3) To familiarize the participants on the need of linkages of different central/state flagship programmes for achieving source sustainability and contribute to the achievement of LSDGs through integration with GPDP.

Session Outline:

- Need and importance of convergence with reference to FHTCs
- Operational challenges in convergence
- Scope of Convergence among different National/State flagship Programmes
- Convergence with PVTG Mission to ensure sustainable supply of drinking water
- Strategies and methodologies to bring about synergy among different line departments to operationalize convergence.
- Linkages with LSDGs, ADP, GPDP
- Sharing of best practices

Materials to be used in delivering the session:

- Power Point Presentations
- Reading Materials and lecture notes on JJM and convergence
- Small documentary, short videos
- Synoptic note of programmes to be referred to

Training Methods:

A combination of following training methods to be used while delivering the session

- Lecture-cum-Discussion using Power Point Presentation
- Brainstorming

- Videos / animated films

8. Duration of the Session: 75 minutes

Views

- (<https://youtu.be/vfLYWCO9Oys>)
- (<https://youtu.be/FsTcKtaU4z0>)
- (<https://youtu.be/ZR4KKYFsdeu>)

The session may be concluded by summing up of the presentation and question-answers.

Technical Notes to the Trainer

Critical Issues

Jal Jeevan Mission has to tide over several critical issues before it can ensure FHTC to every rural household. They include:

- Deteriorating water sources due to over-extraction of groundwater for irrigation purposes (over dependence on groundwater)
- Water quality issues such as arsenic, fluoride, excess iron and so on
- Disappearing water bodies or shrinking water bodies due to encroachments
- Disappearing Rainwater passage / water courses / water canals
- Poor sanitation practices and consequent bacteriological contamination in water
- Absence of greywater management leading to water stagnation and water borne diseases
- Absence of trained manpower at local level to attend to repairs and leakages in pipelines

All these culminate into drinking water insecurity – of quantity, quality and dependability. The Village Action Plan (VAP) of JJM requires addressing these issues so as to ensure drinking water security. Convergent thinking and convergent programming can help address many of these seemingly critical issues. This session aims at bringing about a mind-set change among scheme implementing officials that whichever direction we pass the ball from *‘our goal post is one and one only’* i.e. achieving drinking water security through FHTCs.

This is possible through coordinated action among different scheme implementing officials. This session will show how this can be carried out.

Understanding Convergence

Every Ministry of the government through certain institutional arrangement implements projects and programmes. Departments of the government that implement such projects and schemes, often tend to work in silos. They report physical and financial progress in a narrow domain or vertical. Many elements integral to such domain may be implemented – again in isolation – by another department, say Department – X, regardless of what Department – Y is doing about it. Most often they do not recognise that these two programmes are complementary to each other, or one can substantially supplement the effort of the other, leading to a sort of win-win situation.

The idea of institutional convergence and convergence of programmes across government departments - including CSRs and NGOs - is known as ‘convergence’ or ‘convergent planning’. This is technically a very sound idea, but a rarity in reality. Conceivably, convergence does not happen due to the deeply ingrained culture of vertical/narrow mind-sets that the government departments have fostered through time.

However, for quite some years now, convergence is in conversation and in policy briefs. It is now recognised as a prudent strategy to bring about a multiplier effect in terms of outcomes and results. The purpose of this session is to *reinforce the idea of convergent planning for being able to achieve FHTC in the true sense of the term*. In the process, we shall show how GPDP can serve as a convergent planning tool. Essentially, GPDP demands institutional and programme convergence. This makes way for resources / funds and knowledge to flow towards addressing critical issues, in a multi-pronged way.

Convergence of Institutions, Programmes and at Personnel levels

Convergent programming refers to meaningful programmatic linkages between and among departments to be able to achieve greater results. In this session, we aim at addressing the issues of ‘drinking water insecurity’ through converging programmes being implemented by different departments.

The best way to clarify what is meant by ‘convergence’ could be by listing out the possible areas of convergence in the context of Jal Jeevan Mission.

Areas of Convergence

1. Convergence with MGNREGS: MGNREGS is implemented by the Department of Rural Development. Most of MGNREGS works relate to augmentation of groundwater, restoration of surface water through rainwater harvesting, and pond renovation works. This is an opportunity for JJM to converge at Block level for addressing the challenges of inadequacy in water supply faced by JJM, anywhere in India.

Most of the Single Village Schemes (SVS) of Jal Jeevan Mission depend on groundwater, and Multi-village Schemes depend on surface water sources such as river, dam or Lake. Be it groundwater or surface water sources, for sustainability of source, and to avert depletion we need to take up works such as water conservation, rainwater harvesting, desilting of ponds and other holding structures, cleaning of rain water passages etc. Incidentally, more than 60% of the funds of MGNREGS is being used for water conservation and water level augmentation related works only. It implies that well-planned implementation of MGNREGS will positively impact on the functioning of FHTCs installed by the JJM. In fact, for the FHTCs to remain functional, the water conservation works of MGNREGS must do well.

Large scale and intensive water conservation measures such as rain water harvesting, and construction of recharge structures etc. can ensure drinking water security in villages. These are permissible works under MGNREGS. Therefore, such works must be meticulously identified and included as MGNREGS components of GPDP in every JJM village. The officer from DRD [perhaps a BDO] in-charge of MGNREGS needs to recognise this connection, and include such works in JJM villages. Such convergence can

also contribute to the achievement of Localised SDG Theme – 4 on ‘Water Sufficient Village’ promoted by the Ministry of Panchayati Raj (MoPR).

Box - Tips to the Trainer:

Please see the ‘Permissible Works list’ of MGNREGS. You find about 172 possible / permitted works listed, which are directly related to ‘water’.

2.Convergence with WDC-PMKSY: Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) is implemented by Department of Land Resources. PMKSY can contribute to addressing the challenges of ‘source sustainability’ that JJM faces. This is locally recognised as a watershed programme. Every District Collector’s Office has an exclusive Cell, called the WCDC that implements PMKSY. The activities are similar to MGNREGS except for the livelihoods promotion activities involving farmers, and SHGs women. PMKSY converges with PVTG Mission as well.

The groundwater, which is used for almost 60 % of the nation’s irrigated areas, has gone down in several parts of the country leading to their declaration as Dark Zones. Out of the 500 Blocks under the Aspirational Blocks Programme (ABP), nearly 87 Blocks are critical to over-exploited stages in terms of water scarcity. The potential of PMKSY in promoting Groundwater Management, Water Budgeting and Demand Side Management in such areas is immense. This involves constructing small water harvesting structures like field bunds, trench cum bunds, contour trenches, gabion structure, continuous contour trenches, farm ponds, diversion weirs, embankments, percolation tanks, check dams etc.

3. Convergence with Central Groundwater Board: The Central Groundwater Board under the Ministry of Jal Sakthi has come out with Block-wise Groundwater Assessment Report-2022. The data relate to (a) the quality of water with reference to issues of chemical contamination / water safety; and (b) on availability / scarcity of water in terms of critical to severely critical Blocks areas. Among the Aspirational Blocks about 87

Blocks are critical to severely critical stages in terms of groundwater status. This data can help take action on source sustainability and source protection measures, besides pointing out areas that require water safety measures or water purification arrangements. Thus, it contributes to addressing critical issues on water quantity and quality.

4. Convergence with SBM-G 2.0: One of the components under the Swachh Bharat Mission-G 2.0 is greywater management. The wastewater – mostly greywater from bathrooms and kitchen – are recyclable and reusable for non-domestic purposes. However, there is very little planning at GP level for channelizing wastewater for secondary purposes. ‘Repurposing’ used water is very much possible and necessary given the increasing water pollution, and scarcity of water. A large quantity of greywater flows down the drains. It is a waste of resource. It cannot be allowed to stagnate for it will cause mosquito breeding and water-borne diseases. Thus, JJM requires converging with SBM-G 2.0 for greywater recycle and reuse.

Thus, the best way possible to address the issue of wastewater generated by households is: recycle and reuse greywater for purposes other than drinking, such as gardening, greening, or flushing school toilet etc. SBM-G 2.0 offers financial assistance for construction of greywater management systems at village level. For the financial assistance provided by SBM-G 2.0 please see the **box No.** below.

Box No. xx Funding Greywater Management: The amount provided for greywater management as per SBM-G 2.0 Guidelines is: for a village with less than 5000 population Rs.280 per capita; for a village with more than 5000 population it is Rs.660 per capita. One condition that goes with it is that 30% of the estimated budget should be taken from XV FC funds available with the respective Gram Panchayats. However, GPs are free to use the material and labour components of MGNREGS for setting up greywater management systems in villages.

Details regarding potential reuse of greywater at household and community levels, technical details of greywater management systems, description and rates of the civil works are available at

(https://swachhbharatmission.gov.in/sbmcms/writereaddata/Portal/Images/pdf/Greywater_Management_Manual_English.pdf)

5. Convergence with PMKVY 4.0 Pradhan Mantri Kaushal Vikas Yojana (PMKVY 4.0) is a flagship scheme of the Ministry of Skill Development and Entrepreneurship (MSDE). PMKVY has empanelled Training Centres all over the country. Candidates who want to enrol or BDOs who want to have a set of youth trained in plumbing or basic electrical works or motor repairs can find Training Centres in online portal of PMKVY. (i.e., <https://www.pmkvyofficial.org/trainingcenter>).

PMKVY imparts technical training in various domains. They include plumbing, basic electrical works and wiring, pump sets installation and repair etc. Jal Jeevan Mission looks for trained manpower at the village level for efficient operation and maintenance of water supply systems. The manpower requirement for a Block can be worked out. The BDO may draw youth and water tank operators from Gram Panchayats in his jurisdiction, and identify and send a request to the nearest PMKVY skilling centre.

6. Convergence with XV FC Funds: Considering the importance that the Central Government places for water and sanitation related facilities in rural areas, the 15th Finance Commission has made liberal allocation for Water and Sanitation related expenditure in rural areas. That is 60% of the XV FC funds given to Gram Panchayats must be allocated for water and sanitation related expenses. It includes investing in retrofitting of toilets, ODF sustainability, and Operation and Maintenance (O & M) of water supply facilities.

7. Convergence with DDU-GKY: Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) is a skilling (and placement) initiative of the Ministry of Rural

Development (MoRD), Government of India. Aspiring rural youth who want to be employed at Gram Panchayat levels as plumbers, electricians, motor repairing technicians can find the nearest DDU-GKY Skilling Centre through a mobile app called Kaushal Panjee (and register for training). This is placement linked. Therefore, the GP or BDO should give an undertaking that the trained candidate / candidates will be employed in GPs as water supply operators.

The DDU-GKY Cell of NIRDPR, Hyderabad can be contacted for any assistance e-mail: trainingddugky.nird@gov.in. *Kaushal Panjee* android mobile app can be downloaded from google Play Store. It can find the nearest skilling centre that imparts such training as plumbing and sanitary works, electrician, and motor repair works etc.

8. Convergence for Mind-set Change: Many technically sound ideas do not translate on the ground. One significant reason for it - more than any other reason - could be ‘mind-set’. Reference here is not only to the mind-sets of rural communities, but is also to that of the scheme implementing officials. Officials often mention about the ‘*indifference*’ of the rural people to water being wasted, or wastes being disposed in drainages causing clog in the drainage lines and so on. While this is true to a considerable extent, the officials not willing to take a few extra steps to ‘*make a difference*’ is also equally a reason for things remaining seemingly unmovable.

For instance, it happens during our IEC campaigns we keep repeating the same old ideas over and over for years. It’s like a record stuck in a scratched groove, playing the same tired refrain over and over again. The way to get the record unstuck is to give the needle a nudge or pick it up and put in somewhere else. The way to change a stuck state is the same way: we need to interrupt the pattern – the tired old refrain – and start anew. There are many departments of the government such as SBM-G, ICDS, National Health Mission, Mission Life and so on conducting IEC campaigns for changing the mind-sets. This is another area of convergence to see that our efforts yield multiplier effect.

Operational challenges in convergence

- There are different line departments functioning at the ground level, with their own mandated flagship programmes, and target to achieve. Departments tend to plan and implement their programmes mostly in silos. They are busy in implementation that they have little time to think about integrated planning or coordinated implementation in order to address a problem in its entirety at the GP/Block/District level. *This is more to do with mind-sets, and wearing blinders.*
- During the preparation of Gram Panchayat Development Plan (GPDP), although the guidelines mandate participation of all the line departments, their participation has been very limited. With such skeletal participation of line departments at the planning stage, (during the preparation of GPDP), convergence becomes very difficult at subsequent stages like implementation, monitoring and sharing of benefits during post-project period. However, *of late, there is a positive change noticeable in the participation of officials in GPDP exercises. This is a ray of hope.*
- Each department prepares estimates based on budget allocated for the respective programmes of their department. The estimate does not have any scope to converge with other flagship programmes to supplement their activities. Often times, input contribution becomes measurable. But, impact measurements in programmes that converge become difficult. However, *a meeting or mutual sharing of plans can provide opportunity to the person in another department to be able to decide what can be included, and what are avoidable duplications.*
- Typically, District Collectors coordinate with several district-level departments to implement programmes for securing livelihood, generating income, developing infrastructure, offering essential services, etc. At the Block and Gram Panchayat levels, there is no institutional arrangement to ensure convergence among different sectoral departments. As a result, departments execute their mandated flagship programmes to achieve the physical and financial targets set for them, regardless

of other departments implementing programmes that are complementary in nature .*District collectors reviewing Block level progress being made in Aspirational Blocks can make a meaningful contribution to Aspirational Blocks Programme.*

- The operational modalities for the initiatives such as ground water recharge, rain water harvesting, drinking water supply, irrigation in which convergence is required have not been properly defined in the operational guideline of these programmes. In the flagship programmes like MGNREGS, PMKSY and JJM, there are detailed elaboration on inter-departmental convergence. But, the fact is there is no Standard Operating Procedure (SOP) for convergence among different departments. Government machineries do not operate in the absence of a pre-set schema that shows them a clear road map they are expected to take. *At the time of preparing a Block Development Strategy (and Chintan Shibir deliberations) such a road map or SOP may be drawn up for guidance.*

Scope of Convergence

All the departments implement flagship programmes assigned to them on their domain. Various flagship programmes have both mandate as well as financial allocation that can possibly play complementary role to theJJM. Consider the following table, for instance.

Activities	Funding/Flagship Programmes	Implication of the Programme Gram Panchayat level	Executing Department/body
Piped water supply	JJM and Central Finance Commission	Ensure availability of adequate quantity of drinking water to all HHs	PHED / RWS Dept. of RD Jal Nigams
Construction of water treatment plants	JJM and Central Finance Commission	Ensure availability of safe quality drinking water to all HHs	PHED / RWS Dept. of RD Jal Nigams
Repair of pipe drinking water	DDU-GKY/NRLM Finance Commission GP Resources	Ensure availability of safe quality and adequate quantity of drinking water to all HHs	GP

Rainwater Harvesting	MGNREGS PMKSY ABY/RRR	Creation of water sources to ensure source sustainability	GP SLNA-WS
Water Budgeting & WSP	PMKSY Different Programmes	Ensure judicious use of water	GP
Greywater Management Systems	SBM-G& MGNREGS	Greywater recycle structures	State Sanitation Mission (SBM-G) Dept of RD

10.5 Roles and Responsibilities of different departments:

The roles and responsibilities of different departments in implementation of various activities related to drinking water supply are depicted in the following table.

Roles and Responsibilities of different departments

Activities	Funding/Flagship Programmes	Executing Departments	Roles and deliverables
FHTCs	JJM and Central Finance Commission	PHED/RWS Dept. RD Gram Panchayat	Commissioning of project for PWS. Ensuring water quality Source sustainability activities required PWS like rain water harvesting, construction of water harvesting structures, plantation and other conservation measures to recharge ground water. Operation and maintenance of Piped Water Supply Projects out of Own Source Revenue and using the Finance Commission Grant.
Construction of water treatment plants	Jal Jeevan Mission Central / State Finance Commission Funds	PHED / RWS Dept. RD Gram Panchayat	Commissioning of water Treatment Plants Meeting the labour components for construction of water treatment plant out of MGNREGS. Maintaining the treatment plants by SHGs created under NRLM. Meeting the expenses for Operation and maintenance of Water Treatment plant out of Finance Commission Grant.
Repair of pipe drinking water	DDU-GKY/NRLM Finance Commission GP Resources	PHED/ RWS Dept. Gram Panchayat	Technical aspects required for operation and maintenance of PWS. Procurement of spare parts, meeting the cost of O & M out of Finance Commission Grant Levy and collection of user charges and identifying skilled manpower from SHGs promoted by SRLMs.
Rainwater Harvesting	MGNREGS PMKSY ABY/RRR	RD (GP) SLNA-WS	Creation of water harvesting structures, check dams and other engineering structures out of permissible activities under MGNREGS. The material components for bigger structures like water harvesting structures, check dams, gabion structures and others may be met out of WDC-PMKSY. Technical mentoring for soil and water conservation structures for the assets created under MGNREGS and PMKSY.
Water Budgeting & WSP	PMKSY Different Programmes	Agriculture RD NRLM RWSS	Promotion of less water demanding and drought resistant crops, sprinkler and drip irrigation for judicious management of water. Creation and renovation of water sources out of MGNREGS. Preparation of Water security Plan by the SHGs through judicious use of water Treating the waste water for other uses.

Session – 4: Monitoring Framework & Block Development Strategy

Session Objectives

Upon completion of this session, the participants shall:

1. Have clarity on challenges and opportunities in achieving 100% FHTC to all the households of the Block in question
2. Point out plans and strategies that may help accelerating so as to touch the finish-line sooner
3. Have clarity on the indicators to be monitored at various levels such as Household, Block, and District levels
4. Develop a Block Development Strategy for achieving 100% FHTC by March 2024

Duration

75 minutes will be divided into 30 minutes for input session, and 45 minutes for group work by participants to work on SWOT analysis and a Block Development Strategy for JJM.

Methods

- Active Lecture with PowerPoint, followed by Group Discussion & presentation

Materials Required

- Monitoring framework copies
- Templates for preparing Block Development Strategy

Session Outline

- JJM Saturation Plan
- Monitoring Framework with Indicators clarified
- Block Strategy on Drinking Water
- Monitoring and Feedback Framework

Technical Notes to the Trainer

The Trainer may begin with the following Questions

- What do you understand by Saturation in Providing FHTC?
- When do you think FHTC saturation will be achieved in your block
- What are the challenges and opportunities in achieving FHTC saturation?

After hearing the views, the Trainer can say that JJM saturation has been achieved when:

- 100% coverage of FHTCs and functional tap connections in institutions achieved
- Water Quality Monitoring and Surveillance established and ongoing in the block
- Water sources are safe, reliable and sustainable
- Wastewater/ grey water/ liquid waste managed appropriately
- Institutional arrangements are adequately laid out and operational for SVS, MVS and CPWS and for capacity building as well as community participation
- Affordable measures are undertaken to ensure day to day maintenance and management needs
- Schemes are financially viable and sustainable with all administrative bottlenecks addressed
- Measures for water use/ wastewater regulation are put in place

Ideation on Block Strategy

The drinking water sector goals under aspirational block programme will be measured using the indicator – **“Percentage of Households with Functional Household Tap Water Connections (FHTCs) against the total number of Households in Gram Panchayat (or in a Block)”**

However, there is a need to expand this understanding while developing the block strategy to achieve the desired goal comprehensively, learning from the field experiences of **Aspirational District Programme** and from the **Jal Jeevan Mission**.

The strategy may focus on achieving “Universal **access** to and **availability** of **adequate quantity** and **prescribed quality** of piped water supply at all **households** and **institutions without slippage**”.

Start with:

- Brief Profile of the Block
- Situation analysis/ SWOT analysis on JJM
- Broad outline of the strategic plan

Strategic Initiatives	Description	Key Performance Indicators	Current Status	Desired level of Achievement (example State average/100%)	Key Challenges	Measures to overcome the challenges
Completed						
Ongoing						
Planned						

Tips to the Trainer on ‘Discussion and Conclusion’

- To be done based on reflections from the participants
- Identification of strategic initiatives needs to be done specifically based on the block context as discussed during the case study
- Current status needs to be reported after a thorough discussion and analysis of the critical gaps and achievements so far by the block team
- Goals needs to be identified and finalized based on the practical realities the block is facing in a time bound and realistic manner, although the optimum achievement is expected within the ABP period
- Based on the goals, various challenges and solutions to be identified in a time-bound and implementable manner
- Roles and responsibilities of all the stakeholders to be identified and fixed

Monitoring Framework

What needs to be monitored	Number of Indicators	Who will monitor	Whom to report to	Periodicity	Feedback measures	Follow-up required
FHTC achievement	7	Line Department + YF	Block Committee -> District -> State	Fortnightly	Reporting & discussion during review meeting	Course correction measures and identification of best practices
Special measures to address challenges	As required	Block Committee	District -> State -> National			
GP/ Community level Functions	10	YF	Line Department -> Block Committee -> District -> State			
Functions of the Young Fellow	7	Block Committee	District -> State -> National		Individual discussion	Further review, guidance/ recognition as needed
Functions of the Line Department (RWS&S/ PHED/ etc.)					Discussion with the concerned Official(s)	
Block level Functions	11	Concerned District Official(s)	State -> National		District review meeting	Handholding support, liaison & troubleshooting as required
District and State level Functions	9	State/ National as appropriate	State/ National & Dashboard		Review meeting	

Indicators

Functional Household Tap Connection (HH & Institutional level)

- Tap Connection within premises or at premises in all HHs
- Tap Connections available in all institutions as per norms
- Adequate quantity available (HH - 55 lpcd, School – 45 lpcd, Anganwadi Center – 45 lpcd and Health Care Facilities (150 lpcd for IP Centers and 45 lpcd for day care/ OP centers)
- Tap Connection in place as per design norms (i) platform with drainage facility, ii) supporting structure for pipe and tap, iii) tap (without leakages)

- Clean and safe water (as per BIS norms)
- Regular supply of water without slip back
- Systems & capacities for day-to-day monitoring, maintenance & management in place

Indicators – GP/ Community Level

Goal: The beneficiary communities and their representatives are optimally participating in all essential processes related to water supply management

- Gram Sabhas (inclusive of larger group of stakeholders) are discussing and approving necessary plan components for GP, Block and District Panchayats
- VWSCs are formed with participation of all sections, especially the women, marginalized & vulnerable sections
- Regular VWSC meetings conducted
- Trained staff and capacitated VWSC members
- WQ lab linkages established and tests done regularly
- Water treatment initiated as required
- VAPs are integrated with GPDPs
- VWSCs are regularly supported by ISAs and PMUs
- Active involvement of youth, SHGs and CBOs in various processes
- Behaviour change initiatives are undertaken around vital issues on water supply

Indicators – Block Level

- Coordinated Programme Monitoring Cells constituted at the block level
- Systems for grievance redressal instituted and reviewed regularly
- Community monitoring & surveillance systems institutionalized and actions taken to address issues
- Water level monitoring (Climate change)

- WQ lab linkages established and tests done regularly
- Water treatment initiated as required
- Regular review & trouble shooting initiatives are institutionalized (including addressing delays in administrative and financial processes)
- Roles and responsibilities of various line departments defined and monitored
- Focussed support systems initiated for the weaker/ remote GPs and villages
- Block strategy comprising of future O&M requirement , filling in equity and inclusion gaps developed, accepted and implemented
- NGO/ CSR are engaged

Indicators – District/ State

- Regular review meetings organized – fortnightly meeting with District Collector
- Convergence/ inter-departmental framework developed
- Convergence/ inter-departmental meetings organized regularly
- Development and implementation of guidelines/ SOPs, etc.
- Monitoring visits made
- Monitoring feedback mechanisms operational
- Capacity Building of fellows/ Block functionaries
- GP-BP-ZP members and committees involved at different levels
- ISAs have clear defined roles and responsibilities identified and entrusted

Indicators – Young Fellows

- Developed detailed understanding on FHTC and related processes
- Visited, identified bottlenecks and supported 2-3 GPs every week
- Supported training processes well as BCC measures for various stakeholders

- Prepared and submitted weekly/ fortnightly reports on progress of all GPs at the block level
- Prepared and submitted periodic reports to district, state and national level
- Conducted analytical documentation of key successes and challenges
- Coordinated regular review meeting at block/ district/ state / national level

Reference

Template for 'Block Development Strategy' from NITI Aayog.

Additional Reading / Views that could be of use:

1. Jal Shakti Abhiyan-2023 titled “The Source Sustainability of Drinking Water Programme under MGNREGS” of Govt of Karnataka’s Defunct Borewell Recharge Drive
2. Best Practices in Groundwater Harvesting in Different parts of India
(<https://cdnbbsr.s3waas.gov.in/s3a70dc40477bc2adceef4d2c90f47eb82/uploads/2023/02/2023020959-1.pdf>)
3. Skill Development Under Jal Jeevan Mission (Video)
(https://www.youtube.com/watch?v=Z_tYqk3bCIU)
4. Rain water harvesting (<https://cgwb.gov.in/video/RWH-NER.wmv>)
5. Rainwater Harvesting Campaign video by CSE
(https://www.youtube.com/watch?v=_yDEmiHdHJg)
6. Mission Water Conservation under MGNREGS
(<https://www.youtube.com/watch?v=qM6cYWyaVyA>)
7. Permissible Works list’ of MGNREGS
(<https://megsres.nic.in/sites/default/files/mgnrega-permissible-work-list.pdf>)
8. Manual: Greywater Management
https://swachhbharatmission.gov.in/sbmcms/writereaddata/Portal/Images/pdf/Greywater_Management_Manual_English.pdf