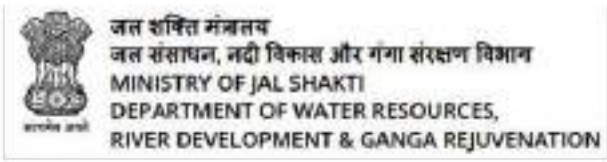




Impact Assessment of Activities under Atal Bhujal Yojana



2025



IMPACT ASSESSMENT OF ACTIVITIES UNDER ATAL BHUJAL YOJANA



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List of Abbreviations

ABY	Atal Bhujal Yojana
ASHA	Accredited Social Health Activist
CRP	Community Resource Person
DIP	District Implementation Partner
DLI/s	Disbursement-Linked Indicator/s
DoWR, RD & GR	Department of Water Resources, River Development, and Ganga Rejuvenation
DPMU	District Program Management Unit
DSR	Direct Seeding of Rice
DWLR/s	Digital Water Level Recorder/s
FGD/s	Focused Group Discussion/s
GoI	Government of India
GP/s	Gram Panchayat/s
GIDC	Groundwater Information and Dissemination Centre
IEC	Information, Education, and Communication
INR	Indian Rupee
IVA	Independent Verification Agency
KPI	Key Performance Indicator
MIS	Management Information System
MoJS	Ministry of Jal Shakti
NGO	Non-Governmental Organization
NLSC	National Level Steering Committee
NPMU	National Program Management Unit
PforR	Program for Results
PGWMC	Participatory Groundwater Management Committee
QCI	Quality Council of India
SHG	Self-Help Group
SOP	Standard Operating Procedure
SPMU	State Program Management Unit
UGPL	Underground Pipelines
VWSC	Village Water and Sanitation Committee
WSP	Water Security Plan
WUAs	Water User Associations



Executive Summary

Atal Bhujal Yojana was launched by the Hon’ble Prime Minister Shri Narendra Modi on 25th December 2019, aims to improve groundwater management in the identified water-stressed regions of seven states viz. Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh focusing on community participation and sustainable practices.

The scheme has covered two major components:

- 1. **Institutional Strengthening and Capacity Building Component**, aimed at strengthening the groundwater governance mechanism in the participating states.
- 2. **Incentive Component**, aimed at rewarding/incentivizing the states for various measures aimed at improving groundwater management practices and ensuring the long-term sustainability of groundwater resources.

The Ministry of Jal Shakti aims to evaluate the effectiveness of the activities done on-ground in the five years of Atal Bhujal Yojana. This scheme effectiveness could be understood via Impact Assessment carried across 7 states under Atal Bhujal Yojana. M/s Quality Council of India was brought on board as the Independent Verification Agency for the Impact Assessment, which was carried out on-ground in the period of November 2024 to March 2025.

The findings of the Impact Assessment are based on the Quantitative and Qualitative Analysis.

QCI interacted with a total of **9,842** respondents, including **3,055** women and **6,787** men across all seven states as part of a thorough on-ground assessment. The engagement captured diverse perspectives from members of water-related committees (such as VWSCs/PGWMCs/ WUAs/Pani Samiti), Jal Sahelis, SHG members, CRPs, Asha/Anganwadi staff, local leaders, beneficiaries, and other citizens associated with the scheme.





Key Findings of the Assessment

The Impact Assessment of Activities under Atal Bhujal Yojana across all the states highlights a compelling story of transformation in groundwater governance. The following key findings from 2,835 Gram Panchayats (GPs) highlight the most significant outcomes observed during the assessment:



Community Awareness

States conducted a wide range of **community-focused awareness activities**, including exposure visits, Prabhat Pheris, Gram Sabhas, Nukkad Nataks, Jal Chaupals, and door-to-door campaigns. These activities played a critical role in mobilizing communities and enhancing grassroots engagement. On-ground assessment identified community meetings, workshops, and IEC materials as the most effective channels for disseminating information about the Atal Bhujal Yojana. Notably, **91.82%** of respondents reported awareness of observation wells, rain gauges, and water quality kits—reflecting strong community-level understanding of groundwater monitoring and data literacy.



IEC Activities and Materials

District-wise **IEC experts** have been actively engaged under Atal Bhujal Yojana, playing a vital role in community outreach. On-ground assessments revealed that **posters** were the primary medium for disclosing groundwater data, followed by **pamphlets and brochures**. These IEC materials played a key role in disseminating information about subsidies and incentives, while also enhancing knowledge and awareness at the community level. Additionally, wall paintings and social media significantly contributed to improving public understanding of sustainable groundwater management.



Capacity-building Programs

Atal Jal delivered extensive capacity-building across State, District, Block and Gram Panchayat levels, focusing on participatory groundwater management. The scheme conducted over **38,000 training sessions** at the Gram Panchayat level, benefiting **more than 10.5 lakh citizens** across seven states. During the on-ground assessment, more than **90% of the respondents** observed valuable participation in Atal Bhujal Yojana meetings and trainings, which supported planning of demand and supply-side interventions and adoption of water-saving practices.



Women's Participation

The scheme has empowered over **4.6 lakh women** through Gram Panchayat-level trainings, with more than **17,000 women** emerging as key decision-makers driving local change. Over **1,300 female sarpanches** are now leading the top performing GPs, demonstrating the transformative impact of the scheme on women's leadership and participation in community governance. On-ground assessments revealed that **98%** of respondents confirmed women's active participation in meetings, and **94%** highlighted their valuable contributions, underscoring the program's strong model of gender inclusivity.



Inclusivity

Atal Jal ensured inclusive participation with **67% of committee members** from marginalized communities. On-ground assessments revealed that **96.45% of respondents** acknowledged consensus-driven planning for water budgeting and Water Security Plans (WSPs), and **68.95% of vulnerable group members** took part in capacity-building—highlighting the program’s commitment to equity and community-driven water management.



Knowledge Enhancement

Out of the total respondents engaged, **9,643** reported enhanced knowledge of groundwater management and conservation, particularly in areas such as water budgeting, recharge structures, and community-led efforts. Additionally, **94.77% of respondents** agreed that the scheme strengthened community collaboration and collective action for sustainable groundwater management.



Socio-economic Impact

Among the leading Gram Panchayats (GPs), **1,596 GPs** achieved convergence targets, enabling effective coordination across departments. This convergence—bringing together departments such as Rural Development, Water Resources, Horticulture, Agriculture, and Minor Irrigation, strengthened both supply- and demand-side interventions. As a result, **1,057 GPs** reported rising groundwater levels, contributing to improved agricultural productivity and enhanced livelihoods. The scheme reached **2,64,642 beneficiaries** across seven states, reflecting its wide-scale impact in promoting sustainable groundwater management and socio-economic resilience at the grassroots level. On-ground assessments revealed that **83.69% of respondents** were supported in processing subsidy applications under Atal Jal, while **85%** observed increased water availability for farming.



Behavioural Change

Atal Bhujal Yojana has driven a strong behavioural shift toward sustainable groundwater use. The area under Efficient Irrigation System expanded from **51,685 hectares** to **4,23,585 hectares**, and **28,101 hectares** were brought under low water-consuming crops across the seven participating states. These changes indicate a widespread community adoption of water-efficient techniques. On-ground assessments revealed that nearly **95% of respondents** observed changes in irrigation and cropping practices, reflecting a strong commitment to groundwater conservation.



Community Resource Persons

Under Atal Bhujal Yojana, **Community Resource Persons** (CRPs) played a central role in driving grassroots implementation. In collaboration with water committees, hydrogeologists, agricultural experts, and Gram Panchayat officials, CRPs supported Water Security Plan execution, encouraged community engagement, and strengthened local ownership. Their continued involvement has been key to building institutional capacity and sustaining groundwater management practices at the village level.



Based on the assessment carried out by Quality Council of India, across top-performing Gram Panchayats selected by the respective states, a score was derived with **50%** weightage for the desktop assessment and **50%** weightage for on-ground assessment.

The average score for all the Gram Panchayats has been assigned based on their performance across various KPIs, and the graph below represents the average score for all seven states.

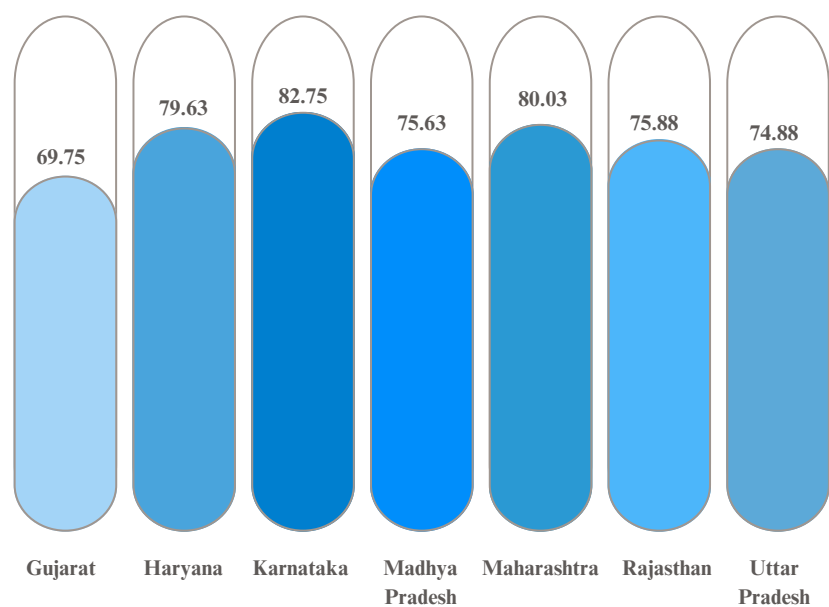


Figure 1: Overall performance of the states via an average score of all KPIs

In terms of state-wise performance, Karnataka emerges as the top performer, followed by Maharashtra and Haryana, demonstrating consistent strength across key performance indicators (KPIs). While Gujarat, Uttar Pradesh, Madhya Pradesh, and Rajasthan have shown encouraging progress, there remains scope for further enhancement in selected areas to achieve more balanced and sustained outcomes under the scheme.

The findings of the Impact Assessment provide valuable insights into the effectiveness of Atal Bhujal Yojana and its potential to achieve long-term sustainability in groundwater management. The assessment underscores the importance of community participation, awareness building, and gender inclusivity in ensuring the success of the scheme. It also offers recommendations for enhancing the scheme’s implementation, focusing on capacity-building efforts, increased women’s engagement, and data-driven decision-making to address challenges in underperforming regions.

In conclusion, the Atal Bhujal Yojana has made significant strides in improving groundwater management across all the seven states, and with continued focus on community involvement and sustainable practices, it has the potential to serve as a model for addressing water scarcity challenges in India.

Introduction



Atal Bhujal Yojana was launched by the Hon’ble Prime Minister Shri Narendra Modi on 25th December 2019, the 95th birth anniversary of former Prime Minister Shri Atal Bihari Vajpayee. The scheme endeavours to improve groundwater management in identified water-stressed areas across seven states.

Atal Bhujal Yojana (Atal Jal) is a Central Sector Scheme with an outlay of INR 6,000 crore, out of which INR 3,000 crore will be a loan from the World Bank and INR 3,000 crore as a matching contribution from the Government of India (GoI). The funds under the scheme shall be provided to the states as grants-in-aid. The World Bank financing will be done under a new lending instrument known as Program for Results (PforR), wherein funds under the scheme will be disbursed from the World Bank to the GoI based on achievement of pre-agreed results. The scheme is being implemented over a period of five years from 2020-21 till 2024-25.

The objective of the scheme is to improve the management of groundwater resources in water - stressed areas of seven states Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh with community participation, emphasis on demand side management, and convergence of different schemes.

The scheme has covered two major components:

1.

Institutional Strengthening and Capacity Building Component,

aimed at strengthening the groundwater governance mechanism in the participating states.

2.

Incentive Component,

aimed at rewarding/incentivizing the states for various measures aimed at improving groundwater management practices and ensuring the long-term sustainability of groundwater resources.



Under the Incentive Component, states will be rewarded/incentivized for activities such as disclosure of groundwater-related data/information in the public domain, bringing convergence among various on-going schemes of the Central and State Governments, implementing interventions to promote sustainable groundwater management through appropriate supply and demand-side measures with active community participation as well as for ensuring rise in groundwater levels/improvement in the declining trend of groundwater levels as a result of improved management practices.

Disbursements under the incentive component are linked to the performance of states against identified Disbursement Linked Indicators (DLIs). Funds shall be disbursed subject to achievement of these result indicators by the implementing agencies after due verification by an Independent Verification Agency (IVA).

After the completion of 4 years of Atal Bhujal Yojana, the M/o Jal Shakti and World Bank together developed a concept to evaluate the effectiveness of the implementation of the scheme in the tenure.

This concept was further materialised in the form of an Impact assessment study in the top-performing GPs of each state. This, in the end, could be a dipstick test of the on-ground assessment achievement of the scheme, i.e., citizen awareness & participation towards the sustainable groundwater management.

As the scheme has entered its fourth year, the decision was made during the 5th National Level Steering Committee (NLSC) meeting on October 26, 2023, to understand the performance of the Scheme at the GP level and conduct an impact assessment of activities to study the top-performing GPs in states under Atal Bhujal Yojana. QCI was brought on board as the Independent Verification Agency for the Impact assessment, which was carried out on-ground in the period of November 2024 to March 2025.

It aims to provide details of the scheme's effectiveness in addressing groundwater management challenges and achieving its intended outcomes and also measures the tangible and intangible outcomes, behavioural changes, water-saving practices, and community participation.

This Impact assessment under Atal Bhujal Yojana is a collaborative effort by the NPMU and the Independent Verification Agency. At the Central level, NPMU will drive the progress of top-performer GPs of Atal Bhujal Yojana. To carry out the re-verification of desktop assessment and on-ground assessment in respect of the specified parameters, M/s Quality Council of India (QCI) has been engaged as the Independent Verification Agency (IVA) by the Department of Water Resources, River Development and Ganga Rejuvenation (DoWR, RD & GR), Ministry of Jal Shakti, Government of India.



All the parameters as described below shall be considered:

The level of awareness generated among the community regarding water-efficient practices: This indicates the community's understanding of the adoption of water-efficient practices, including awareness of sustainable water use, conservation techniques, and the positive outcomes of water management.

The effectiveness of Information, Education and Communication (IEC) Materials/Activities, capacity-building programs, and training sessions conducted under Atal Bhujal Yojana: This parameter indicates community engagement in meetings, capacity-building programs & effectiveness of IEC materials/activities, including participant involvement, level of interaction, and the effectiveness of discussions on groundwater issues, knowledge-sharing, and the adoption of sustainable water management practices under Atal Bhujal Yojana.

The changes in behaviour among community members regarding groundwater usage and conservation: This parameter reflects community awareness and the shift in community behaviour towards sustainable groundwater management, including the adoption of water-efficient practices and participation in conservation initiatives.

The level of female participation, participation of different age groups, castes & occupation levels in the activities and decision-making processes related to the scheme: This parameter highlights the inclusion and active participation of women in meetings and decision-making roles within Village Water and Sanitation Committees, Participatory Groundwater Management Committees, and Jal Samitis.

It also takes into account the participation of different age groups, castes, and occupational groups in planning and implementing water management initiatives, as well as their role in shaping policies and decisions related to groundwater conservation and sustainable water use.

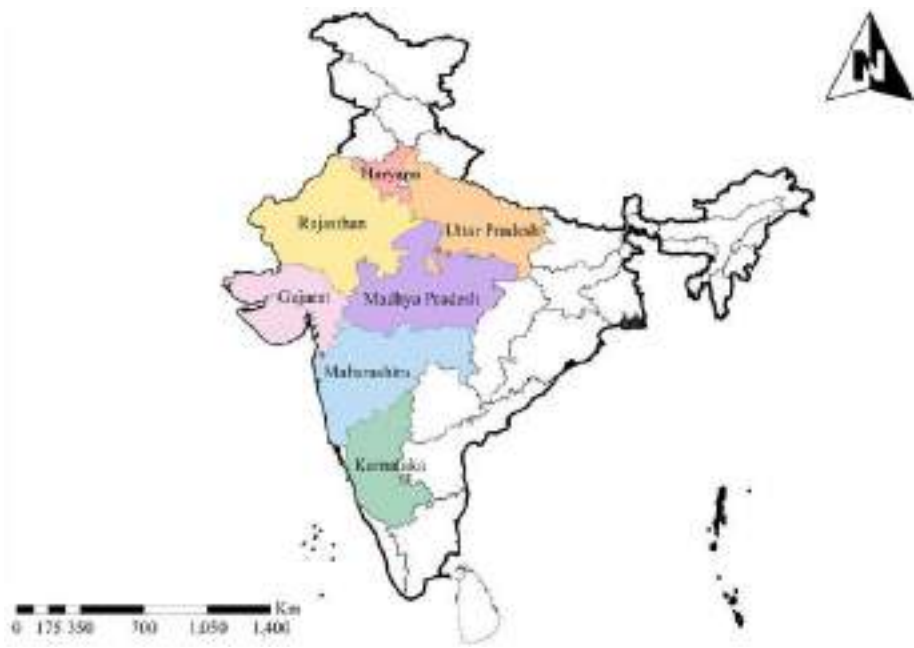
Enhancement of knowledge within the community for making informed decisions related to groundwater management and conservation: This parameter focuses on strengthening community knowledge in groundwater management and conservation. It includes awareness programs, training sessions, and access to relevant information, enabling community members to adopt sustainable and water-efficient practices while actively participating in water governance.

Recording visible changes/success stories on efficient groundwater management due to Atal Bhujal Yojana: This parameter includes success stories highlighting impactful changes in people's lives due to Atal Bhujal Yojana. It showcases improved water availability, better livelihoods, and increased awareness, focusing on inspirational experiences of communities adopting efficient practices and overcoming water challenges.

This report presents the results of the Impact Assessment carried out by the Independent Verification Agency. QCI followed the protocols formulated & finalized in consultation with NPMU and M/o Jal Shakti and carried out the study accordingly. The protocols focused on both Qualitative and Quantitative aspects in the participating states.



States Under Impact Assessment Study



The following table shows the number of Districts, Blocks, and Gram Panchayats (GPs) under the Impact Assessment Study in the 7 participating states:

Table 1: Details of the participating states under Impact assessment

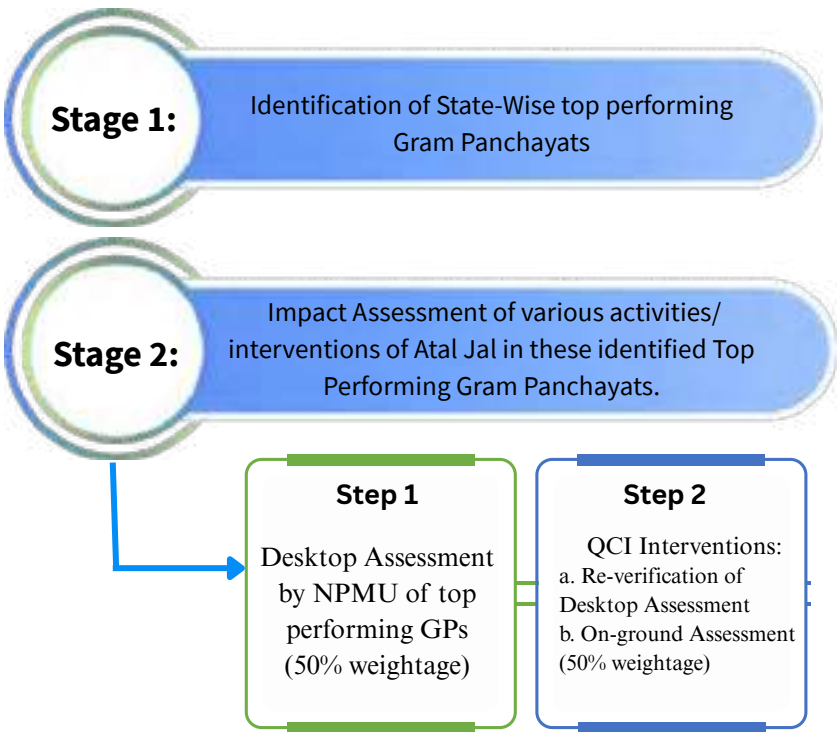
State	Districts	Blocks	Top performing GPs	Sampled GPs (For On-ground Assessment)
Gujarat	6	36	571	115
Haryana	14	36	544	115
Karnataka	14	41	521	105
Madhya Pradesh	6	9	206	42
Maharashtra	13	43	363	75
Rajasthan	17	38	441	89
Uttar Pradesh	10	26	189	38
Total	80	229	2835	579

Methodology



Methodology

The Impact Assessment of the Atal Bhujal Yojana was conceptualized in a two-stage framework, with Stage 1 focused on identifying state-wise top-performing Gram Panchayats, and Stage 2 aimed at assessing the impact of various activities and interventions of Atal Jal in these selected GPs.



Stage 1: Identification of state-wise top-performing Gram Panchayats

Adoption of efficient water use practices: The parameter mainly assessed the claim made by GPs under efficient irrigation, crop shifting, and other water saving agricultural methods. Based on the area coverage under DLI#4, top-performing Gram Panchayats were identified using state-specific cut-offs, ensuring selection of GPs that exceeded the required cut-off.

Implementation of Demand & Supply side activities through convergence: The parameter assessed the extent of investments made in groundwater management through the convergence of various ongoing government schemes, as outlined in each GP’s Water Security Plan. State-wise cut-offs for demand-side and supply-side convergence expenditures (in INR lakh) were determined, and only GPs whose claimed amount exceeded the required cut-off were classified as top-performing.



Improvement/Arrest in the decline of Ground Water Level: The parameter is aligned with the core objective of the Atal Bhujal Yojana—to stabilize or reverse the declining trend in groundwater levels. GPs that demonstrated measurable improvement or arrest in groundwater depletion in the years of 2023 & 2024, with respect to the baseline period (2019–2022/2023), were identified using data under DLI#5. Any GP meeting this condition, even if not covered under the earlier criteria (DLI#3 and DLI#4), was included among the top-performing GPs for Impact Assessment.

Additional weightage was given to GPs with strong performance in training, IEC activities, regular monitoring, and data disclosure.

Stage 2: Impact assessment of various activities/interventions of Atal Jal in the identified top-performing GPs

Following the identification of top-performing Gram Panchayats (GPs) in Stage 1, Stage 2 focused on assessing the impact of various activities and interventions implemented under the Atal Bhujal Yojana in these selected GPs. NPMU and QCI identified parameters to capture both **tangible** and **intangible** outcomes of the scheme at the grassroots level, based on which the Impact Assessment was carried out. This stage was divided into two steps with defined weightages:

Step I: Desktop Assessment

The first step, carrying **50%** weightage, involved a Desktop Assessment conducted by the NPMU team. This evaluation analyzed the tangible outcomes of the scheme up to 31st December 2024, across seven identified parameters to assess the impact of the activities undertaken at the GP level since the scheme’s inception. The Desktop Assessment primarily focused on quantifiable parameters, such as:

1. Water level rise in a GP
2. Cumulative area coverage under water-efficient practices
3. Cumulative convergence done for demand & supply side
4. Regular monitoring of groundwater level, quality & rainfall
5. Percentage of women participants in training
6. Percentage of women in decision-making
7. Cumulative number of GP Level Trainings

Step II: QCI Intervention

The second step focused on the qualitative impacts of the scheme. This part was conducted by the Quality Council of India, involved re-verification of the Desktop Assessment initially carried out by the NPMU, as well as on-ground assessment at the Gram Panchayat level, accounting for the remaining **50%** weightage.



Re-verification of Desktop Assessment:

After the desktop assessment was done by NPMU, QCI conducted a re-verification of desktop assessment of the top-performing Gram Panchayats to ensure accuracy and credibility. The process involved accessing relevant data from the Management Information System (MIS), including GP demographics, rainfall, groundwater level, water quality, and GP-level training records. Additionally, datasets from previous rounds conducted by the Independent Verification Agency (IVA) such as convergence data, area coverage, and GPs showing rising trend in water levels for the years 2023 and 2024 were reviewed. This re-verification ensured a transparent, data-driven assessment aligned with the scheme’s objectives.

On-ground Assessment:

As part of the on-ground assessment, QCI selected a **20%** sample of top-performing Gram Panchayats (GPs) from each block, using a systematic sampling methodology. This involved block-wise normalization and clustering based on parameters such as population size, gender ratio, land use, deployment of scheme personnel, water source type, and number of beneficiaries. A representative GP from each cluster was selected using the minimum deviation method.

QCI implemented a hybrid assessment model, integrating both quantitative and qualitative methods. Data was gathered through Focus Group Discussions (FGDs) along with individual interactions, through a structured questionnaire centered on predefined Key Performance Indicators (KPIs). These KPIs covered aspects such as awareness, behavioural change, adoption of water-efficient practices, socio-economic impacts, gender inclusivity, and the effectiveness of IEC and capacity-building initiatives.

QCI ensured diverse community representation by including members of VWSCs/PGWMCs, Jal Sahelis, SHG members, CRPs, NGO workers, Asha/Anganwadi staff, local leaders, beneficiaries, and other citizens associated with the scheme. This inclusive engagement enabled the collection of balanced feedback from different social and economic backgrounds, especially women and marginalized groups. The on-ground assessment combined scoring questions to collect quantifiable data and open-ended questions to capture community perceptions, success stories, and socio-economic impacts. This dual approach provided a comprehensive, multidimensional evaluation of the scheme’s effectiveness.

A structured scoring framework was applied after the on-ground assessment, wherein respondents were scored across multiple questions using a predefined scale, and their individual scores were summed and normalized to a scale of 50 to align with the weightage assigned to the on-ground assessment. Each sampled Gram Panchayat’s score was derived by averaging the responses from all participants, ensuring balanced representation of both positive and neutral responses. This representative score was then applied to all GPs within the same cluster. Subsequently, all 2835 top-performing gram panchayats were scored out of 100, with equal weightage assigned to the desktop assessment (50) and the on-ground assessment (50).



Table 2: Scoring Framework for Desktop Assessment

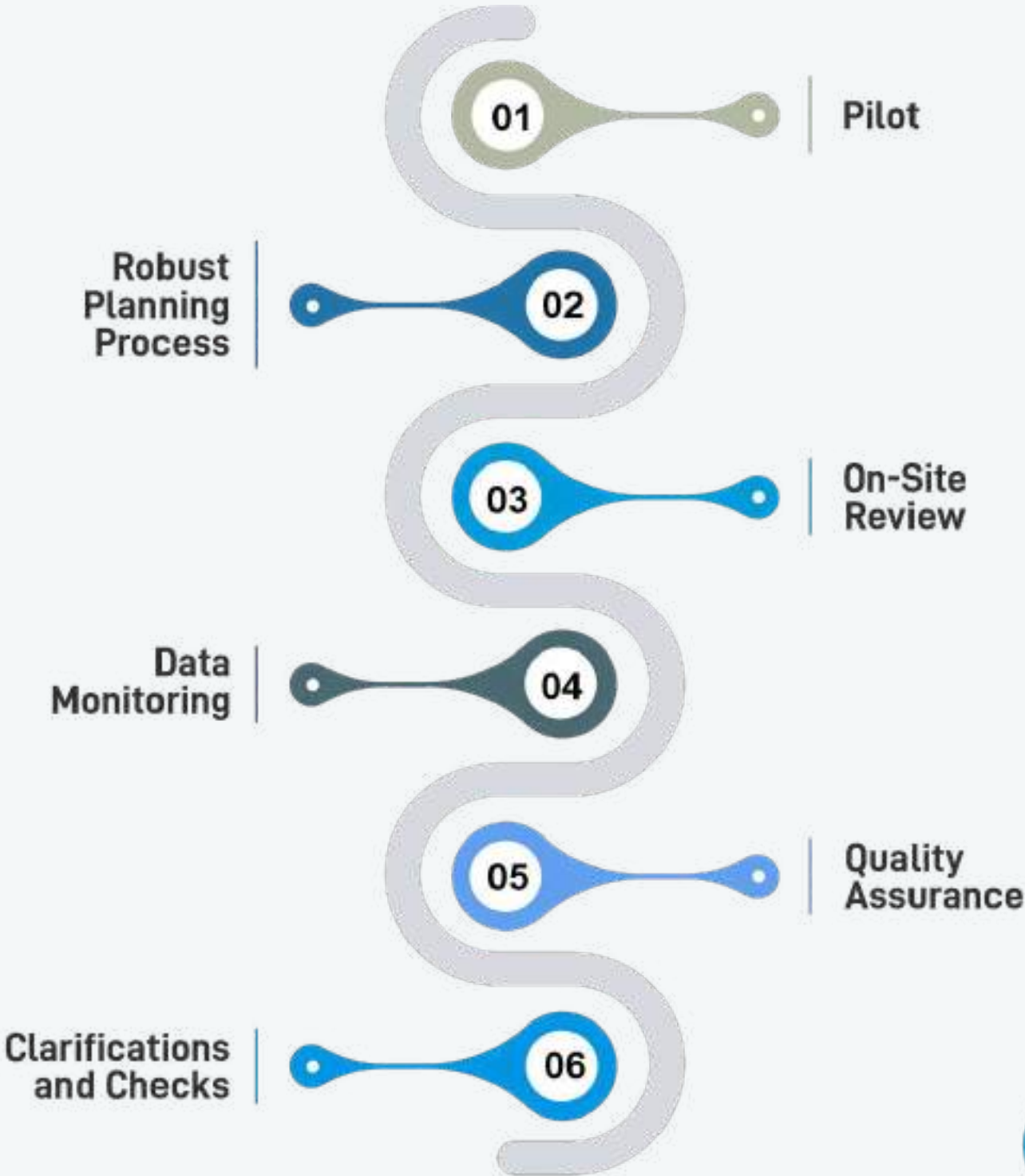
Desktop Assessment Parameters	Score
Water level rise in a GP	6.25
Cumulative area coverage under water-efficient practices	9.375
Cumulative convergence done for the demand & supply side	9.375
Regular monitoring of groundwater level, quality & rainfall	9.375
Percentage of women participants in training	6.25
Percentage of women in decision-making	3.125
Cumulative number of GP Level Trainings	6.25
Total	50

Table 3: Scoring Framework for On-ground Assessment

On-Ground Assessment Parameters	Score
Awareness	3.75
Behavioural Change	10
IEC/Meeting/Training	7.5
Knowledge Enhancement	10
Socio-economic Impact	10
Women’s Participation and Inclusivity	8.75
Total	50



Quality Control Mechanism





Quality Control Mechanism

Quality Council of India, in consultation with NPMU, ensured that the states had adequate knowledge of the on-ground assessment process followed by the Independent Verification Agency for the evaluation. QCI conducted the re-verification of the desktop assessment of top-performing GPs and the on-ground assessment of **20%** of top-performing GPs.



Pilot

As part of the on-ground assessment process, QCI carried out a pilot study to explore the impact of the Atal Bhujal Yojana across seven states: Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh. The study was integral to assess the scheme outcomes with respect to awareness, behavioural change, and socio-economic conditions, to understand the program's holistic reach and impact. Additionally, QCI also captured success stories to assess the effectiveness of the scheme from the pilot GPs.



Robust Planning Process

- QCI in consultation with NPMU, Atal Jal ensured that the States had adequate awareness about the verification process followed by IVA for the on-ground assessment. The session was conducted for the seven participating States through a virtual conference to make them aware of the process of on-ground assessment.
- QCI had shared regular plans to carry out on-site assessments on a daily basis across the state, ensuring continuous monitoring and evaluation. This approach helped in the smooth facilitation of the assessment schedule at the GP level.



On-Site Review

Qualified and trained QCI empanelled assessors carried out on-ground assessment in the sampled Gram Panchayats. During the on-site review, minutes of meetings (MoM), and attendance sheets of Gram Sabha meetings, participant lists for training, visuals of other capacity-building programs and IEC material were collected. Additionally, media coverage of events, activities, and infrastructure developments was noted to gauge public outreach. Success stories were documented through photographs and videos, highlighting impactful initiatives and showcasing tangible community benefits.



Data Monitoring

Internal trackers and detailed sheets were maintained to track live progress of on-ground assessment. Weekly status update was shared with NPMU to ensure adequate progress of the assessment.



Quality Assurance

- Adhering to the Standard Operating Procedure (SOP), the QCI personnel initiated the on-ground assessment process with introductory call to the Sarpanch, District Program Management Unit (DPMU) official or any other GP official present, where available. This initial step established a transparent line of communication and set the groundwork for unbiased assessments.
- After the completion of each assessment, concerns or issues were addressed through a closing call with the official present, as part of the feedback mechanism.
- To further enhance the integrity of the process, a 24x7 war room was established at the QCI headquarters in Delhi, facilitating real-time quality checks and re-evaluation of the data gathered during the assessment.
- To maintain transparency and quality, QCI ensured the geo-tagging of all photographic evidence taken during the on-ground assessment.



Clarifications and Checks

- Every state had a dedicated single point of contact from the QCI team interacting with state/district officials to help them out with queries related to the assessment. Also, QCI took weekly updates with the State officials to ensure smooth implementation of the assessment done on-ground. This helped to mitigate issues on a real-time basis.
- Additionally, satisfaction declarations were obtained from the Gram Panchayat officials after the completion of each assessment. This feedback mechanism helped gauge the officials satisfaction with the assessment process and confirmed its fairness.



State Wise Impact





Key Performance Indicators (KPIs) for Impact Assessment of Activities under Atal Bhujal Yojana

The Impact Assessment of Activities under Atal Bhujal Yojana evaluates the scheme's effectiveness by analyzing top-performing Gram Panchayats based on the following Key Performance Indicators (KPIs):

1. Community Awareness: Atal Bhujal Yojana places a strong emphasis on generating widespread awareness about groundwater conservation, with a key focus on empowering communities through targeted Information, Education, and Communication (IEC) activities and materials at the Gram Panchayat level over a period of five years. The scheme actively works to inform and engage people at the grassroots level, ensuring that they understand the critical importance of sustainable groundwater use.

To achieve this, a variety of interactive and inclusive awareness-generation methods were employed across participating states. These included Gram Panchayat-level meetings, capacity-building training sessions, wall paintings, street plays, campaigns and public displays of real-time groundwater data. Such methods were designed to not only inform but also encourage dialogue and participation among community members. CRPs and trained facilitators played a crucial role in bridging the gap between technical knowledge and local understanding. Community awareness is a key KPI under the scheme, measuring how well outreach efforts influence understanding and behaviour, guiding improvements in community-driven groundwater management.

2. IEC and Training: Information, Education, and Communication (IEC) initiatives under Atal Bhujal Yojana serve as a strategic tool to drive behavioural change and build strong community support for sustainable groundwater management. Through a combination of IEC materials and activities, the scheme ensured that key messages on groundwater conservation reached every household across participating regions.

Various IEC materials such as posters, pamphlets, wall paintings, social media content etc. were developed in local languages to effectively communicate the importance of sustainable water use. In addition to materials, a wide range of IEC activities were conducted, including street plays, school programs, village rallies etc. Gram Panchayat-level meetings and training sessions were organized to build capacity among farmers, women's groups, youth, and members of water user associations. These interactive platforms encouraged dialogue, community participation, and knowledge sharing. The IEC component is a key performance indicator (KPI) of the scheme, helping assess the reach, effectiveness, and influence of IEC and other capacity building programs.



3. Behavioural Change: The implementation of Atal Bhujal Yojana shapes people's daily habits, encouraging a transition from traditional practices to improved groundwater conservation measures. The scheme's implementation over the years instills a sense of proactiveness within the community and officials at various levels, fostering collaboration and joint efforts toward a common goal of groundwater sustainability.

This KPI examines the community’s shift towards sustainable groundwater management by measuring the adoption of improved conservation practices and responsible water use. Tracking behavioural shifts and long-term mindset changes helps assess the scheme’s effectiveness in promoting sustainable water management at the grassroots level.

4. Women’s participation and Inclusivity: Atal Bhujal Yojana encourages the collective involvement of people from all sections of society in various Water Conservation Committees, Self-Help Groups (SHGs), ASHA workers, Bhujal Saheli, and Bhujal Mitra, among others. This inclusivity extends to women and individuals from diverse socio-economic backgrounds, empowering them to actively contribute to awareness generation, planning, community mobilization, and the implementation of water conservation initiatives at the grassroots level.

This KPI focuses on ensuring inclusive participation in groundwater management, with a special emphasis on women's active involvement. It tracks their engagement in meetings, decision-making processes, and their roles in water-related committees. In addition to gender inclusion, the KPI evaluates the involvement of people from diverse socio-economic backgrounds across age groups, castes, and occupations in the development and implementation of Water Security Plans and water budgeting, ensuring that community voices are reflected in key planning and resource allocation processes.

5. Knowledge Enhancement: Targeted training and capacity-building initiatives that were organized under Atal Bhujal Yojana at the State, District, Block, and Gram Panchayat levels facilitate knowledge enhancement around groundwater management. This enables better resource management at the grassroots level and ensures a more focused and effective approach to water conservation.

This KPI focuses on evaluating knowledge improvement among stakeholders on key aspects of groundwater management, such as water budgeting, sustainability, recharge structures and efficient irrigation practices. It also assesses how effectively this knowledge is shared within communities, encouraging collective learning and local-level action.

6. Socio-Economic Impact: Atal Bhujal Yojana operates through a convergence-driven model, aligning efforts across various departments such as Agriculture, Rural Development, Water Resources, Horticulture, and Minor Irrigation. This integrated approach ensures that both supply- and demand-side interventions are effectively implemented at the grassroots level. This KPI captures the social and economic outcomes resulting from the scheme's implementation. It focuses on assessing the facilitation provided to communities in accessing government schemes—particularly support in processing subsidy applications. Additionally, it evaluates improvements in water availability, water saving structures, and rise in water level.



How to Read a Performance Analysis of States

The performance analysis of each participating state under the Atal Bhujal Yojana has been structured to provide a consolidated view of scheme’s effectiveness across various parameters. This analysis is presented using three key components:

A. Scoring-Based Distribution of Gram Panchayats

The table categorizes the top-performing Gram Panchayats based on their final performance scores, which are derived from desktop assessment (50% weightage) and on-ground assessment (50% weightage). The scores are classified into four scoring ranges:

- **Very High (81–100)**
- **High (61–80)**
- **Medium (41–60)**
- **Low (21–40)**

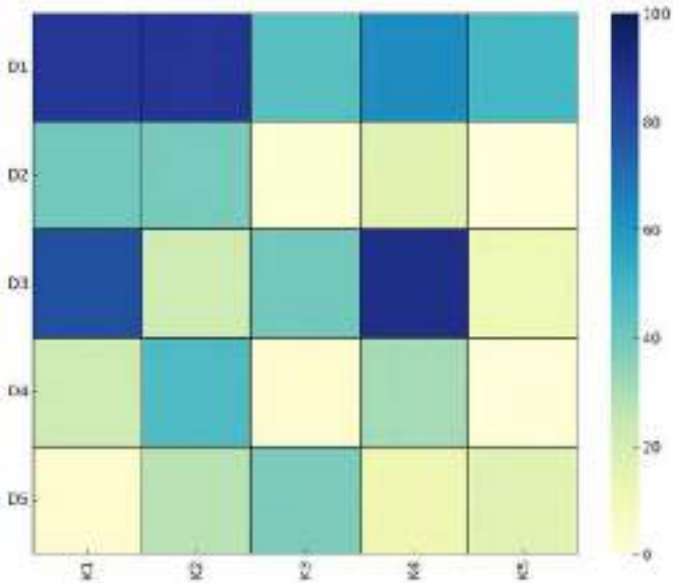
B. Heat Map – District Performance Based on Desktop Assessment

The heat map provides a district-wise overview of performance based on the desktop assessment conducted by the NPMU team, focusing on tangible and quantitative parameters.

C. Heat Map – District Performance Based on On-ground Assessment

The heat map illustrates the performance of districts based on findings from the on-ground assessments conducted by the QCI, focusing on community-level feedback and qualitative indicators.

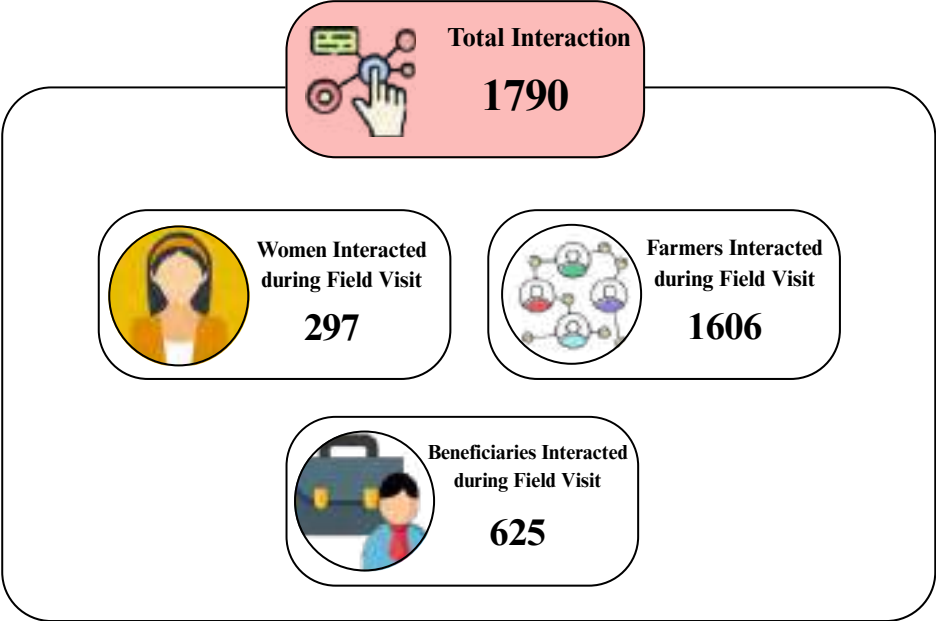
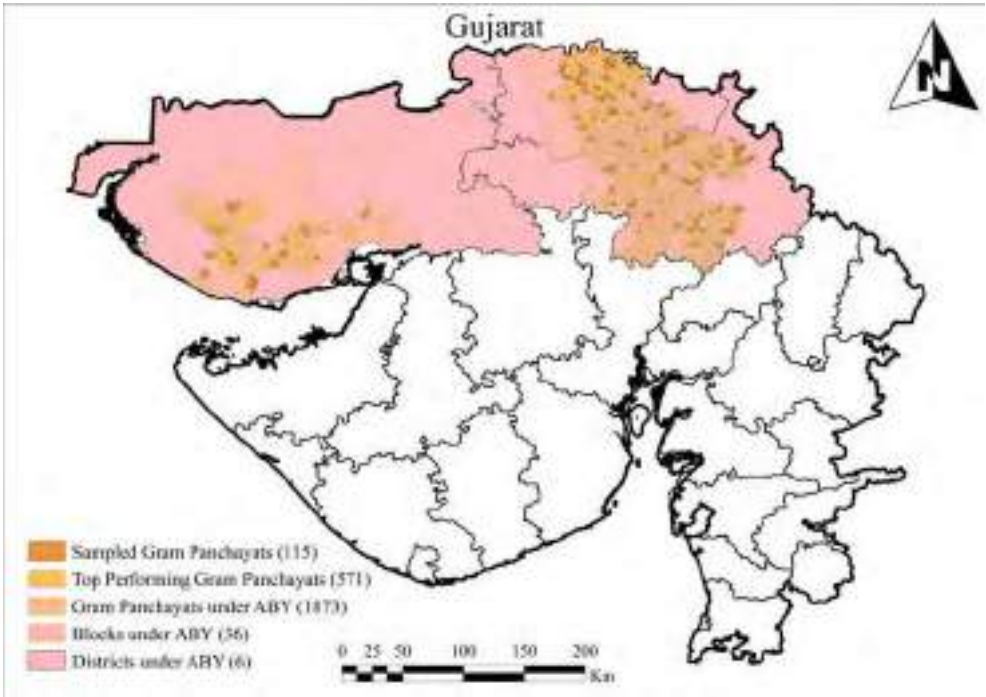
How to Interpret the Heat Maps: These heat maps visualize district-wise performance in the state across various parameters. Each cell's colour represents an achievement level, with darker shades indicating the key strengths of a district, moderate shades reflecting average performance, and lighter shades highlighting areas that require improvement in specific parameters. The rows correspond to districts, while the columns capture different aspects such as water level changes, women participation, awareness, socio-economic impact etc.



Gujarat

Gujarat has a total of **1873** Gram Panchayats under Atal Bhujal Yojana, and as part of the Impact Assessment, the state submitted **571** Gram Panchayats as their top performers based on selected parameters.

QCI selected **115** Gram Panchayats as **20%** sample for the on-ground assessment. QCI ensured that this sample is a true statistical representative of the population through the method of clustered sampling at the block level.





KPI 1. Community Awareness

The QCI team engaged with **1,790** citizens, including community members, beneficiaries, members of Pani Samiti/PGWMC/VWSC/WUA, and other relevant stakeholders who were involved in the scheme. Community meetings and workshops were the primary modes of raising awareness about the scheme, followed by the use of Information, Education and Communication (IEC) materials such as pamphlets and notice boards, which played a reinforcing role in promoting community understanding of sustainable groundwater management practices.

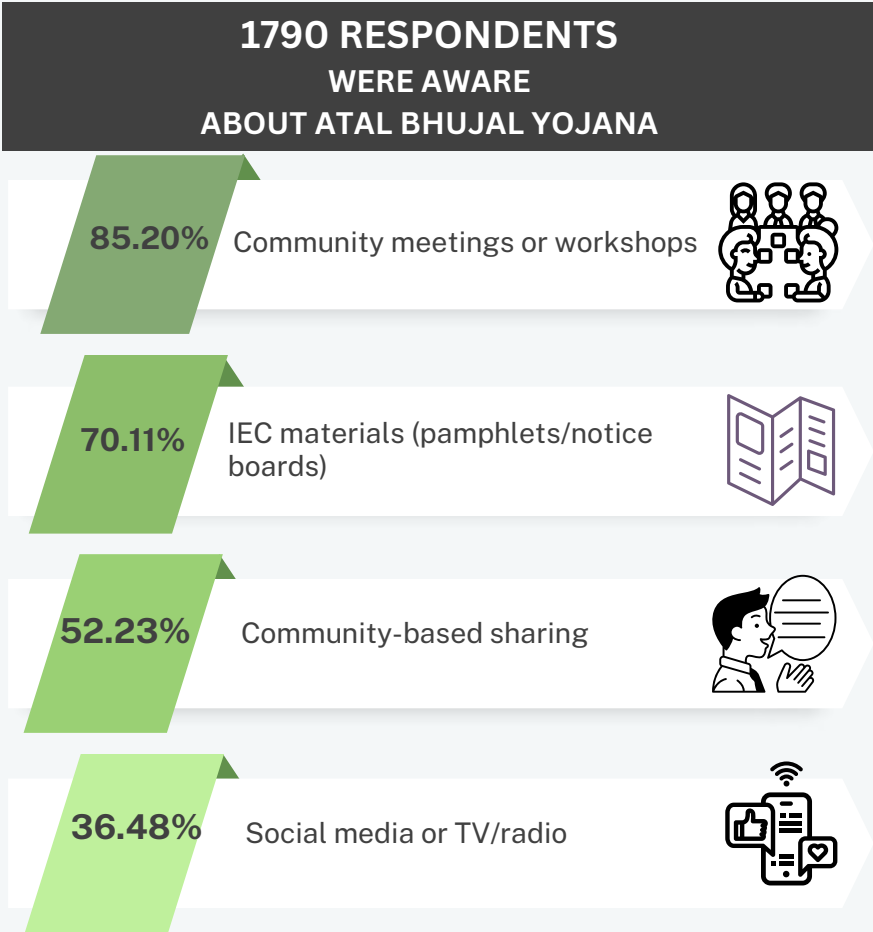


Figure 2: Mode of Awareness about Atal Bhujal Yojana

Beyond formal modes, awareness was also spread through various channels such as community-based sharing, social media platforms, television, and radio. This combination of structured outreach efforts and discussions played a crucial role in promoting responsible groundwater use at the community level.



Gram Panchayat-level meetings conducted under the scheme served as valuable platform for knowledge exchange and experience sharing, encouraging local farmers and households to adopt practical and effective water-saving methods.

These meetings, focused on water security plans and water budgeting, facilitated in-depth discussions on the various water-saving methods and interventions. Among the prominent shared methods were drip irrigation, sprinkler systems, and the shift to low-water-consuming crops. Other key practices discussed included reusing water for irrigation, installing underground pipelines and horticulture cultivation. This helped in raising awareness on the adoption of modern irrigation techniques and sustainable water management practices at the grassroots level.

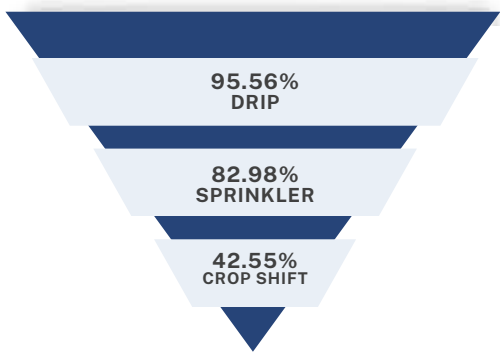


Figure 3: Top 3 Water-Saving Practices Discussed During Meeting: Focus on WSP & Water Budgeting

Role of Community Resource Person

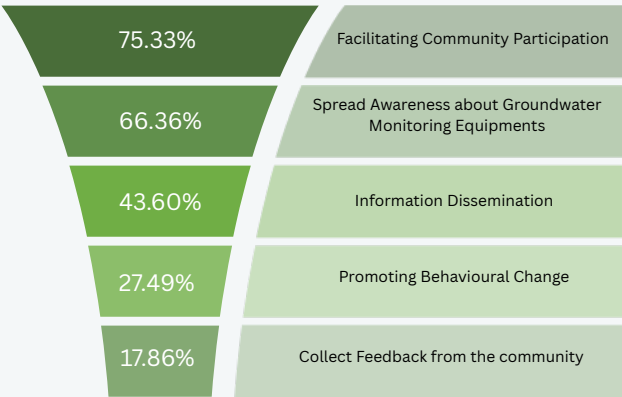


Figure 4: Role of Community Resource Person as Observed by Respondents

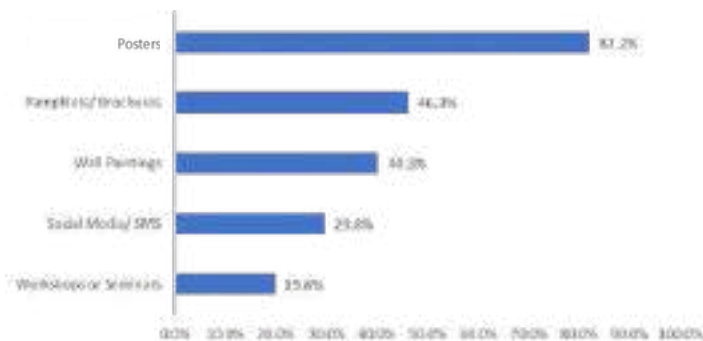
67.26% of respondents indicated that Community Resource Persons (CRPs) engaged as volunteers at the Gram Panchayat level played a crucial role in raising awareness about sustainable groundwater management. **Bhujal Jankars** functioning as CRPs were instrumental in facilitating community engagement by encouraging active participation in water conservation initiatives. They also supported the disclosure and measurement of groundwater data using equipments such as rain gauges, DWLRs, and other basic monitoring equipments.

In addition to their role in capacity building, they contributed to information dissemination, helping to make knowledge on groundwater conservation more accessible. Their involvement promoted greater community participation, thereby strengthening the local implementation of the Atal Bhujal Yojana.

KPI 2. IEC and Training

Information, Education and Communication (IEC) Materials/ Activities

The Impact Assessment found that IEC activities conducted under the Atal Bhujal Yojana in Gujarat were effective in achieving their intended objectives. This successfully raised awareness among community members, improved the knowledge of key stakeholders, and encouraged the adoption of sustainable groundwater conservation and management practices at the grassroots level.



As shown in the Figure 5, posters **(82.2%)** have been the most widely used IEC material for groundwater awareness, highlighting their effectiveness as accessible and visually engaging modes.

Figure 5: Types of IEC Materials/Activities Used for Groundwater Awareness as observed by Respondents

In addition, Pamphlets/Brochures and Wall Paintings provided simple, easy-to-understand information to help raise awareness within the community. Supporting these efforts, broadcast programs (such as *Krishi Darshan*), ‘Awareness Campaigns’, and ‘Jal Sabhas’ played a pivotal role in engaging the rural community. The on-ground assessment findings suggest that traditional IEC methods remain central to community outreach, and there exists a significant opportunity to enhance the impact by integrating more interactive and digital platforms in data disclosure strategies.

Capacity-Building Initiatives



Figure 6: Respondents’ Participation in Trainings and Meetings

Figure 6 represents the participation level of respondents engaged in GP level training sessions and meetings under the Atal Bhujal Yojana, covering topics such as groundwater issues, Water Security Plans (WSPs), and water budgeting.



These capacity-building initiatives under the scheme effectively supported community awareness and participation. **65.8%** respondents observed that these efforts helped them understand the financial assistance available through the scheme, thereby enhancing both the accessibility and implementation of the scheme at the grassroots level.

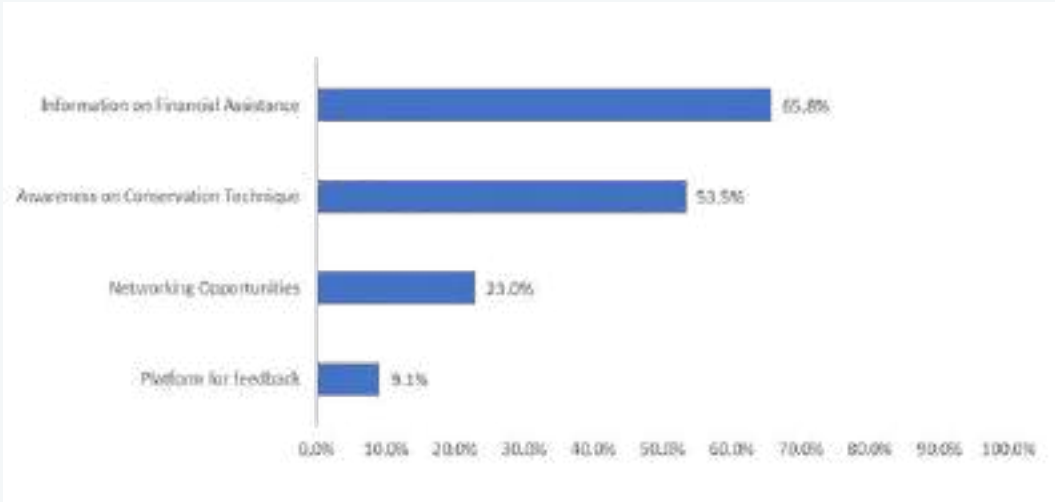


Figure 7: Respondents’ Perspective on the Impact of IEC Materials and Capacity Building Programs

Additionally, **53.5%** of participants became more aware of groundwater conservation methods, showing the impact of capacity-building program. The efforts also led to other positive outcomes, such as better networking opportunities and access to feedback platforms, which helped strengthen community engagement and collective decision-making.



KPI 3. Behavioural Change

Atal Bhujal Yojana has brought about a measurable and meaningful shift in community behaviour towards groundwater conservation in the state of Gujarat. One of the core objectives of the scheme was to promote sustainable groundwater management through awareness generation, capacity-building initiatives, and active community participation. The data presented in Figure 8 highlights the effectiveness of these interventions.

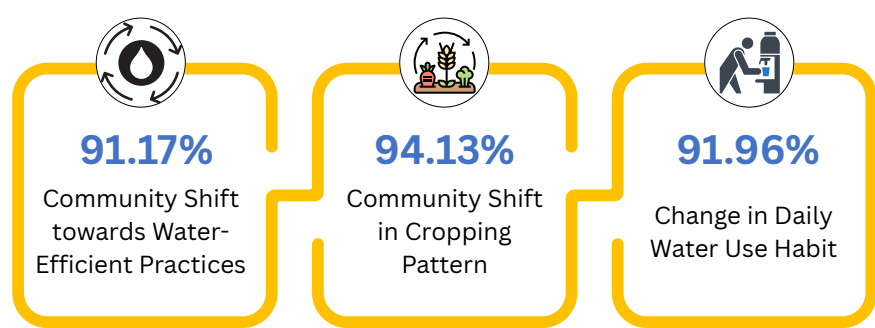


Figure 8: Respondents' Perspective on Behavioural Shifts in Water-Efficient Practices

91.17% of respondents observed a community shift towards water-efficient practices, and **94.13%** of respondents indicated a community shift towards cultivating low water-consuming crops. Further, **91.96%** of respondents changed daily routines to reduce water use, specifically by storing rainwater (**36.15%**), avoiding overfilling (**25.75%**), and reusing kitchen wastewater (**23.45%**), reflecting a growing commitment to sustainable water management.

As per the IVA's previous verification rounds, Gujarat has made tangible progress in shifting towards sustainable irrigation practices. The area under Efficient Irrigation System **increased from 3,242.42 hectares in FY 2021-22 to 52,872.8 hectares in FY 2024**, accompanied by a steady increase in the cultivation area of low water-consuming crops, which reached **342.24 hectares** post-implementation of the scheme.

This reflects a significant move away from traditional irrigation methods and crop patterns toward more efficient, water-saving technologies and climate-resilient farming. This shift is rooted not only in infrastructural improvements but also in changing mindsets and behaviour at the community level. Respondents shared that they have seen a growing use of modern irrigation techniques across their villages—with drip irrigation becoming the most widely adopted, followed by sprinkler systems.



87.93%

Respondents highlighted the improved collaboration and collective action within the community for groundwater management

The scheme positively influenced community dynamics by fostering stronger collaboration and collective action for groundwater management, as observed by **87.93%** of respondents. Stakeholders became more actively engaged in shared decision-making and the implementation of water-saving practices. This indicated that the program was effective not only in promoting technical solutions but also in cultivating a sense of community responsibility towards long-term groundwater sustainability.



KPI 4. Women Participation & Inclusivity

The scheme Implementation in Gujarat has led to increased involvement of various community groups in water governance. Wherein, women's participation in decision-making processes, community meetings, and leadership roles has grown steadily, indicating a shift towards more equitable representation. The Impact Assessment also examined participation across different social strata, providing a comprehensive view of how diverse community segments engaged with the scheme. These findings reflected the scheme’s role in promoting inclusive and participatory groundwater management at the grassroots level.

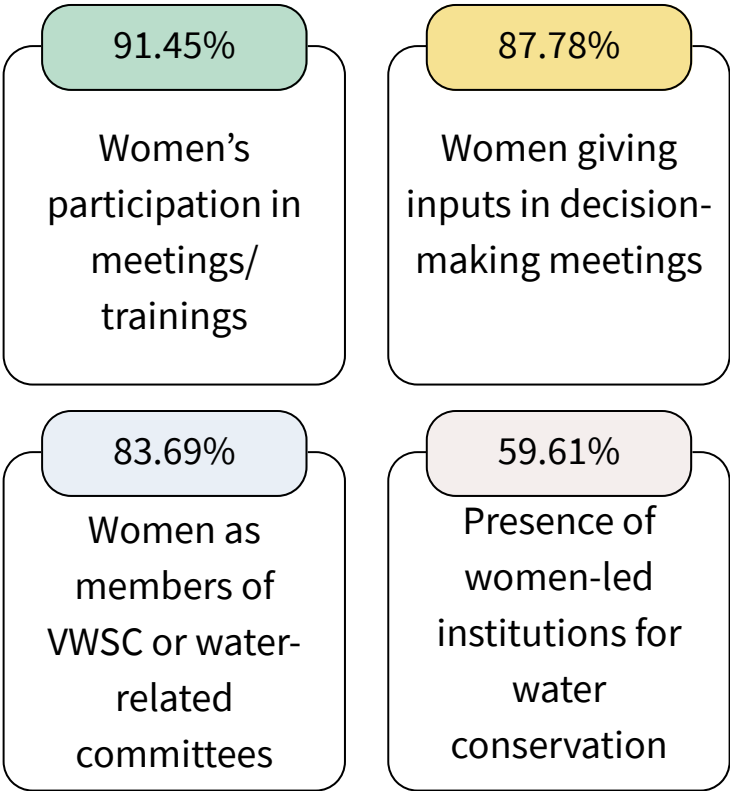


Figure 9: Respondents’ Perspective on Women Participation and Inclusivity in Ground Water Governance

Based on the on-ground assessment, **91.45%** of respondents confirmed women’s participation in meetings and training, and **87.78%** acknowledged their active input in decision-making meetings, indicating a robust model of gender-inclusive governance.

Additionally, **83.69%** of respondents observed that women are members of VWSCs or other water-related committees, reinforcing their involvement in formal governance structures. While **59.61%** of respondents confirmed the presence of women-led institutions (*such as women-led sabhas*), for water conservation, the findings highlight the importance of continued support to strengthen women’s leadership at the grassroots level.



Atal Bhujal Yojana has led to meaningful progress in enhancing women’s participation in groundwater governance in Gujarat. Women are increasingly taking part in community meetings, contributing to decision-making processes, and serving on local water committees, indicating a shift towards more inclusive water management. However, as observed by the respondents, challenges remain, such as time constraints due to household responsibilities, limited awareness of the scheme, and social or cultural barriers that continue to restrict broader engagement.

These findings highlight the need for targeted interventions, including awareness-building, flexible participation models, and stronger community support systems. Strengthening women-led institutions and ensuring equal representation will be essential for sustaining inclusive and effective groundwater governance in the long term.

Strengthening Inclusion Through Socially Diverse Participation

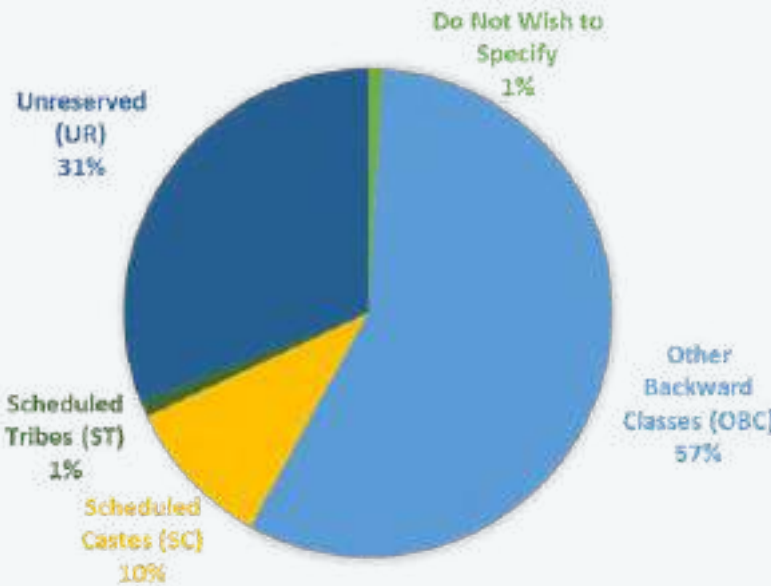


Figure 10 : Voices from All Sections in WSP Formulation

The on-ground assessment revealed that **92.84%** of respondents confirmed that consensus was taken from all sections of society during the formulation and approval of Water Security Plans (WSPs). This indicates a strong emphasis on inclusive participation and community engagement at the Gram Panchayat level. However, continued efforts are needed to ensure equitable representation and to encourage more active participation from underrepresented groups in water-related decision-making processes.

KPI 5. Knowledge Enhancement

Community knowledge is a critical pillar for effective groundwater management and conservation. The scheme has strategically prioritized knowledge enhancement, significantly empowering local communities to adopt informed decisions, implement effective water conservation measures, and strengthen participatory water governance at the grassroots level



According to the on-ground assessment findings, **96.26%** of respondents observed that, awareness programs and capacity-building efforts in the state enabled community members to make more informed decisions regarding water use, contributing to improved planning and sustainable practices at the GP level.

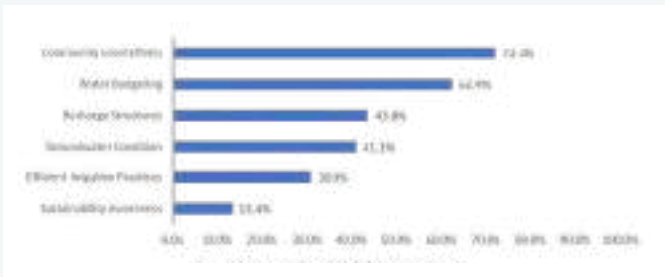
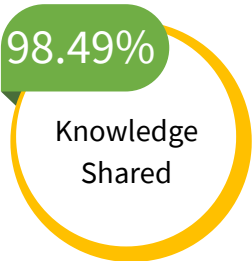


Figure 11: Areas of Knowledge Improvement Observed by Respondents

As shown in Figure 11, knowledge of respondents improved significantly in key areas related to groundwater management, with the most notable advancement in community-level efforts and water budgeting, reflecting scheme’s effectiveness in promoting participatory decision-making.

Additionally, respondents demonstrated increased knowledge of technical concepts such as recharge structures, groundwater conditions, and efficient irrigation practices indicating effective communication of these topics at the Gram Panchayat level. Furthermore, **98.49%** actively shared this information with others in their family or community.



This indicates the emergence of a peer-to-peer learning culture at the grassroots level, where informed individuals became facilitators of awareness, contributing to the wider dissemination of the scheme’s objectives.

However, awareness of the long-term sustainability of groundwater resources was still limited, suggesting the need for further focus on this aspect in future capacity-building programs.



KPI 6. Socio-Economic Impact

Socio-economic conditions in Gujarat have improved with better groundwater access and targeted subsidies. Community-led water budgeting and monitoring have enabled efficient planning and equitable use of resources. Rising groundwater levels have reduced farming costs and strengthened rural resilience, while the adoption of low water-consuming crops supports sustainable agriculture and long-term water security.



As per on-ground assessment, **70.95%** of respondents found it easier to access subsidies for water-saving techniques, indicating improved support at the Gram Panchayat level.

In addition, **74.33%** of respondents experienced household savings on water-related expenses following financial assistance received through the incentive and convergence components of the scheme. These savings were primarily utilized for children’s education and increased personal savings, followed by investments in agriculture, livestock, and household improvements, reflecting a shift towards productive and welfare-enhancing uses.

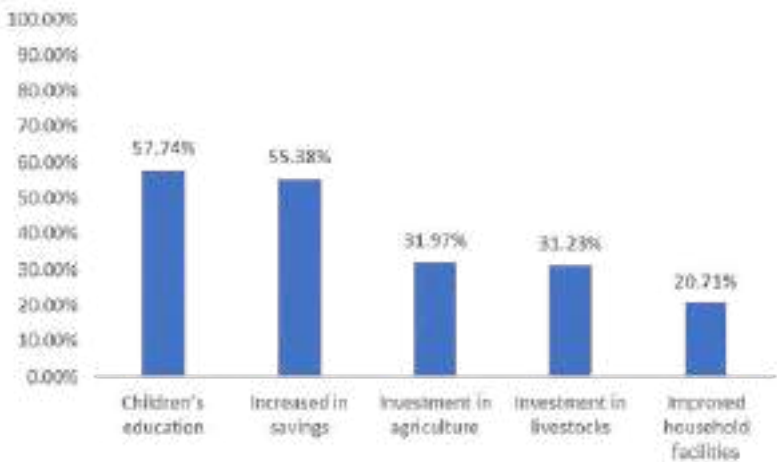


Figure 12: Respondents’ Perspective on the Economic Impact After Receiving Financial Support Through Convergence or Incentives

Respondents also stated that alongside financial gains, there has been widespread adoption of water-efficient practices, including drip irrigation, sprinklers, underground pipeline systems, and crop shifting.

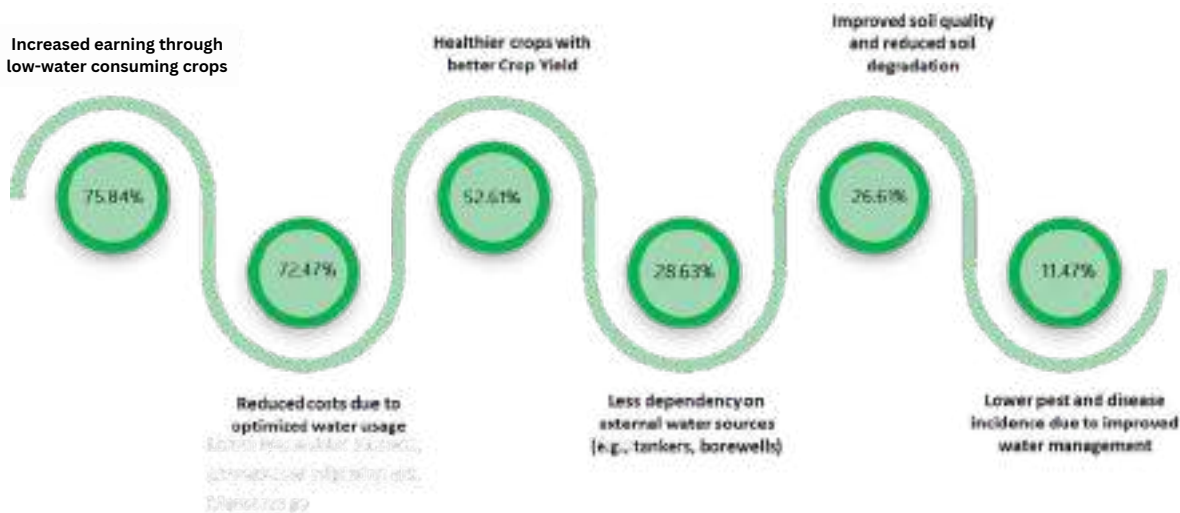


Figure 13 : Benefits of Adopting Water-Efficient Practices as Observed by Respondents

The benefits of these practices were reflected through increased earnings through low water-consuming crops, which resulted in better market prices (**75.84%**), reduced irrigation costs (**72.47%**), and better crop health and yield (**52.61%**). These gains highlight the role of efficient water use in improving both productivity and profitability.

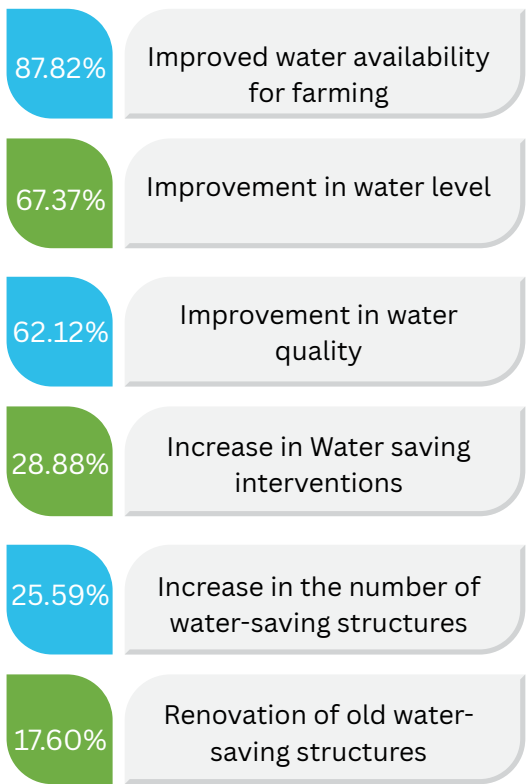


Figure 14: Changes Observed by Respondents Since the Implementation of the Scheme

Respondents observed tangible changes: (**87.82%**) reported better water availability for farming, (**67.37%**) observed improved groundwater levels, and (**62.12%**) noted better water quality (Figure 14). An increase in interventions and the construction/renovation of supply structures were also recognized as significant outcomes. These changes reflect the positive impact of the scheme.

The outcomes indicate Gujarat's consistent progress in water management, which has been made possible through active community participation and the structured implementation of the scheme. However, sustained efforts and ongoing support will be necessary to maintain these improvements and to further strengthen the outcomes achieved under the scheme.

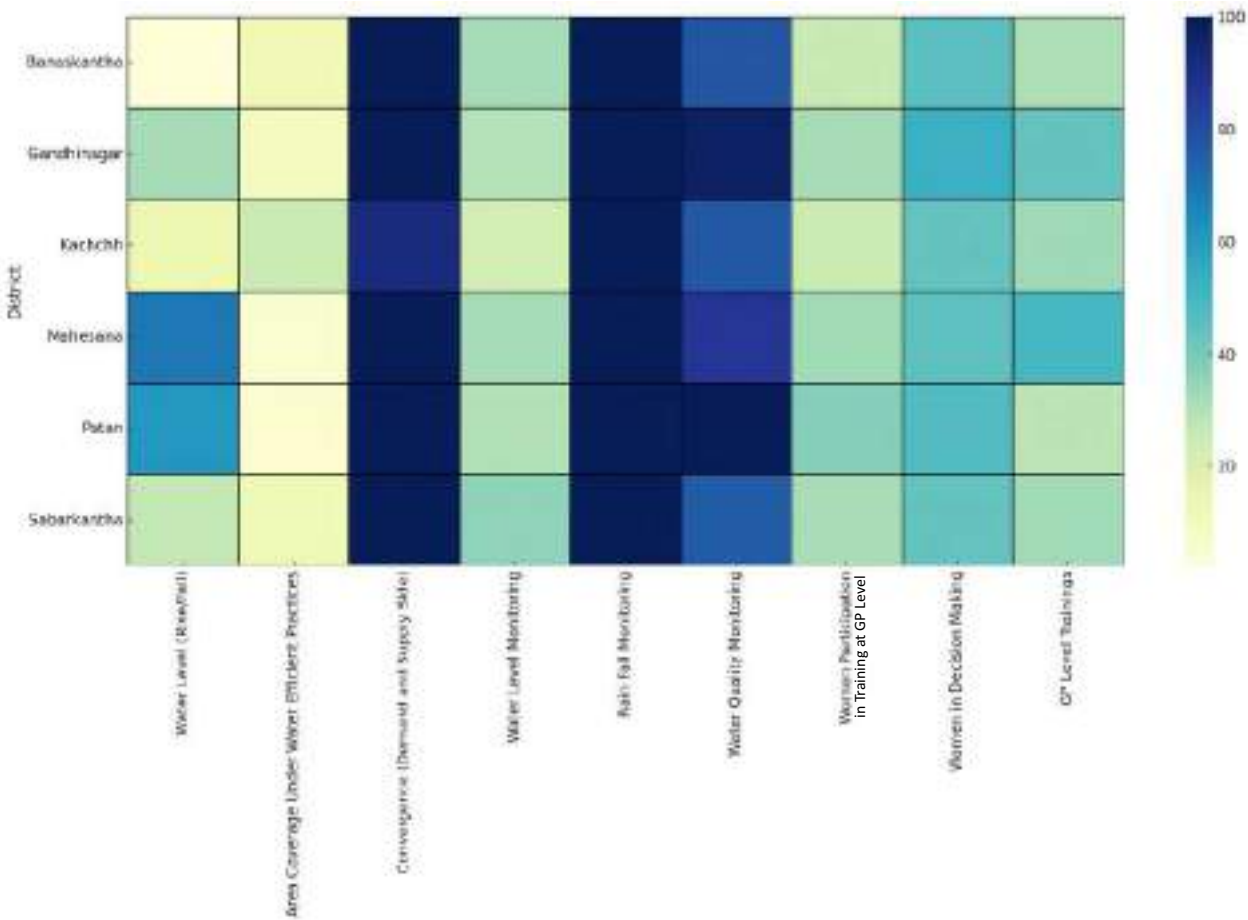


Performance Analysis of Gujarat

A. Scoring-Based Distribution of Gram Panchayats

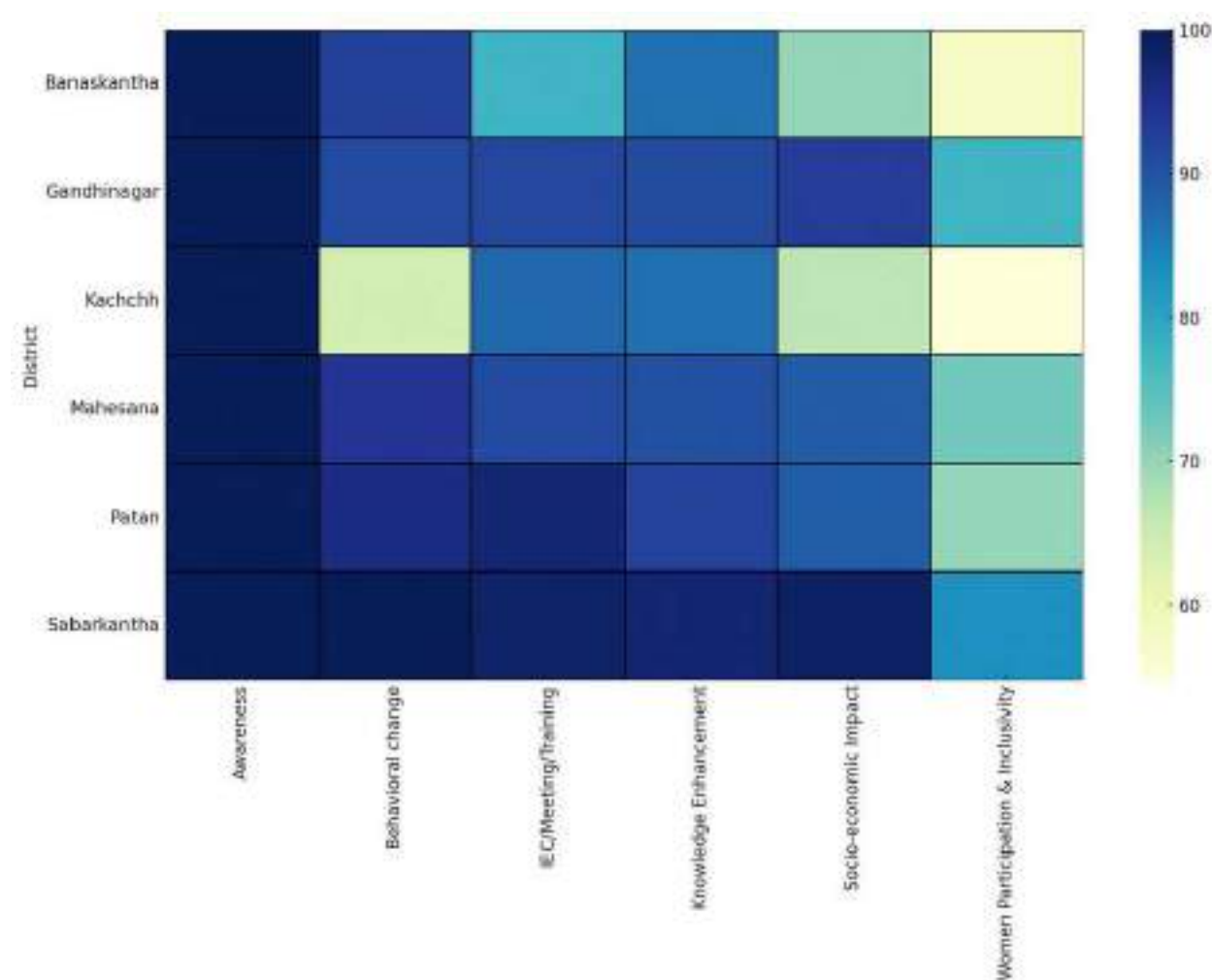
Scoring Categories	Low (21-40)	Medium (41-60)	High (61-80)	Very High (81-100)
Number of Gram Panchayats	4	77	438	52

B. Heat Map showing performance levels of Districts on the basis of Desktop Assessment





C. Heat Map showing performance levels of Districts on the basis of On-ground Assessment



District-level implementation under the Atal Bhujal Yojana reflected strong performance, with notable strengths in cumulative convergence for demand and supply-side interventions, robust systems for rainfall and water quality monitoring, and effective implementation of IEC activities that significantly enhanced awareness, knowledge, and positive behavioural change at the community level.

According to the performance scoring analysis, the majority of the assessed Gram Panchayats in the state fall under the high performance category, reflecting substantial progress, while a small proportion of GPs, primarily from the Kachchh and Banaskantha districts, remain in the medium to low-performance bracket, indicating the need for targeted interventions.

Key areas for improvement include strengthening water level monitoring systems, increasing training at the GP level and enhancing women’s participation and inclusivity in training sessions and groundwater management decisions.



While the state has successfully achieved its incentive targets for area coverage under efficient water use practices, there remains scope to further broaden the reach of these practices by covering a greater proportion of the Net Irrigated Area. Focused efforts in these areas are expected to contribute significantly to the long-term objective of improving groundwater levels by promoting more efficient water use, informed decision-making, and inclusive community engagement.

Key Observations

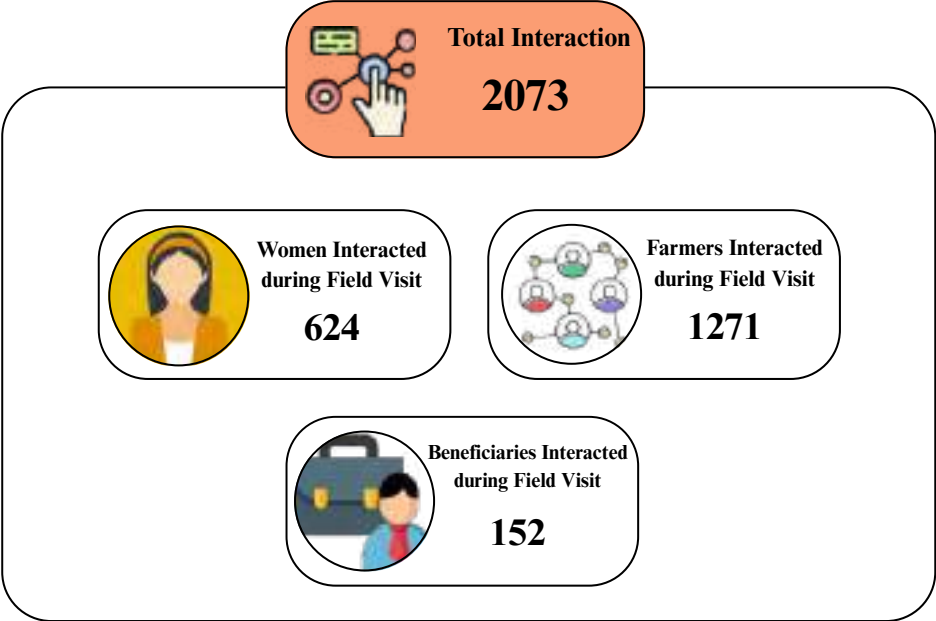
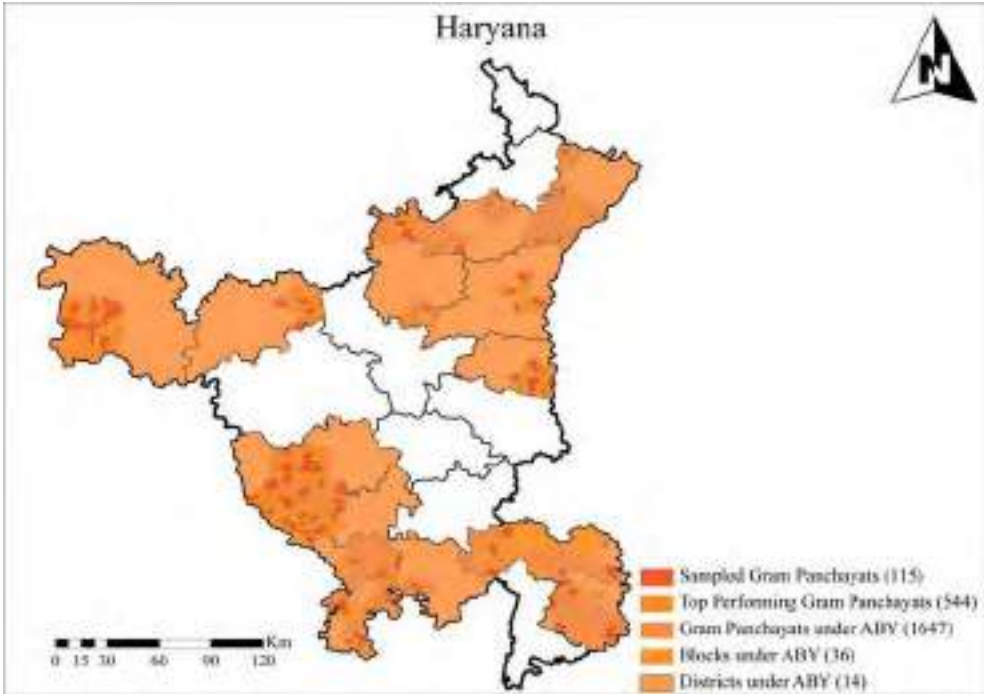
- Gujarat adopted a strategic approach to groundwater management by engaging communities through the **Krishi Darshan program** on Doordarshan Girnar, which highlighted the Atal Bhujal Yojana and water-efficient practices for farmers.
- The state encouraged water-efficient agricultural practices, such as polyhouse, to enhance sustainability. This was complemented by the development of key supply structures, including rainwater harvesting systems and river desilting, contributing to improved water resource management.
- Gujarat has performed well in ensuring cumulative **convergence** across both demand and supply-side interventions, reflecting effective coordination and implementation at multiple levels.
- The state excelled in **rainfall monitoring**, reflecting strong institutional mechanisms for data collection and its effective use in planning and groundwater management.
- Water level monitoring infrastructure can be further strengthened for more effective water resource management.
- There is a need to strengthen the presence and role of women-led institutions in water conservation, currently observed at 59.61%.



Haryana

Haryana has a total of **1647** Gram Panchayats under Atal Bhujal Yojana, and as part of the Impact Assessment, the state submitted **544** Gram Panchayats as their top performers based on selected parameters.

QCI selected **115** Gram Panchayats as **20%** sample for the on-ground assessment. QCI ensured that this sample is a true statistical representative of the population through the method of clustered sampling at the block level.





KPI 1. Community Awareness

In Haryana, **2,073** respondents participated in the focus-group discussions conducted at the gram-panchayat level. These included community members, beneficiaries, members of PGWMC/VWSC, and other relevant stakeholders who were involved in the scheme. The community-based sharing of information was found to be instrumental in increasing awareness of the scheme. This informal method of communication ensured that information about the scheme reached to a wider audience at the grassroots level.

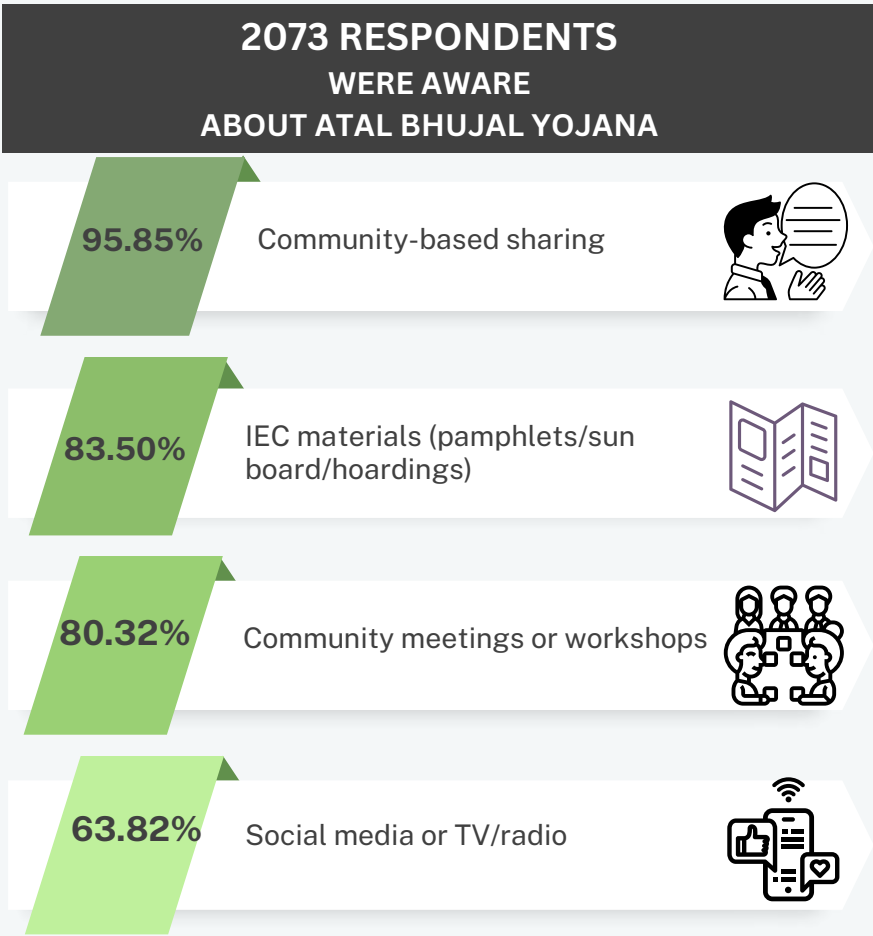


Figure 15: Mode of Awareness about Atal Bhujal Yojana

While Information, Education and Communication (IEC) materials such as pamphlets, sun boards, and hoardings, played a significant role in spreading awareness, additional outreach was conducted through community meetings, social media platforms, television, and radio. The combination of structured outreach efforts and discussions played a crucial role in promoting responsible groundwater use at the community level (*Figure 15 showcases the various modes of awareness about the Atal Bhujal Yojana at the Gram Panchayat level*).



Furthermore, the gram panchayat-level meetings conducted under the scheme served as valuable platform for knowledge exchange and experience sharing, encouraging local farmers and households to adopt practical and effective water-saving methods.

These meetings, focused on WSP and Water Budgeting, facilitated in-depth discussions on the various water-saving methods and interventions. Among the prominent shared methods were sprinkler systems, drip irrigation, and the shift to low-water-consuming crops. Other key practices discussed included reusing water for irrigation, installing underground pipelines and polyhouses. This helped in raising awareness on the adoption of modern irrigation techniques and sustainable water management practices at the grassroots level.

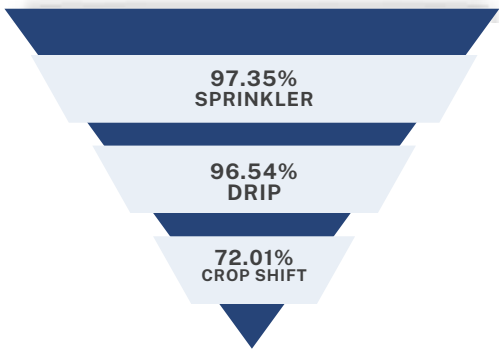


Figure 16: Top 3 Water-Saving Practices Discussed During Meeting: Focus on WSP & Water Budgeting

Role of Community Resource Person

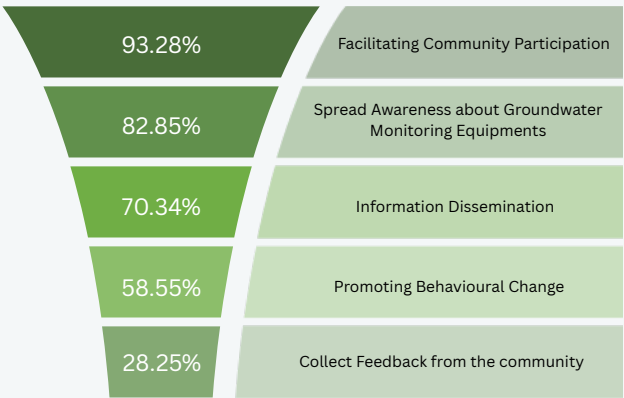


Figure 17: Role of Community Resource Person as Observed by Respondents

99.04% of respondents indicated that Community Resource Persons (CRPs) engaged as volunteers at the Gram Panchayat level played a crucial role in raising awareness about sustainable groundwater management. **Bhujal Saheli**, functioning as CRPs, were instrumental in facilitating community engagement by encouraging active participation in water conservation initiatives. They also supported the disclosure and measurement of groundwater data using equipments such as rain gauges, DWLRs, and other basic monitoring equipments.

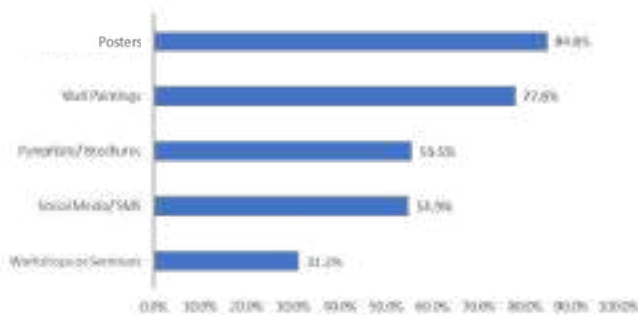
In addition to their role in capacity building, they significantly contributed to information dissemination, helping to make knowledge on groundwater conservation more accessible. Their involvement promoted greater community participation, thereby strengthening the local implementation of the Atal Bhujal Yojana.



KPI 2. IEC and Training

Information, Education and Communication (IEC) Materials/ Activities

The Impact Assessment found that IEC activities conducted under the Atal Bhujal Yojana in Haryana were effective in achieving their intended objectives. This successfully raised awareness among community members, improved the knowledge of key stakeholders, and encouraged the adoption of sustainable groundwater conservation and management practices at the grassroots level.



IEC materials such as posters emerged as the most widely used forms of communication, with **84.8%** of respondents identifying them as key medium for groundwater awareness (Figure 18).

Figure 18: Types of IEC Materials/ Activities Used for Groundwater Awareness, as observed by Respondents

In addition, Wall Paintings, and Pamphlets/ Brochures provided simple, easy-to-understand information to help raise awareness within the community. Initiatives such as ‘Awareness Rallies’ and ‘Announcements at communal areas’ in Haryana also played a pivotal role in engaging the rural community. The on-ground assessment findings suggest that traditional IEC methods remain central to community outreach and there exists a significant opportunity to enhance the impact by integrating more interactive and digital platforms in data disclosure strategies.

Capacity-Building Initiatives



Figure 19: Respondents’ Participation in Trainings and Meetings

Figure 19 represents the participation level of respondents engaged in GP level training sessions and meetings under the Atal Bhujal Yojana, covering topics such as groundwater issues, Water Security Plans (WSPs), and water budgeting.



These capacity-building initiatives under the scheme effectively supported community awareness and participation. **75.9%** respondents stated that these efforts helped them understand the financial assistance available through the scheme, thereby enhancing both the accessibility and implementation of the scheme at the grassroots level.

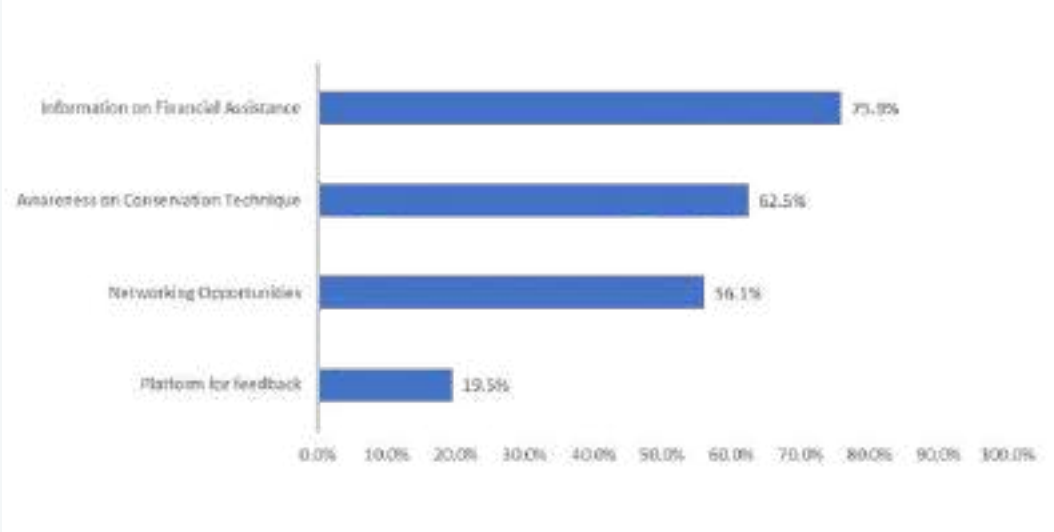


Figure 20: Respondents’ Perspective on the Impact of IEC Materials and Capacity Building Programs

Additionally, **62.5%** of participants became more aware of groundwater conservation methods, showing the impact of capacity-building program. The efforts also led to other positive outcomes, such as better networking opportunities and access to feedback platforms, which helped strengthen community engagement and collective decision-making.



KPI 3. Behavioural Change

The scheme has led to a measurable and meaningful shift in community behaviour towards groundwater conservation in Haryana. A core objective of the scheme was to promote sustainable groundwater management through awareness generation, capacity-building initiatives, and active community participation. The data presented in Figure 21 illustrates the effectiveness of these interventions.

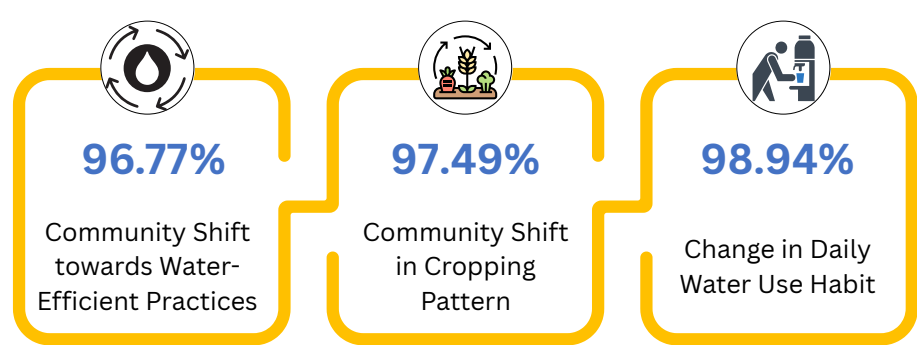


Figure 21: Respondents' Perspective on Behavioural Shifts in Water-Efficient Practices

96.77% of respondents observed a community shift towards water-efficient practices, and **97.49%** of respondents indicated a community shift towards cultivating low water-consuming crops. Further, **98.94%** of respondents changed daily routines to reduce water use, specifically by storing rainwater (**29.27%**), avoiding overfilling (**24.9%**), and reusing kitchen wastewater (**22.35%**), reflecting a growing commitment to sustainable water management.

As per the IVA's previous verification rounds, Haryana has made tangible progress in shifting towards sustainable irrigation practices. The area under Efficient Irrigation System **increased from 2,758.22 hectares in FY 2021-22 to 64,468.24 hectares in FY 2024**, accompanied by a steady increase in the cultivation area of low water-consuming crops, which reached **10,134.78 hectares** post implementation of the scheme.

This reflects a significant move away from traditional irrigation methods and crop patterns toward more efficient, water-saving technologies and climate-resilient farming. This shift is rooted not only in infrastructural improvements but also in changing mindsets and behaviour at the community level. Respondents shared that they have seen a growing use of modern irrigation techniques across their villages—with Sprinkler systems becoming the most widely adopted, followed by drip irrigation systems.



95.37%

Respondents highlighted the improved collaboration and collective action within the community for groundwater management

The scheme positively influenced community dynamics by fostering stronger collaboration and collective action for groundwater management, as observed by **95.37%** of respondents. Stakeholders became more actively engaged in shared decision-making and the implementation of water-saving practices. This indicated that the program was effective not only in promoting technical solutions but also in cultivating a sense of community responsibility towards long-term groundwater sustainability.



KPI 4. Women Participation & Inclusivity

Since the implementation of the scheme, the involvement of various community groups in water governance has been increased. Notably, women's participation in decision-making processes, community meetings, and leadership roles has grown steadily, indicating a shift towards more equitable representation. The Impact Assessment also examined participation across different social strata, providing a comprehensive view of how diverse community segments engaged with the scheme, reflecting promotion of inclusive and participatory groundwater management at the grassroots level.

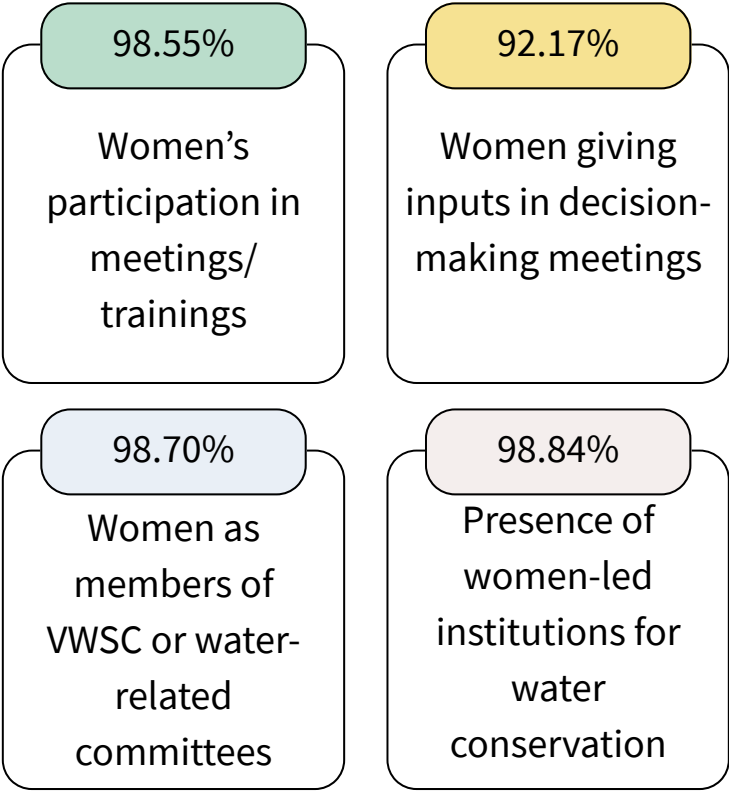


Figure 22: Respondents' Perspective on Women Participation and Inclusivity in Ground Water Governance

Based on the on-ground assessment, **98.55%** of respondents confirmed women's participation in meetings and training, and **92.17%** acknowledged their active input in decision-making meetings, indicating a robust model of gender-inclusive governance.

Additionally, **98.70%** of respondents observed that women are members of VWSCs or other water-related committees, reinforcing their involvement in formal governance structures. While **98.84%** of respondents confirmed the presence of women-led institutions (*such as Bhujal Saheli*), for water conservation, the findings highlight the importance of continued support to strengthen women's leadership at the grassroots level.



Atal Bhujal Yojana has led to meaningful progress in enhancing women’s participation in groundwater governance in Haryana. Women are increasingly taking part in community meetings, contributing to decision-making processes, and serving on local water committees, indicating a shift towards more inclusive water management. However, as observed by the respondents, challenges remain, such as time constraints due to household responsibilities, limited awareness of the scheme, and social or cultural barriers that continue to restrict broader engagement.

These findings highlight the importance of targeted interventions, including awareness-building, flexible participation models, and stronger community support systems. Sustaining these efforts, particularly through strengthened women-led institutions and ensuring equal representation in water governance, will be essential for sustaining inclusive and effective groundwater governance in the long term.

Strengthening Inclusion Through Socially Diverse Participation

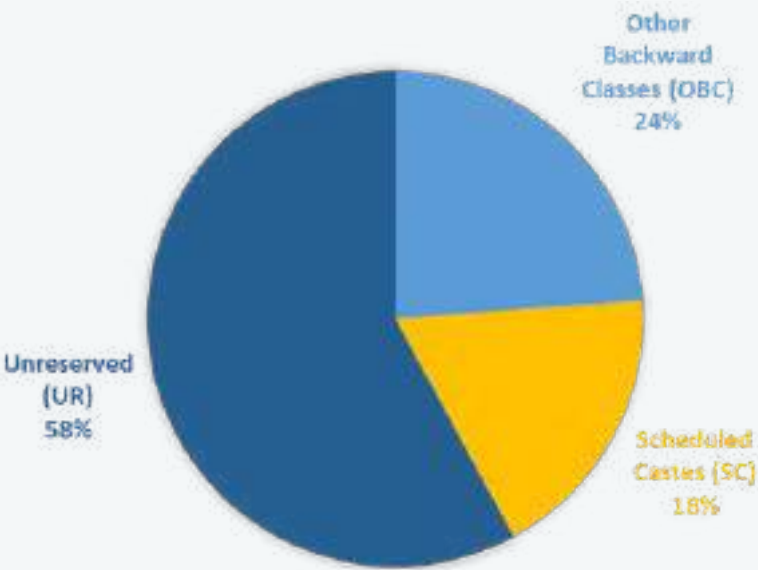


Figure 23: Voices from All Sections in WSP Formulation

The on-ground assessment revealed that **99.40%** of respondents confirmed that consensus was taken from all sections of society during the formulation and approval of Water Security Plans (WSPs). This indicates a strong emphasis on inclusive participation and community engagement at the Gram Panchayat level. However, continued efforts are needed to ensure equitable representation and to encourage more active participation from underrepresented groups in water-related decision-making processes.



KPI 5. Knowledge Enhancement

Community knowledge is a critical pillar for effective groundwater management and conservation. The scheme has strategically prioritized knowledge enhancement, significantly empowering local communities to adopt informed decisions, implement effective water conservation measures, and strengthen participatory water governance at the grassroots level



According to the on-ground observations, **98.65%** of respondents observed that awareness programs and capacity-building efforts in the state enabled community members to make more informed decisions regarding water use, contributing to improved planning and sustainable practices at the GP level.

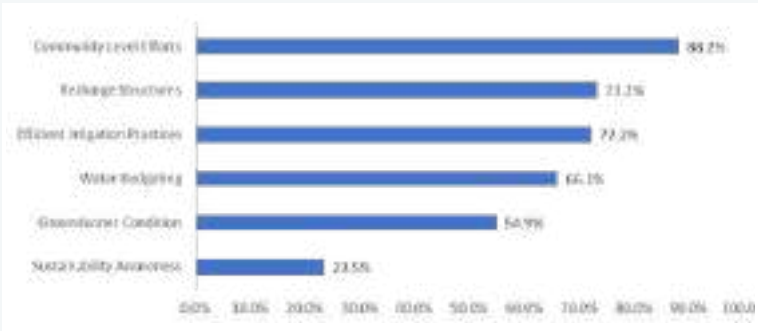
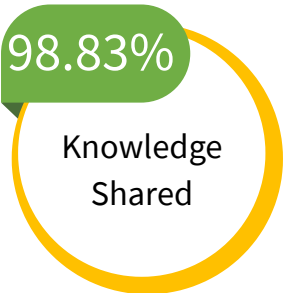


Figure 24 : Areas of Knowledge Improvement Observed by Respondents

As shown in Figure 24, knowledge of respondents improved significantly in key areas related to groundwater management, with the most notable advancement observed in community-level efforts, reflecting the scheme’s success in involving the community in decision-making.

Additionally, respondents demonstrated increased knowledge of technical concepts such as recharge structures, efficient irrigation practices, water budgeting, and groundwater conditions, indicating effective communication of these topics at the Gram Panchayat level. Furthermore, **98.83%** actively shared this information with others in their family or community.



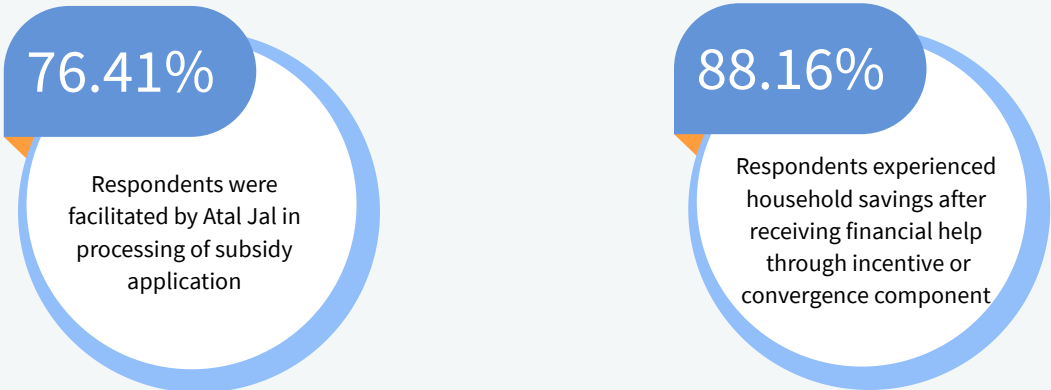
This indicates the emergence of a peer-to-peer learning culture at the grassroots level, where informed individuals became facilitators of awareness, contributing to the wider dissemination of the scheme’s objectives.

However, awareness of the long-term sustainability of groundwater resources was still limited, suggesting the need for further focus on this aspect in future capacity-building programs.



KPI 6. Socio-Economic Impact

In Haryana, socio-economic conditions have improved with better groundwater access and streamlined subsidies, reducing farming costs. Community-led water budgeting and monitoring have enhanced planning and sustainable usage. Rising groundwater levels have strengthened rural livelihoods and improved water security. Promotion of low water-consuming crops supports efficient water use and long-term resilience.



As per on-ground assessment, **76.41%** of respondents found it easier to access subsidies for water-saving techniques, indicating improved support at the Gram Panchayat level.

In addition, **88.16%** of respondents experienced household savings on water-related expenses following financial assistance received through the incentive and convergence components of the scheme. These savings were primarily utilized for children’s education and increased personal savings, followed by investments in agriculture, household improvements and investments in livestock, reflecting a shift towards productive and welfare-enhancing uses.

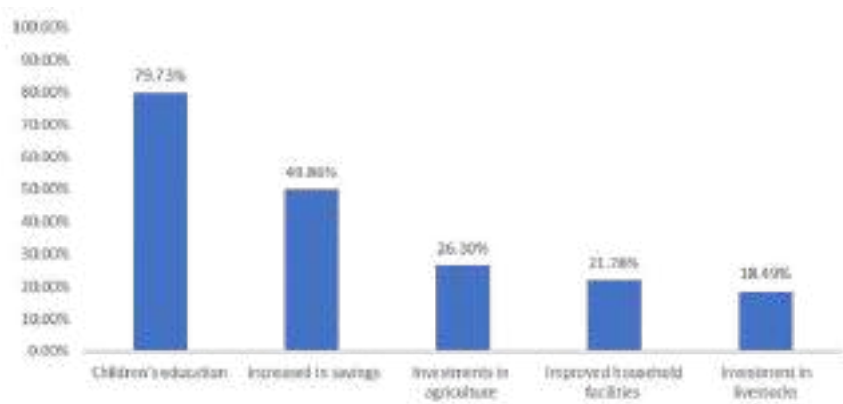


Figure 25: Respondents’ Perspective on the Economic Impact After Receiving Financial Support Through Convergence or Incentives

Respondents also stated that alongside financial gains, there has been widespread adoption of water-efficient practices, including drip irrigation, sprinklers, underground pipeline systems, and crop shifting.

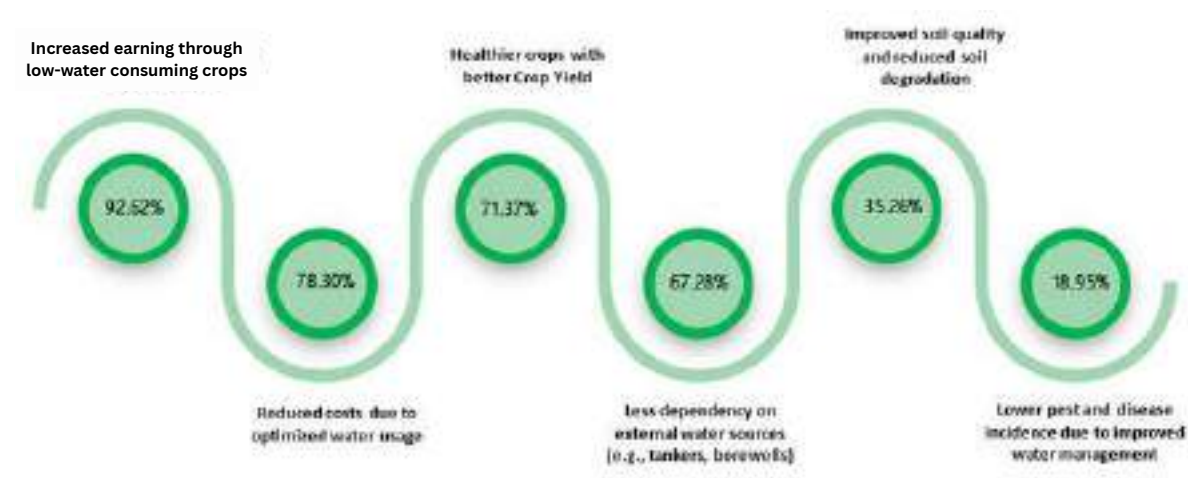


Figure 26: Benefits of Adopting Water-Efficient Practices as Observed by Respondents

The benefits of improved water practices were most reflected through increased earnings through low water consuming crops (**92.62%**), reduced irrigation costs (**78.30%**), and better crop yields (**71.37%**). These outcomes underline the significant economic impact of adopting efficient water management techniques in the state.

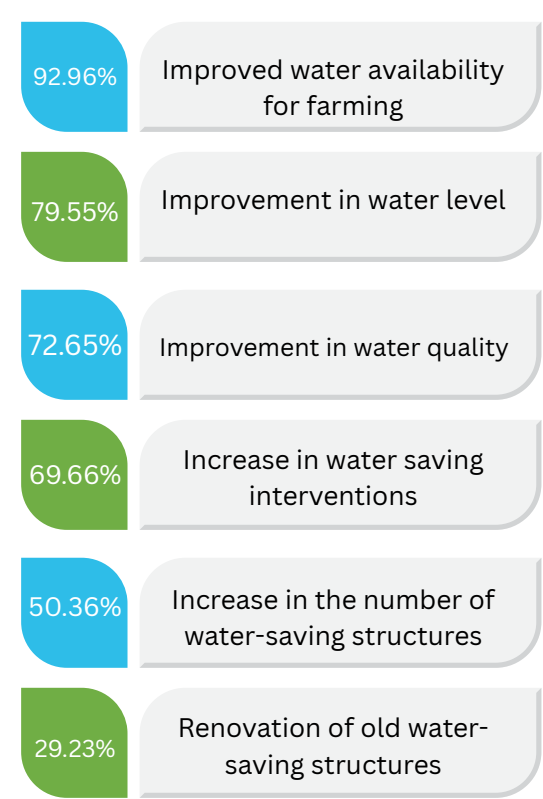


Figure 27: Changes Observed by Respondents Since the Implementation of the Scheme

Respondents observed tangible improvements: (**92.96%**) reported better water availability for farming, (**79.55%**) observed improved groundwater level, (**72.65%**) noted better water quality (Figure 27). An increase in interventions and the construction/renovation of supply structures were also widely recognized as significant outcomes. These changes reflect the positive impact of the scheme.

Overall, Haryana has made consistent progress in water management possible through active community participation and the structured implementation of the scheme. However, sustained efforts and ongoing support will be necessary to maintain these improvements and to further strengthen the outcomes achieved under the scheme.

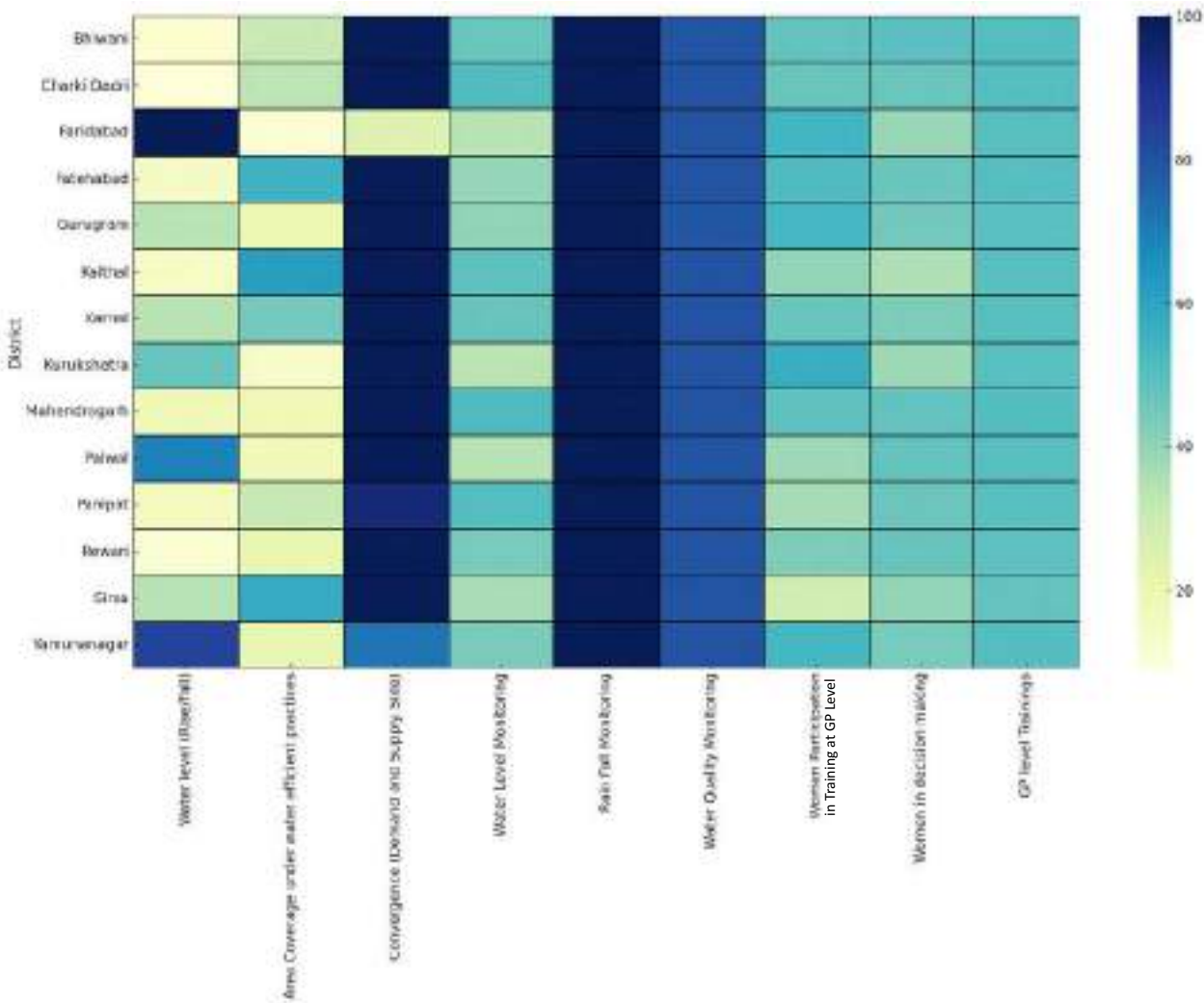


Performance Analysis of Haryana

A. Scoring-Based Distribution of Gram Panchayats

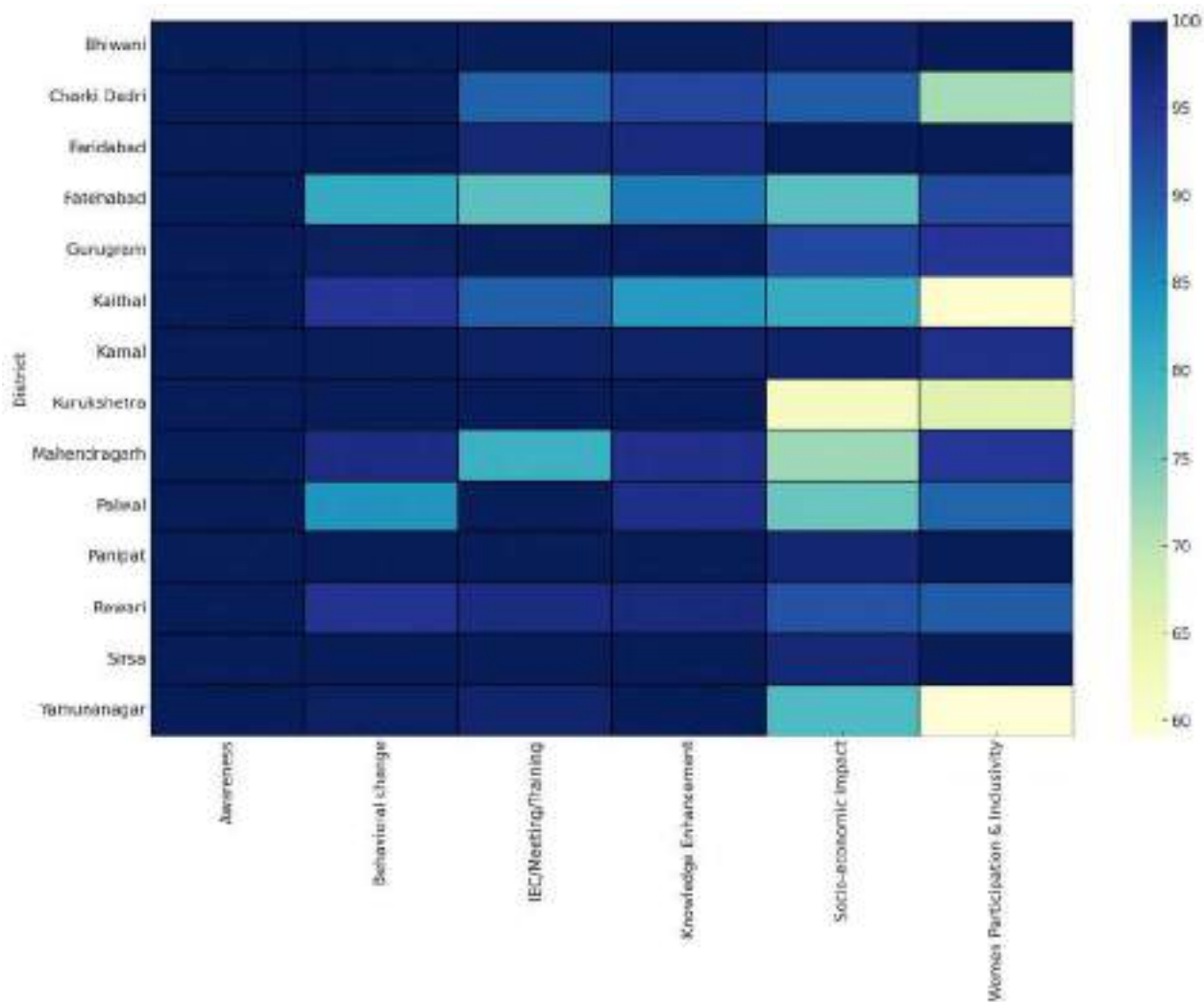
Scoring Categories	Low (21-40)	Medium (41-60)	High (61-80)	Very High (81-100)
Number of Gram Panchayats	0	4	254	286

B. Heat Map showing performance levels of Districts on the basis of Desktop Assessment





C. Heat Map showing performance levels of Districts on the basis of On-ground Assessment



District-level implementation under the Atal Bhujal Yojana has reflected robust performance, particularly in areas such as convergence for demand and supply-side interventions, rainfall monitoring, and effective outreach of IEC activities that significantly enhanced awareness, improved knowledge, and brought a positive behavioural shift at the community level.

According to the performance scoring analysis, the majority of the assessed Gram Panchayats in the state fall within the very-high performance category, signalling remarkable progress and strong uptake of scheme objectives. To maintain this trajectory, the state must focus on strengthening water level monitoring systems, increasing training at the GP level and enhancing the role of women in groundwater management activities and decision-making processes.

While the state has successfully achieved its incentive targets for area coverage under efficient water use practices, there remains scope to further broaden the reach of these practices by covering a greater proportion of the Net Irrigated Area. Targeted actions in these areas shall ensure consistent improvements in groundwater levels through efficient water use, data-driven decisions, and inclusive community participation.



Key Observations

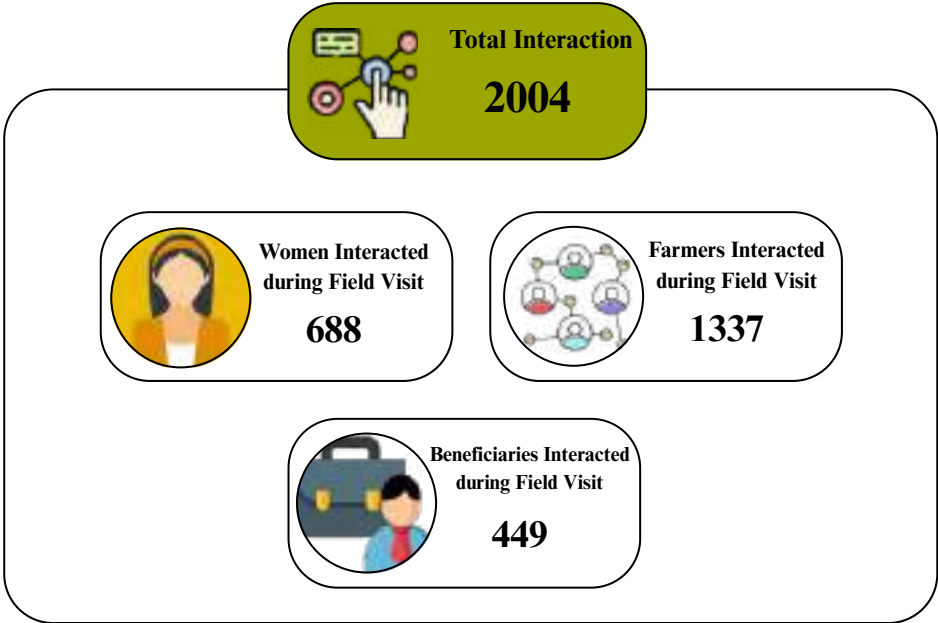
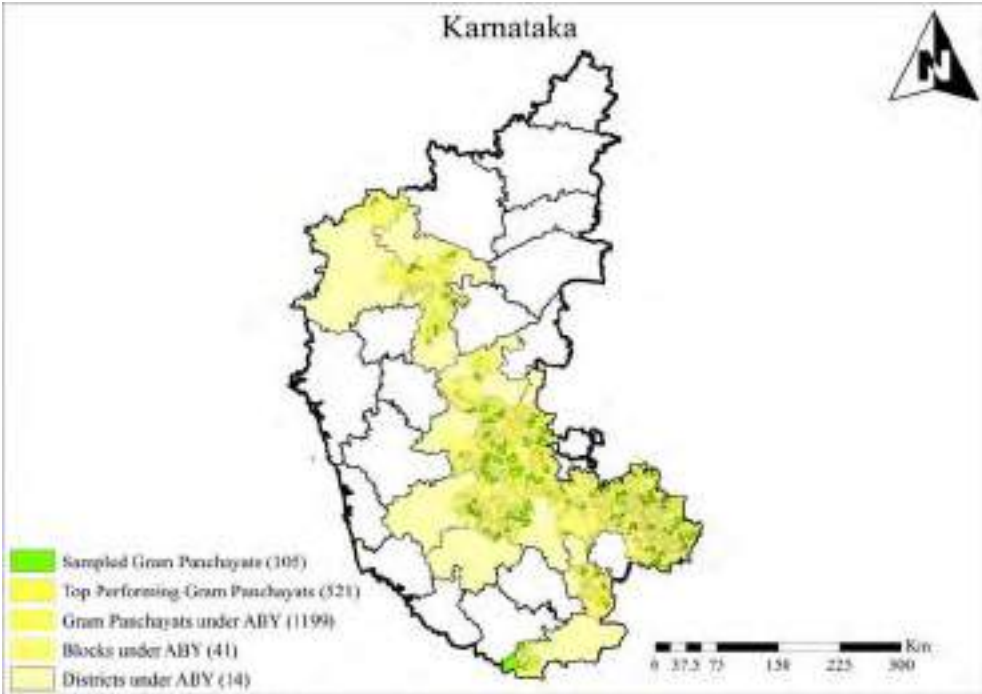
- Haryana emphasized community-centric groundwater management by disseminating groundwater data through **QR codes** at the Gram Panchayat level, fostering local transparency. Community engagement was further strengthened through **awareness rallies** led by DPMU and DIPs, involving school students to promote sustainable groundwater practices.
- In agriculture, the state promoted water-efficient practices by encouraging the use of DSR, Happy Seeder, Super Seeder, and zero tillage alongside common farming methods to reduce groundwater extraction.
- Haryana has demonstrated strong women’s participation in groundwater governance through the active presence of women-led institutions like **Bhujal Saheli**, supported by structured platforms and state-level recognition.
- Effective mechanisms for **rainfall monitoring** are in place across the state, leading to strategic use in planning and groundwater management.
- There is scope to further strengthen water level monitoring infrastructure to support informed decision-making and sustainable groundwater management.



KARNATAKA

Karnataka has a total of **1199** Gram Panchayats under Atal Bhujal Yojana, and as part of the Impact Assessment, the state submitted **521** Gram Panchayats as their top performers based on selected parameters.

QCI selected **105** Gram Panchayats as **20%** sample for the on-ground assessment. QCI ensured that this sample is a true statistical representative of the population through the method of clustered sampling at the block level.





KPI 1. Community Awareness

As part of the Impact Assessment, the QCI team engaged with **2,004** citizens, including community members, beneficiaries, members of Pani Samiti/PGWMC/VWSC/WUA, and other relevant stakeholders who were involved in the scheme. The use of Information, Education and Communication (IEC) materials, such as pamphlets and posters, in Karnataka emerged as the primary source for disseminating scheme information. These were followed by community meetings and workshops, which played a reinforcing role in deepening public understanding of sustainable groundwater management practices.

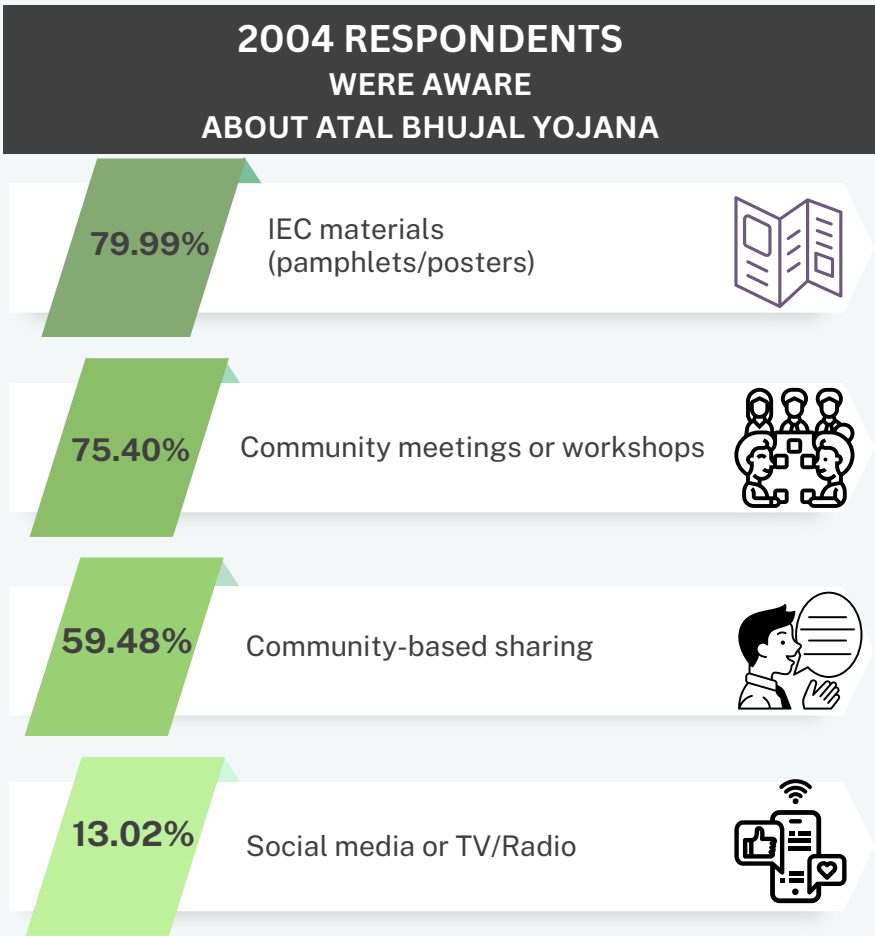


Figure 28 : Mode of Awareness About Atal Bhujal Yojana

Beyond formal modes, awareness was also spread through various channels such as community-based sharing, social media platforms, television, and radio. This combination of structured outreach efforts and discussions played a crucial role in promoting responsible groundwater use at the community level (Figure 28 showcases the various modes of awareness about the Atal Bhujal Yojana at the Gram Panchayat level).



Awareness within the community was also promoted by the Gram Panchayat-level meetings conducted under the scheme. They served as valuable platform for knowledge exchange and experience sharing, encouraging local farmers and households to adopt practical and effective water-saving methods.

These meetings, focused on water security plans and water budgeting, facilitated in-depth discussions on the various water-saving methods and interventions. Prominently, micro-irrigation systems such as sprinkler and drip were discussed, following the shift to low-water-consuming crops. Other key practices discussed included plastic mulching, vermicompost, and polyhouses. This helped in raising awareness on the adoption of modern irrigation techniques and sustainable water management practices at the grassroots level.

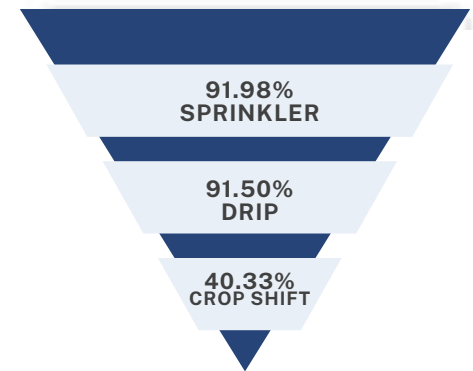


Figure 29: Top 3 Water-Saving Practices Discussed During Meeting: Focus on WSP & Water Budgeting

Role of Community Resource Person

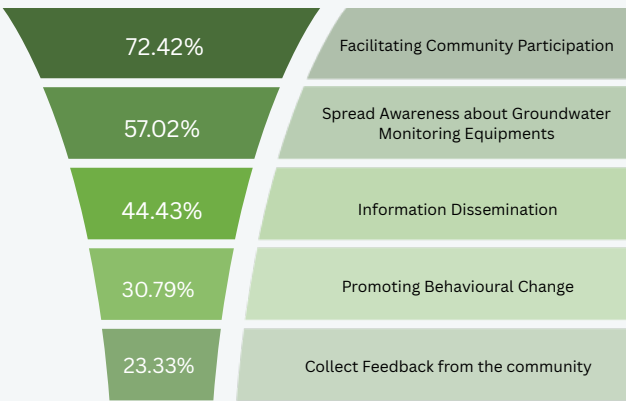


Figure 30: Role of Community Resource Person as Observed by Respondents

96.26% of respondents indicated that Community Resource Persons (CRPs) engaged as volunteers at the Gram Panchayat level played a crucial role in raising awareness about sustainable groundwater management. **Krishi Sakhi**, functioning as CRPs, were instrumental in facilitating community engagement by encouraging active participation in water conservation initiatives. They also supported the disclosure and measurement of groundwater data using equipments such as rain gauges, DWLRs, and other basic monitoring equipments.

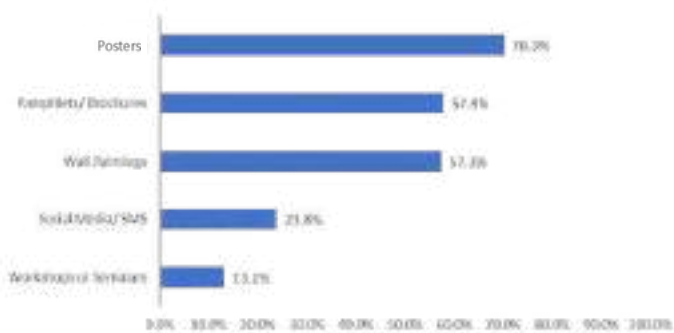
In addition to their role in capacity building, they played a key role in spreading awareness, helping to make knowledge on groundwater conservation more accessible. Their involvement promoted greater community participation, thereby strengthening the local implementation of the Atal Bhujal Yojana.



KPI 2. IEC and Training

Information, Education and Communication (IEC) Materials/ Activities

The Impact Assessment found that IEC activities conducted under the Atal Bhujal Yojana in Karnataka were effective in achieving their intended objectives. This successfully raised awareness among community members, improved the knowledge of key stakeholders, and encouraged the adoption of sustainable groundwater conservation and management practices at the grassroots level.



As shown in the Figure 31, posters (70.3%) have been the most widely used IEC material for groundwater awareness, highlighting their effectiveness as accessible and visually engaging modes.

Figure 31: Types of IEC Materials/ Activities Used for Groundwater Awareness, as Observed by Respondents

In addition, Pamphlets/ Brochures, and Wall Paintings provided simple, easy-to-understand information to help raise awareness within the community. Supporting these efforts, activities like ‘Kala Jatha’, ‘Auto announcements’, and ‘Tableau Displays through LDC Vehicles’ played a pivotal role in engaging the rural community. The on-ground assessment findings suggest that traditional IEC methods remain central to community outreach, and there exists a significant opportunity to enhance the impact by integrating more interactive and digital platforms in data disclosure strategies.

Capacity-Building Initiatives



Figure 32: Respondents’ Participation in Trainings and Meetings

Figure 32 represents the participation level of respondents engaged in GP level training sessions and meetings under the Atal Bhujal Yojana, covering topics such as groundwater issues, Water Security Plans (WSPs), and water budgeting.



These capacity-building initiatives under the scheme effectively supported community awareness and participation. **49.6%** of participants became more aware of groundwater conservation methods, showing the educational impact of the program.

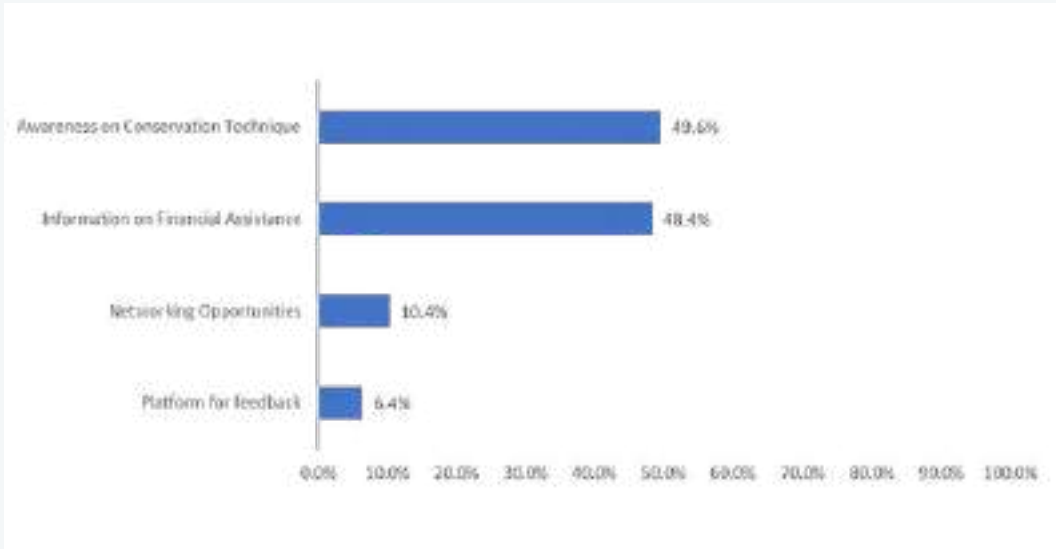


Figure 33: Respondents' Perspective on the Impact of IEC Materials and Capacity Building Programs

Additionally, **48.4%** of respondents stated that these efforts helped them understand the financial assistance available through the scheme, thereby enhancing both the accessibility and implementation of the scheme at the grassroots level. The efforts also led to other positive outcomes, such as better networking opportunities and access to feedback platforms, which helped strengthen community engagement and collective decision-making.



KPI 3. Behavioural Change

Karnataka has witnessed a meaningful transformation in community behaviour and practices related to groundwater conservation under the scheme. This is attributed to the scheme’s emphasis on awareness generation, capacity-building, and participatory engagement. The data presented in Figure 34 highlights the effectiveness of these interventions.

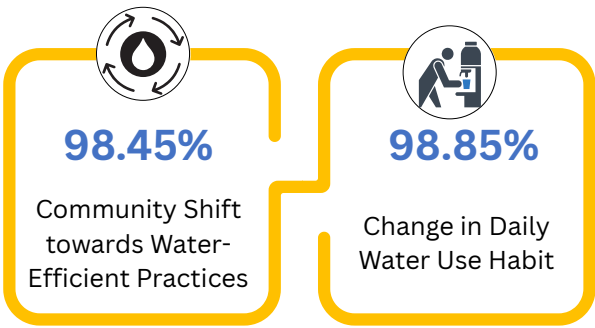


Figure 34: Respondents’ Perspective on Behavioural Shifts in Water-Efficient Practices

98.45% of respondents observed a community shift towards water-efficient practices. Further, **98.85%** of respondents changed daily routines to reduce water use, specifically by storing rainwater (**34.48%**), avoiding overfilling (**29.56%**), and reusing kitchen wastewater (**25.87%**), reflecting a growing commitment to sustainable water management.

As per the IVA’s previous verification rounds, Karnataka has made tangible progress in shifting towards sustainable irrigation practices. The area under the Efficient Irrigation System **increased from 20,045.47 hectares in FY 2021–22 to 16,6014.67 hectares in FY 2024.**

This reflects a significant move away from traditional irrigation methods toward more efficient, water-saving technologies and climate-resilient farming. This shift is rooted not only in infrastructural improvements but also in changing mindsets and behaviour at the community level. Respondents shared that they have seen a growing use of modern irrigation techniques across their villages, with drip irrigation becoming the most widely adopted, followed by sprinkler systems.



The scheme positively influenced community dynamics by fostering stronger collaboration and collective action for groundwater management, as observed by **95.76%** of respondents. Stakeholders became more actively engaged in shared decision-making and the implementation of water-saving practices. This indicated that the program was effective not only in promoting technical solutions but also in cultivating a sense of community responsibility towards long-term groundwater sustainability.



KPI 4. Women Participation & Inclusivity

The implementation of the scheme in Karnataka has led to increased involvement of diverse community groups in water governance, with a notable rise in women's participation in decision-making processes, community meetings, and leadership roles. This marks a shift towards more equitable representation at the grassroots level. The Impact assessment also examined participation across different social strata, providing a comprehensive view of how diverse community segments engaged with the scheme. These findings reflected the scheme’s role in promoting inclusive and participatory groundwater management at the grassroots level.

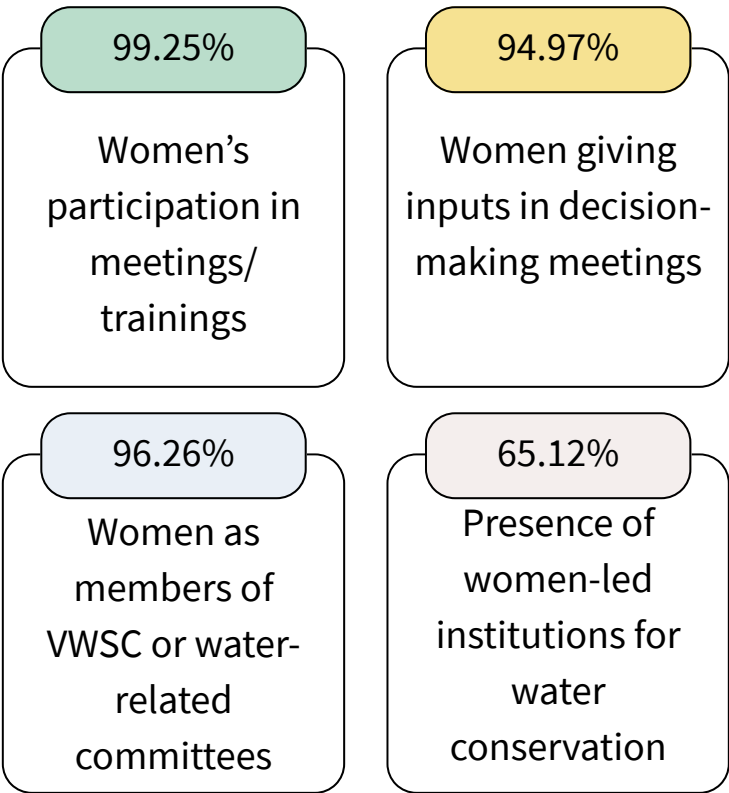


Figure 35: Respondents’ Perspective on Women Participation and Inclusivity in Ground Water Governance

Assessment findings reveal that, **99.25%** of respondents confirmed women’s participation in meetings and training, and **94.97%** acknowledged their active input in decision-making meetings, indicating a robust model of gender-inclusive governance.

Additionally, **96.26%** of respondents observed that women are members of VWSCs or other water-related committees, reinforcing their involvement in formal governance structures. While **65.12%** of respondents confirmed the presence of women-led institutions for water conservation, these findings highlight the importance of continued support to strengthen women’s leadership at the grassroots level.



The scheme has facilitated progress in enhancing women’s roles in groundwater governance. Women are increasingly contributing to decisions, participating in meetings, and serving on local water committees. However, as observed by the respondents, challenges remain, such as time constraints due to household responsibilities, limited awareness of the scheme, and social or cultural barriers that continue to restrict broader engagement.

These insights underscore the need for targeted interventions, including awareness-building, flexible participation models, and stronger community support systems. Strengthening women-led institutions and ensuring equal representation will be essential for sustaining inclusive and effective groundwater governance in the long term.

Strengthening Inclusion Through Socially Diverse Participation

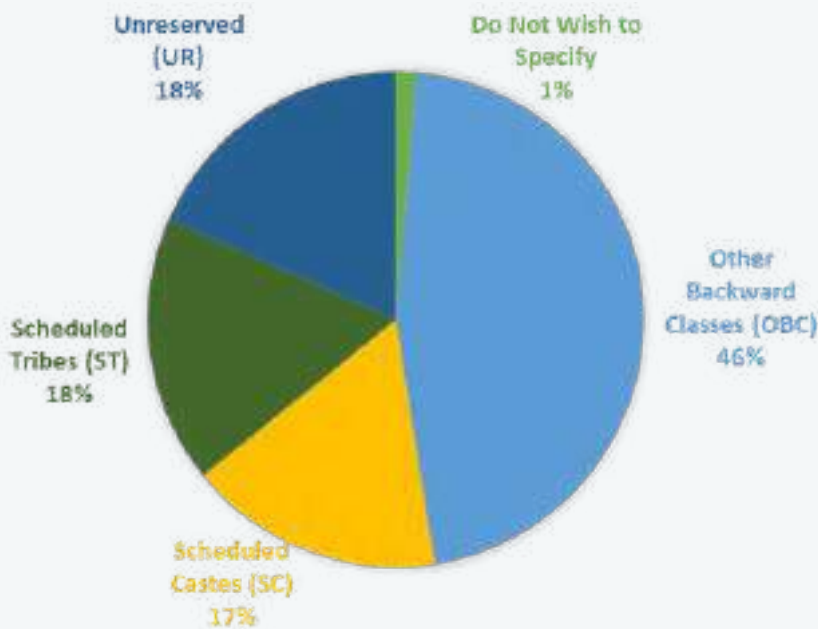


Figure 36: Voices from All Sections in WSP Formulation

The on-ground assessment revealed that **98.46%** of respondents confirmed that consensus was taken from all sections of society during the formulation and approval of Water Security Plans (WSPs). This indicates a strong emphasis on inclusive participation and community engagement at the Gram Panchayat level. However, continued efforts are needed to ensure equitable representation and to encourage more active participation from underrepresented groups in water-related decision-making processes.



KPI 5. Knowledge Enhancement

Community knowledge is a critical pillar for effective groundwater management and conservation. The scheme has strategically prioritized knowledge enhancement, significantly empowering local communities to adopt informed decisions, implement effective water conservation measures, and strengthen participatory water governance at the grassroots level



The on-ground assessment findings reveal that **98.9%** of respondents observed awareness programs and capacity-building efforts in the state, which enabled community members to make more informed decisions regarding water use, contributing to improved planning and sustainable practices at the GP level.

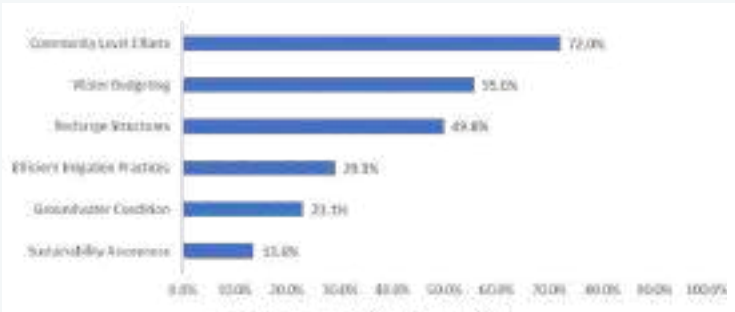
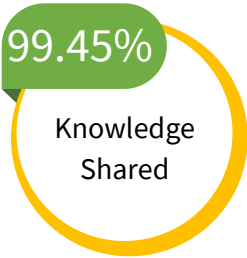


Figure 37: Areas of Knowledge Improvement Observed by Respondents

As shown in Figure 37, knowledge of respondents improved significantly in key areas related to groundwater management, with the most notable advancement observed in community-level efforts and water budgeting, reflecting scheme’s effectiveness in promoting participatory decision-making.

Additionally, respondents demonstrated increased knowledge of technical concepts such as recharge structures, groundwater conditions, and efficient irrigation practices, indicating effective communication of these topics at the Gram Panchayat level. Furthermore, **99.45%** actively shared this information with others in their family or community.



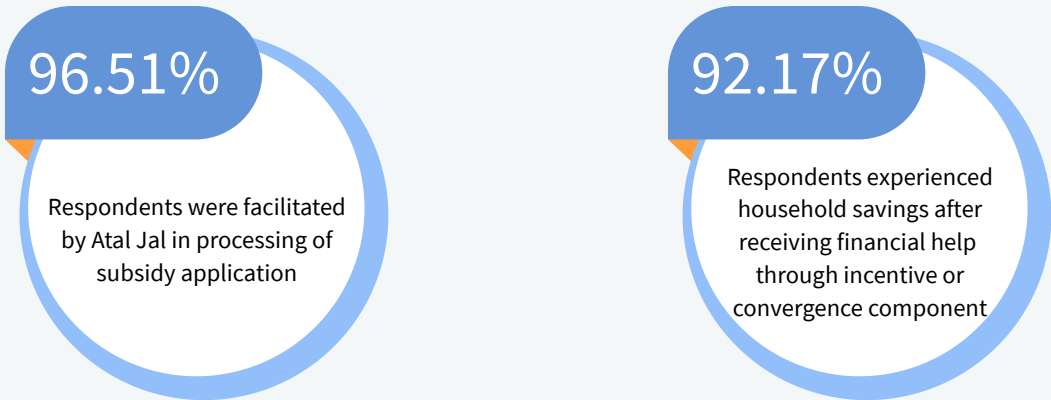
This indicates the emergence of a peer-to-peer learning culture at the grassroots level, where informed individuals became facilitators of awareness, contributing to the wider dissemination of the scheme’s objectives.

However, awareness of the long-term sustainability of groundwater resources was still limited, suggesting the need for further focus on this aspect in future capacity-building programs.



KPI 6. Socio-Economic Impact

In Karnataka, socio-economic conditions have improved with better groundwater access and streamlined subsidies, reducing farming costs. Community-led water budgeting and monitoring have enhanced planning and sustainable usage. Rising groundwater levels have strengthened rural livelihoods and improved water security. Promotion of low water-consuming crops supports efficient water use and long-term resilience.



As per on-ground assessment, **96.51%** of respondents found it easier to access subsidies for water-saving techniques, indicating improved support at the Gram Panchayat level.

In addition, **92.17%** of respondents experienced household savings on water-related expenses following financial assistance received through the incentive and convergence components of the scheme. These savings were primarily utilized for children’s education and investments in agriculture, followed by investments in livestock, increased savings, and improved household facilities, reflecting a shift towards productive and welfare-enhancing uses.

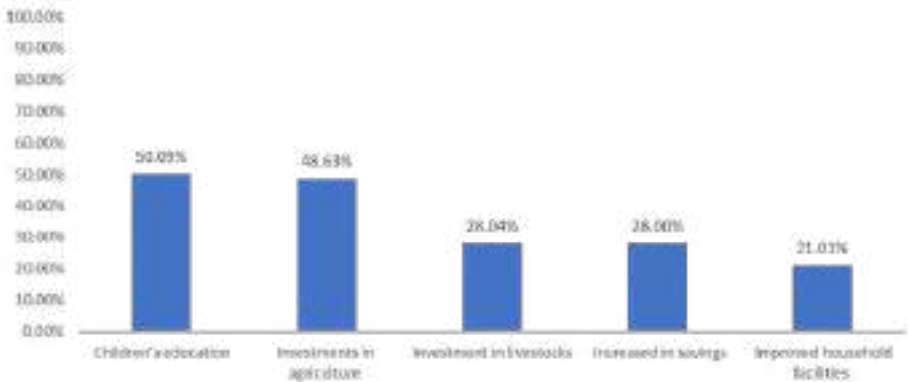


Figure 38: Respondents’ Perspective on the Economic Impact After Receiving Financial Support Through Convergence or Incentives

Respondents also stated that alongside financial gains, there has been widespread adoption of water-efficient practices, including drip irrigation, sprinklers, underground pipeline systems, and crop shifting.

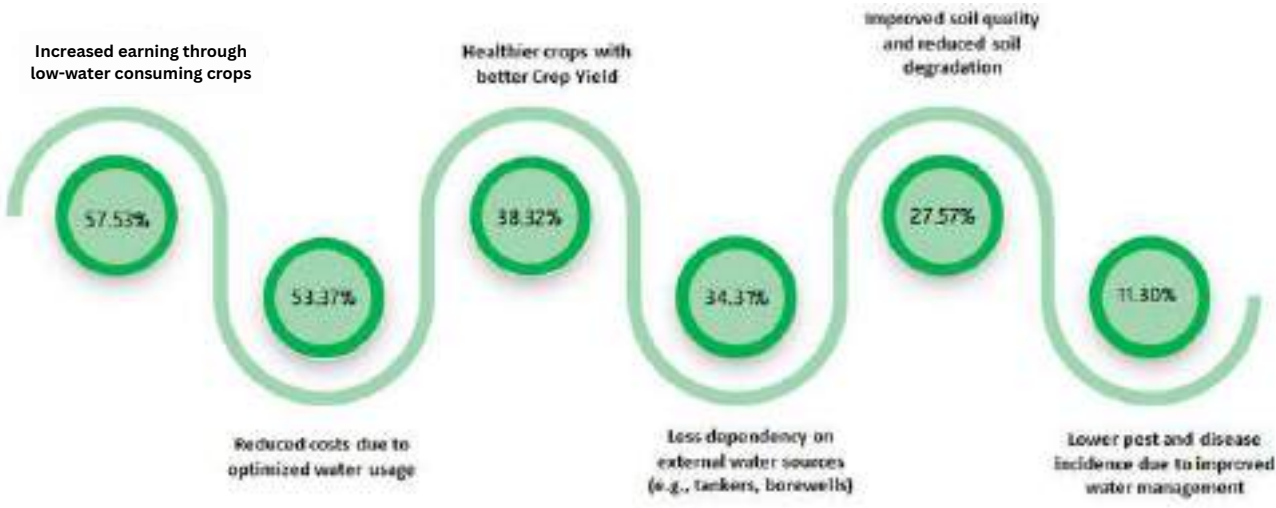


Figure 39: Benefits of Adopting Water-Efficient Practices as Observed by Respondents

The top gains from improved practices included increased earnings through low water-consuming crops with better prices (**57.53%**), reduced irrigation costs (**53.37%**), and healthier crops with better yields (**38.32%**). These trends indicate a shift towards sustainable cropping patterns and better farm-level efficiency.

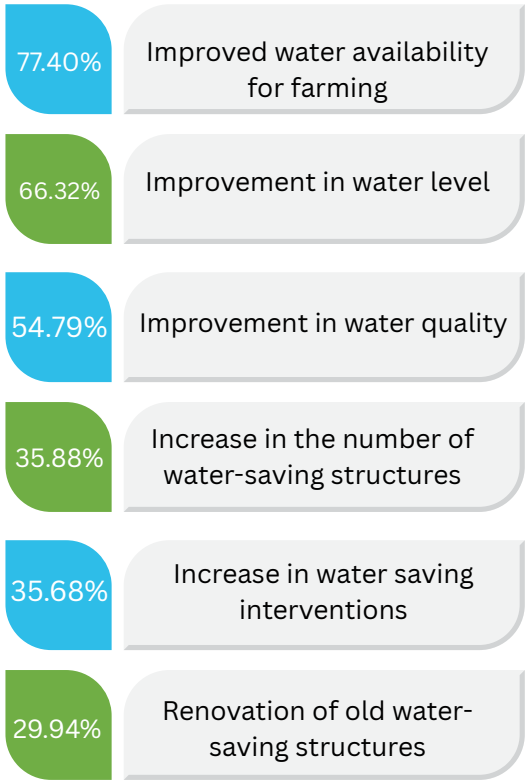


Figure 40: Changes Observed by Respondents Since the Implementation of the Scheme

Respondents observed tangible changes: (**77.40%**) reported better water availability for farming, (**66.32%**) observed improved groundwater levels, and (**54.79%**) noted better water quality (Figure 40). An increase in supply structures, interventions, and renovation of old supply-side structures also reflected notable progress since the implementation of the scheme.

The outcomes indicate Karnataka's consistent progress in water management, which has been made possible through active community participation and the structured implementation of the scheme. However, sustained efforts and ongoing support will be necessary to maintain these improvements and further strengthen the outcomes achieved under the scheme.

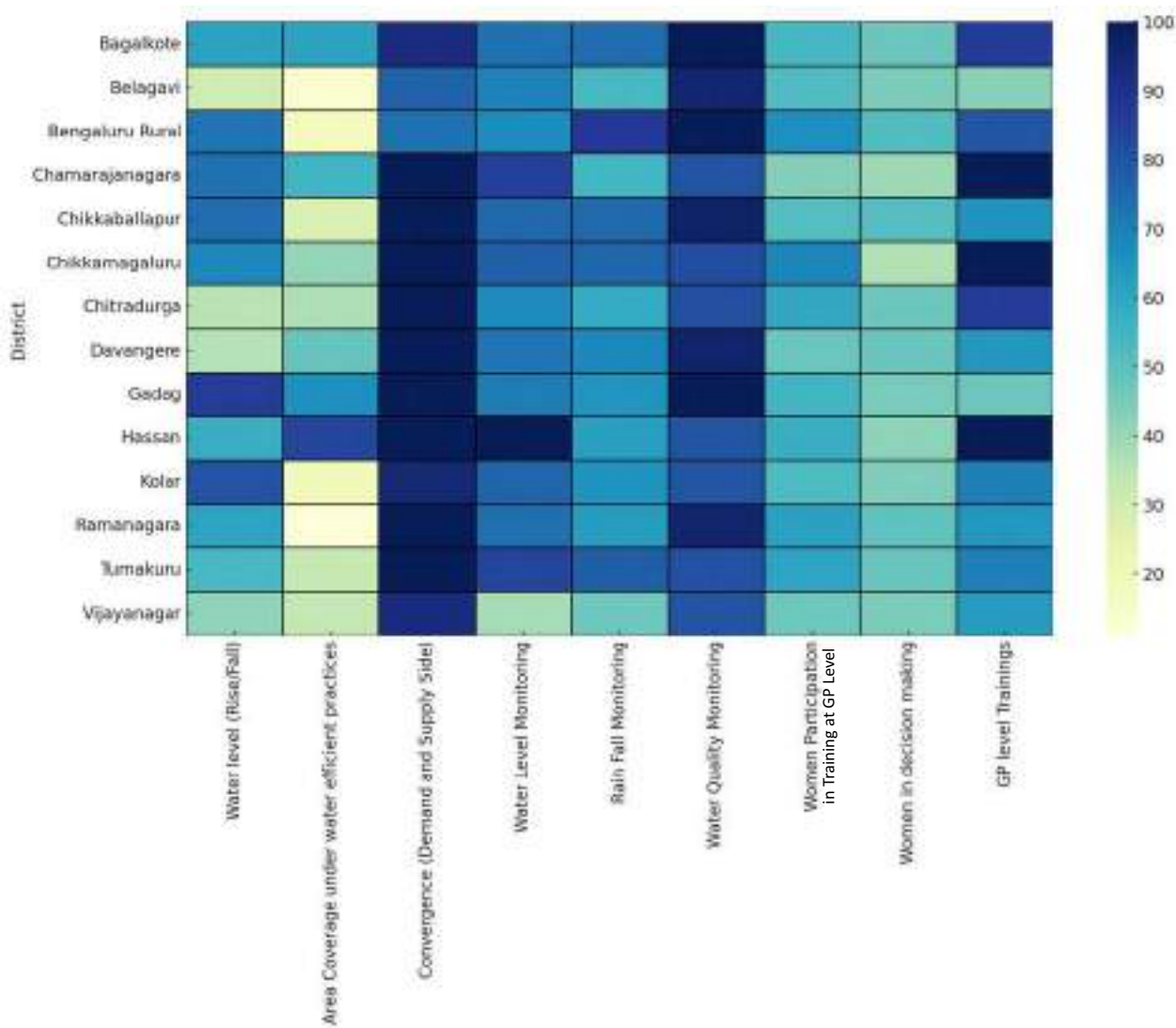


Performance Analysis of Karnataka

A. Scoring-Based Distribution of Gram Panchayats

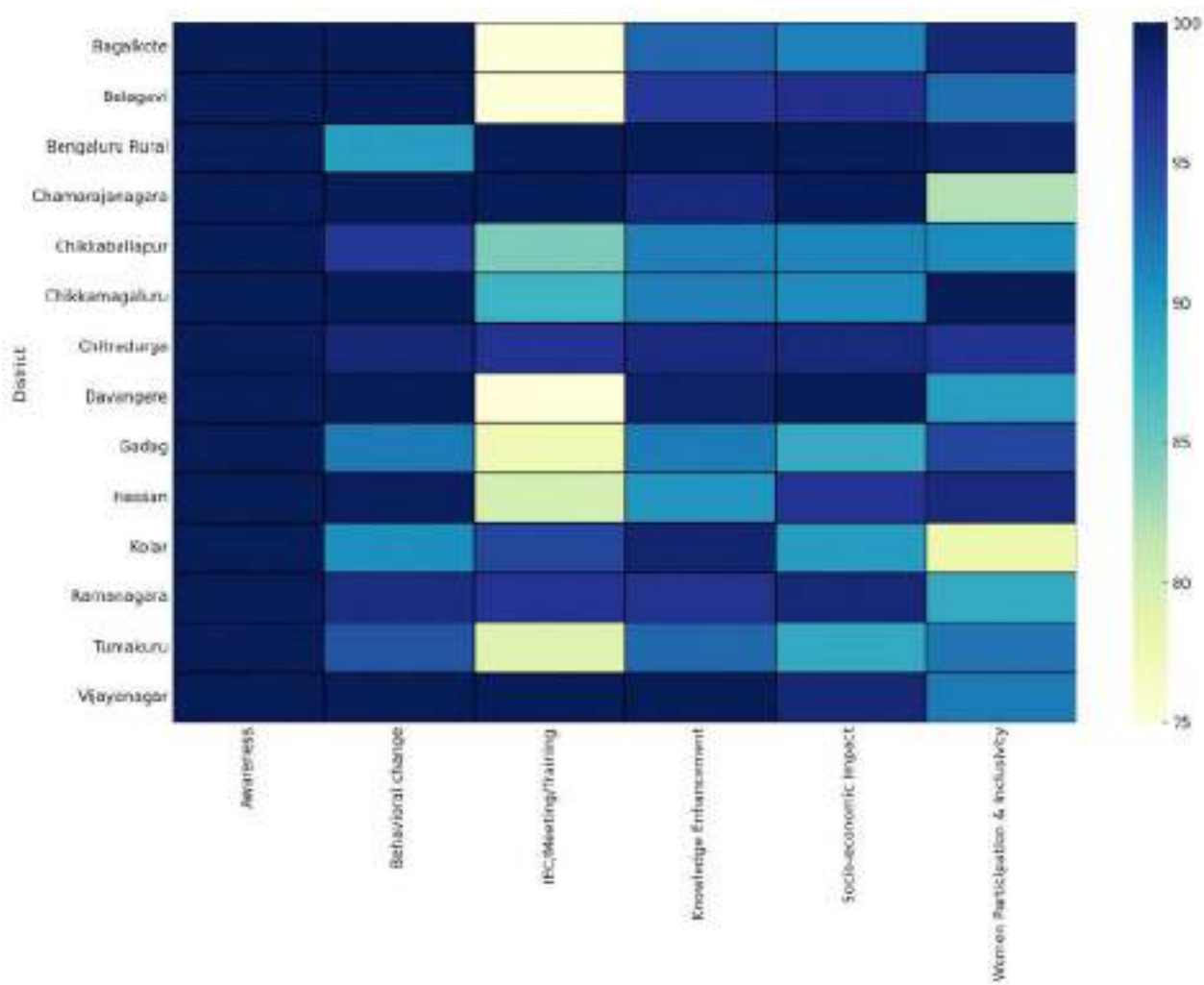
Scoring Categories	Low (21-40)	Medium (41-60)	High (61-80)	Very High (81-100)
Number of Gram Panchayats	0	3	146	372

B. Heat Map showing performance levels of Districts on the basis of Desktop Assessment





C. Heat Map showing performance levels of Districts on the basis of On-ground Assessment



District-level implementation under the Atal Bhujal Yojana has exhibited notable strengths in awareness generation, behavioural change, knowledge enhancement, convergence for demand and supply-side interventions, socio-economic impact, and water quality monitoring. The state has performed well in conducting training sessions at the GP level across a majority of districts; to fully realize the scheme's objectives, this practice should be scaled up uniformly across the state.

According to the performance scoring analysis, the majority of the assessed Gram Panchayats in the state fall within the very-high performance category, signalling remarkable progress and strong uptake of scheme objectives. To maintain this trajectory, the state must focus on strengthening water level and rainfall monitoring systems, and enhancing the role of women in groundwater management activities and decision-making processes. While the state has successfully achieved its incentive targets for area coverage under efficient water use practices, there remains scope to further broaden the reach of these practices by covering a greater proportion of the Net Irrigated Area.



Strengthening these areas is essential for achieving long-term improvements in groundwater levels through efficient water use, data-driven decisions and inclusive community involvement.

Key Observations

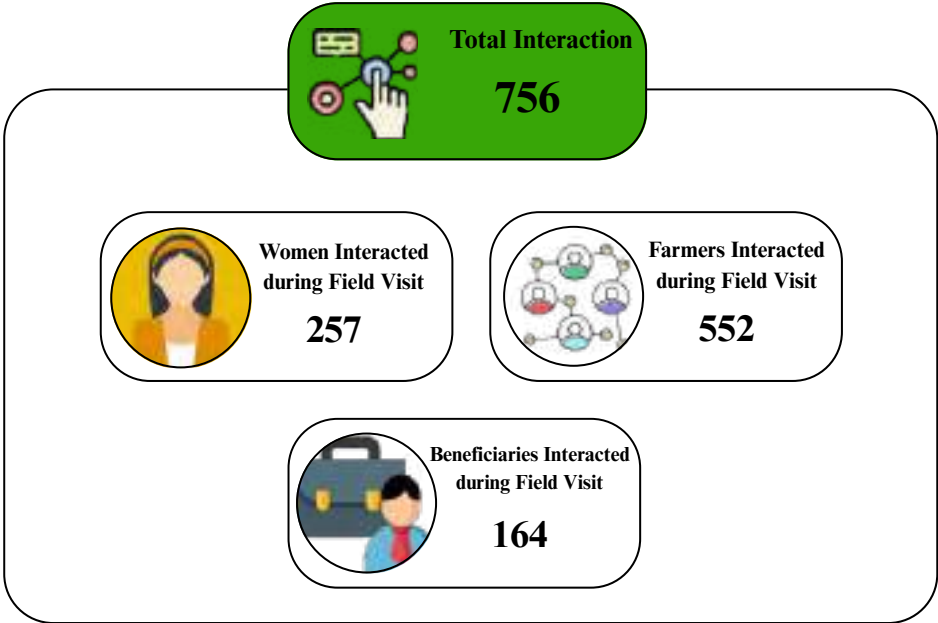
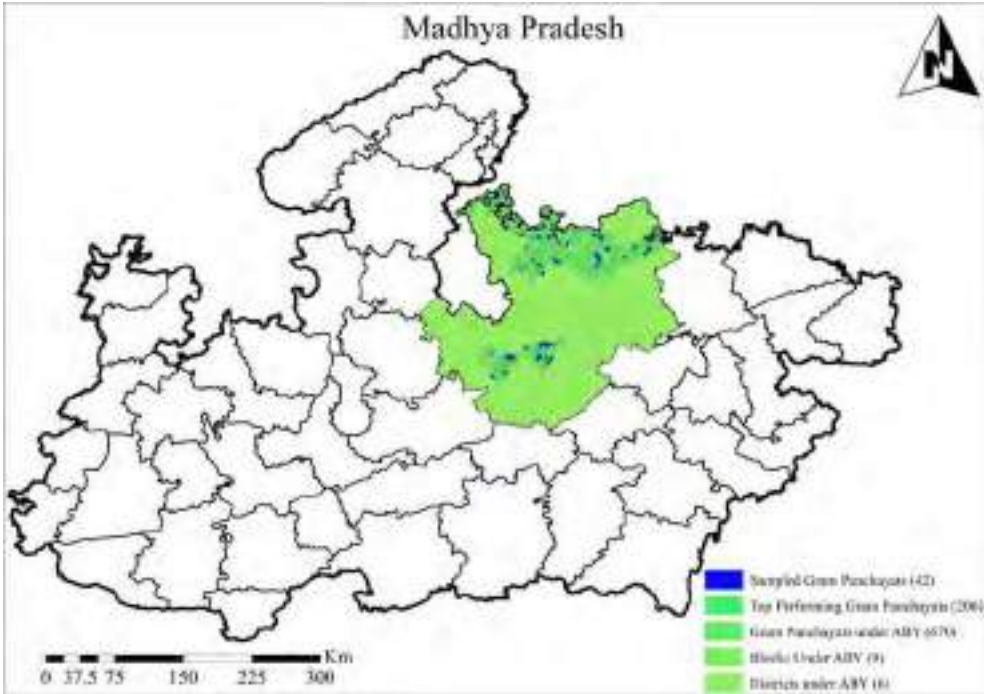
- Karnataka utilized pamphlets, posters and for community awareness while promoting efficient horticultural practices such as polyhouses and plastic mulching to enhance agricultural productivity.
- Community awareness was further deepened through programs like **Kala Jatha drives**, which engaged local populations in understanding the objectives and benefits of the Atal Bhujal Yojana.
- The state reinforced water conservation efforts through the construction of contour bunds and tank development, effectively integrating traditional knowledge with modern techniques.
- Karnataka has actively promoted women led initiatives like **Krishi Sakhi**, with structured training programs conducted statewide to empower local water champions at the grassroots level.
- The state can further improve the robustness of water level and rainfall monitoring systems to enable more accurate data collection and informed water resource management.



MADHYA PRADESH

Madhya Pradesh has a total of **670** Gram Panchayats under Atal Bhujal Yojana, and as a part of the Impact Assessment, the state submitted **206** Gram Panchayats as their top performers based on selected parameters.

QCI selected **42** Gram Panchayats as **20%** sample for the on-ground assessment. QCI ensured that this sample is a true statistical representative of the population through the method of clustered sampling at the block level.





KPI 1. Community Awareness

The QCI team engaged with **756** citizens, including community members, beneficiaries, members of VWSC, and other relevant stakeholders who were involved in the scheme. The use of Information, Education and Communication (IEC) materials, such as pamphlets, posters, and wall paintings, emerged as the primary sources for disseminating scheme information. These were followed by community meetings and workshops, which played a reinforcing role in deepening public understanding of sustainable groundwater management practices.

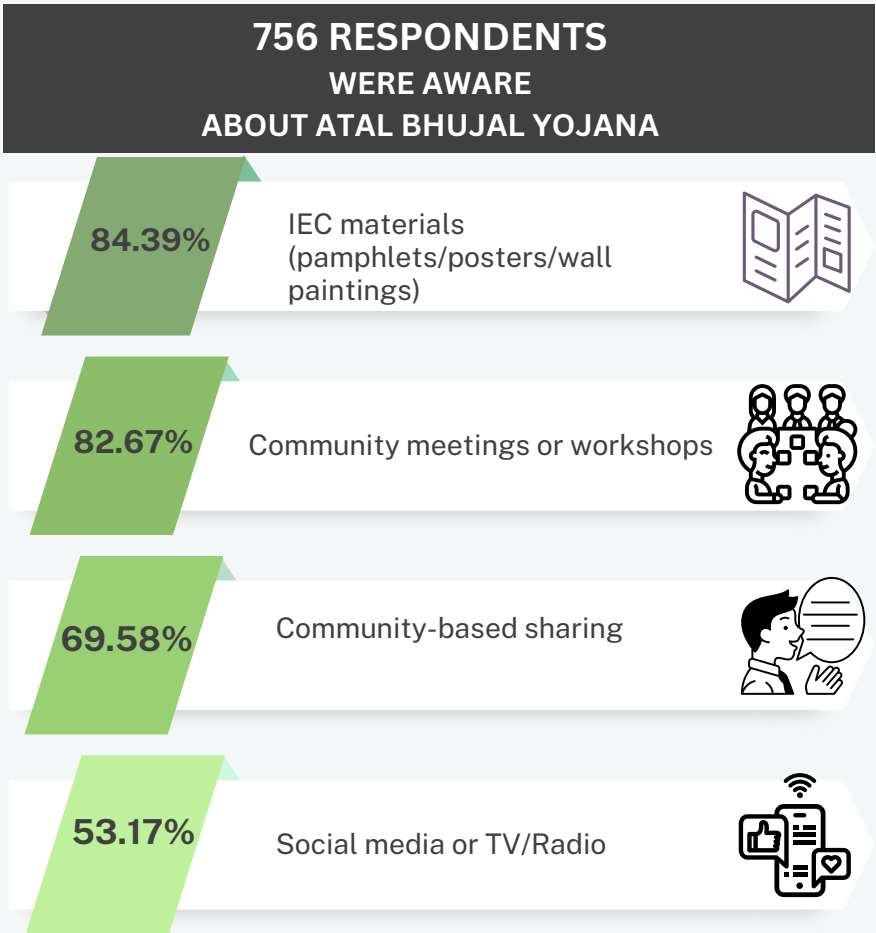


Figure 41: Mode of Awareness About Atal Bhujal Yojana

Awareness was also spread through various informal channels such as community-based sharing, social media platforms, television, and radio. This combination of structured outreach efforts and discussions played a crucial role in promoting responsible groundwater use at the community level (Figure 41 showcases the various modes of awareness about the Atal Bhujal Yojana at the Gram Panchayat level).



Gram Panchayat-level meetings conducted under the scheme served as valuable platform for knowledge exchange and experience sharing, encouraging local farmers and households to adopt practical and effective water-saving methods.

These meetings, focused on water security plans and water budgeting, facilitated in-depth discussions on the various water-saving methods and interventions. Among the prominent shared methods were sprinkler systems, drip irrigation, and horticulture cultivation. Other key practices discussed included a shift to low-water-consuming crops, reusing water for irrigation and, installation of underground pipelines. This helped in raising awareness on the adoption of modern irrigation techniques and sustainable water management practices at the grassroots level.

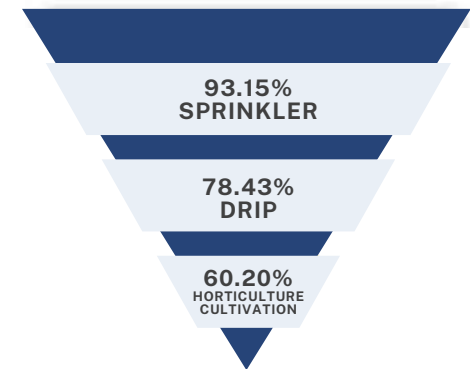


Figure 42: Top 3 Water-Saving Practices Discussed During Meeting: Focus on WSP & Water Budgeting

Role of Community Resource Person

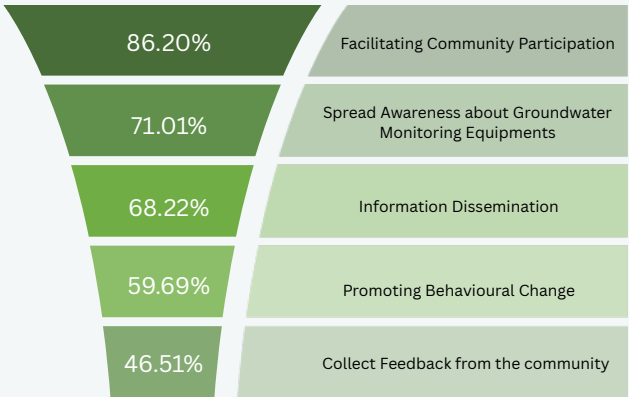


Figure 43: Role of Community Resource Person as Observed by Respondents

85.32% of respondents indicated that Community Resource Persons (CRPs) engaged as volunteers at the Gram Panchayat level played a crucial role in raising awareness about sustainable groundwater management. **Frontline workers** functioning as CRPs were instrumental in facilitating community engagement by encouraging active participation in water conservation initiatives. They also supported the disclosure and measurement of groundwater data using equipments such as rain gauges, DWLRs, and other basic monitoring equipments.

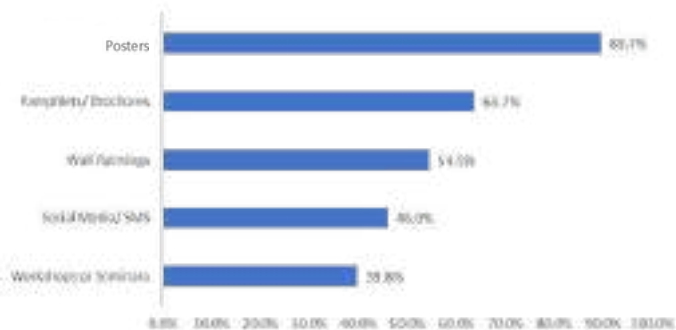
In addition to their role in capacity building, as they significantly contributed to information dissemination, helping to make knowledge on groundwater conservation more accessible. Their involvement promoted greater community participation, thereby strengthening the local implementation of the Atal Bhujal Yojana.



KPI 2. IEC and Training

Information, Education and Communication (IEC) Materials/ Activities

The Impact Assessment evaluation in Madhya Pradesh found that the IEC activities, along with capacity-building initiatives and training sessions conducted under the Atal Bhujal Yojana, were effective in achieving their intended objectives. These interventions successfully raised awareness among community members, improved the knowledge of key stakeholders, and encouraged the adoption of sustainable groundwater conservation and management practices at the GP level.



As shown in the Figure 44, posters (89.7%) have been the most widely used IEC material for groundwater awareness, highlighting their effectiveness as accessible and visually engaging modes.

Figure 44: Types of IEC Materials/ Activities Used for Groundwater Awareness, as observed by Respondents

In addition, Pamphlets/ Brochures, and Wall Paintings provided simple, easy-to-understand information to help raise awareness within the community. Supporting these efforts, activities like ‘Folk Campaigns,’ ‘Rath yatras’ and ‘Focused trainings for panchayat members’ played a pivotal role in engaging the rural community in the state. The on-ground assessment findings suggest that traditional IEC methods remain central to community outreach, and there exists a significant opportunity to enhance the impact by integrating more interactive and digital platforms in data disclosure strategies.

Capacity-Building Initiatives



Figure 45: Respondents’ Participation in Trainings and Meetings

Figure 45 represents the participation level of respondents engaged in GP level training sessions and meetings under the Atal Bhujal Yojana, covering topics such as groundwater issues, Water Security Plans (WSPs), and water budgeting.



These capacity-building initiatives under the scheme effectively supported community awareness and participation. **65.7%** of participants became more aware of groundwater conservation methods, showing the impact of capacity-building program.

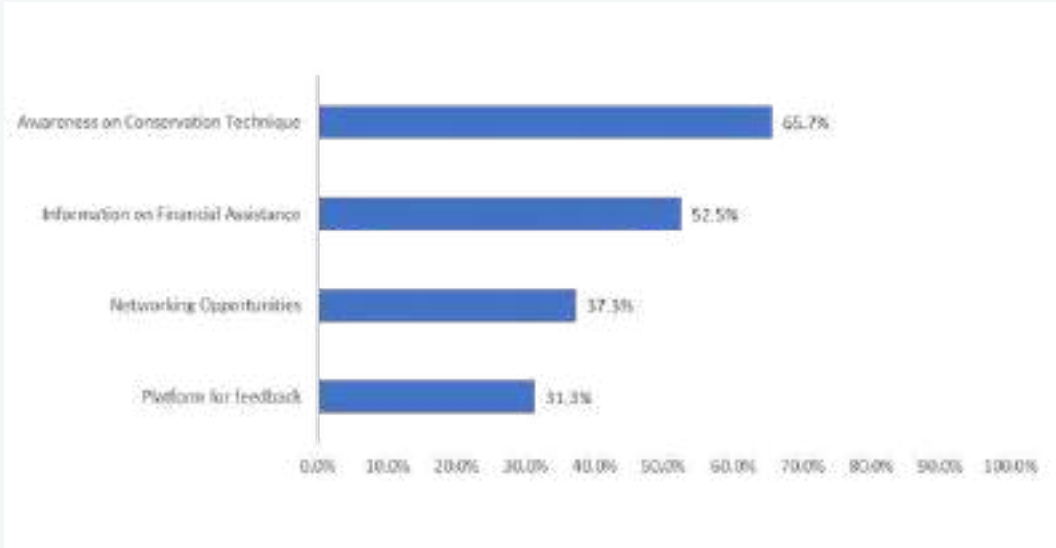


Figure 46: Respondents’ Perspective on the Impact of IEC Materials and Capacity Building Programs

Additionally, **52.5%** of respondents stated that these efforts helped them understand the financial assistance available through the scheme, thereby enhancing both the accessibility and implementation of the scheme at the grassroots level. The efforts also led to other positive outcomes, such as better networking opportunities and access to feedback platforms, which helped strengthen community engagement and collective decision-making.



KPI 3. Behavioural Change

Atal Bhujal Yojana has brought about a measurable and meaningful shift in community behaviour towards groundwater conservation in Madhya Pradesh. One of the core objectives of the scheme was to promote sustainable groundwater management through awareness generation, capacity-building initiatives, and active community participation. The data presented in Figure 47 highlights the effectiveness of these interventions.

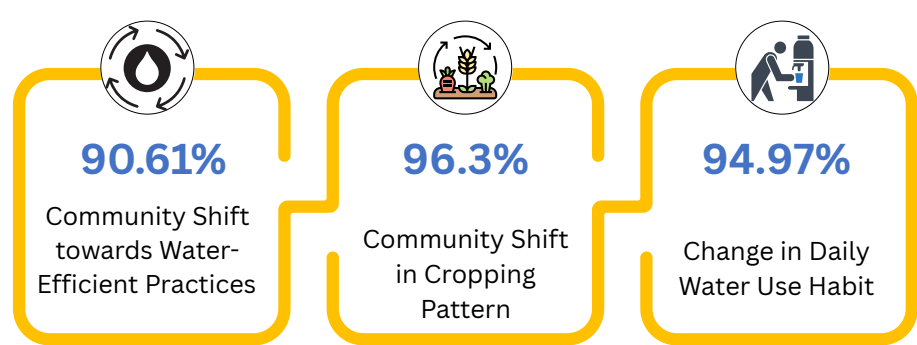


Figure 47: Respondents’ Perspective on Behavioural Shifts in Water-Efficient Practices

90.61% of respondents observed a community shift towards water-efficient practices, and **96.3%** of respondents indicated a community shift towards cultivating low water-consuming crops. Further, **94.97%** of respondents changed daily routines to reduce water use, specifically by storing rainwater (**27.83%**), reusing kitchen wastewater (**25.62%**), and avoiding overfilling (**23.87%**), reflecting a growing commitment to sustainable water management.

As per the IVA’s previous verification rounds, Madhya Pradesh has made tangible progress in shifting towards sustainable irrigation practices. The area under Efficient Irrigation System **increased from 370 hectares in FY 2021–22 to 11,941.53 hectares in FY 2024**, accompanied by a steady increase in the cultivation area of low water-consuming crops, which reached **414.28 hectares** post-implementation of the scheme.

This reflects a significant move away from traditional irrigation methods and crop patterns toward more efficient, water-saving technologies and climate-resilient farming. This shift is rooted not only in infrastructural improvements but also in changing mindsets and behaviour at the community level. Respondents shared that they have seen a growing use of modern irrigation techniques across their villages, with Sprinkler systems becoming the most widely adopted, followed by drip irrigation systems.



The scheme positively influenced community dynamics by fostering stronger collaboration and collective action for groundwater management, as observed by **99.34%** of respondents. Stakeholders became more actively engaged in shared decision-making and the implementation of water-saving practices. This indicated that the program was effective not only in promoting technical solutions but also in cultivating a sense of community responsibility towards long-term groundwater sustainability.



KPI 4. Women Participation & Inclusivity

The scheme Implementation has led to increased involvement of various community groups in water governance in the state. Wherein, women's participation in decision-making processes, community meetings, and leadership roles has grown steadily, indicating a shift towards more equitable representation. The Impact Assessment also examined participation across different social strata, providing a comprehensive view of how diverse community segments engaged with the scheme. These findings reflected the scheme’s role in promoting inclusive and participatory groundwater management at the grassroots level.

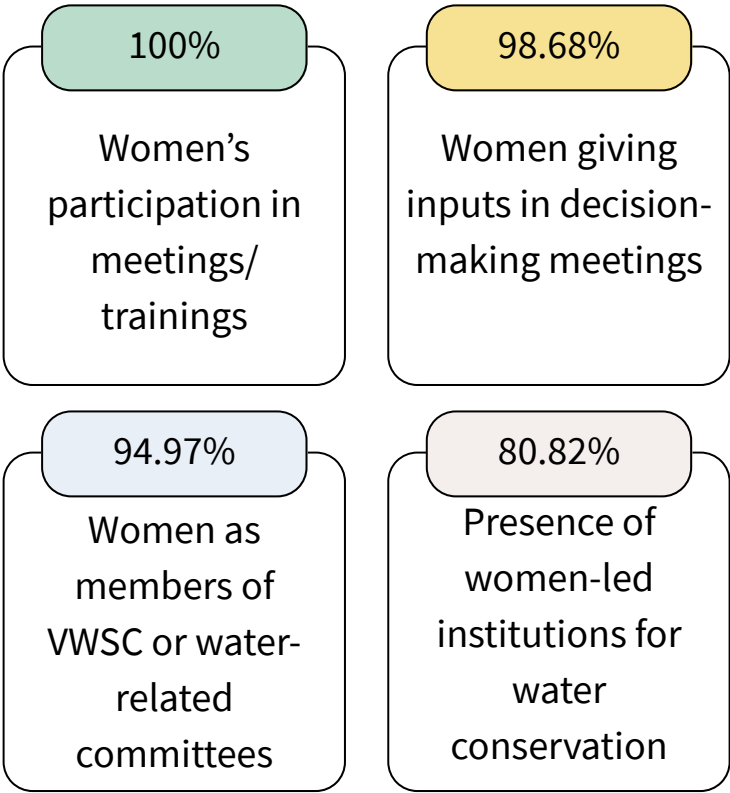


Figure 48: Respondents’ Perspective on Women Participation and Inclusivity in Ground Water Governance

The findings highlight observations wherein, **100%** of respondents confirmed women’s participation in meetings and trainings, and **98.68%** acknowledged their active input in decision-making meetings, indicating a robust model of gender-inclusive governance.

Additionally, **94.97%** of respondents observed that women are members of VWSCs or other water-related committees, reinforcing their involvement in formal governance structures. While **80.82%** of respondents confirmed the presence of women-led institutions for water conservation, the findings highlight the importance of continued support to strengthen women’s leadership at the grassroots level.



Atal Bhujal Yojana has contributed to improved awareness and participation of women in groundwater governance in Madhya Pradesh. Women are increasingly engaging in community meetings, taking part in decision-making, and holding roles on local water committees. However, as observed by the respondents, relatively few women faced social or cultural restrictions, while others faced time constraints due to household responsibilities emerged as a key limiting factor to participation in groundwater conservation-related activities.

These findings highlight the need for targeted interventions, including awareness-building, flexible participation models, and stronger community support systems. Strengthening women-led institutions and ensuring equal representation will be essential for sustaining inclusive and effective groundwater governance in the long term.

Strengthening Inclusion Through Socially Diverse Participation

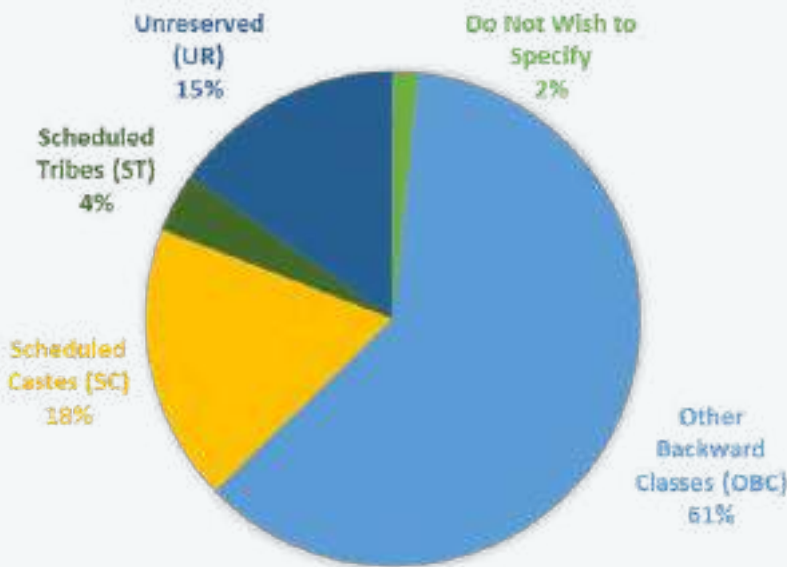


Figure 49: Voices from All Sections in WSP Formulation

The on-ground assessment revealed that **86.25%** of respondents confirmed that consensus was taken from all sections of society during the formulation and approval of Water Security Plans (WSPs). This indicates a strong emphasis on inclusive participation and community engagement at the Gram Panchayat level. However, continued efforts are needed to ensure equitable representation and to encourage more active participation from underrepresented groups in water-related decision-making processes.

KPI 5. Knowledge Enhancement

Community knowledge is a critical pillar for effective groundwater management and conservation. The scheme has strategically prioritized knowledge enhancement, significantly empowering local communities to adopt informed decisions, implement effective water conservation measures, and strengthen participatory water governance at the grassroots level

95.5%

Knowledge Improvement

According to the on-ground assessment findings, **95.5%** of respondents observed that awareness programs and capacity-building efforts in the state enabled community members to make more informed decisions regarding water use, contributing to improved planning and sustainable practices at the GP level.

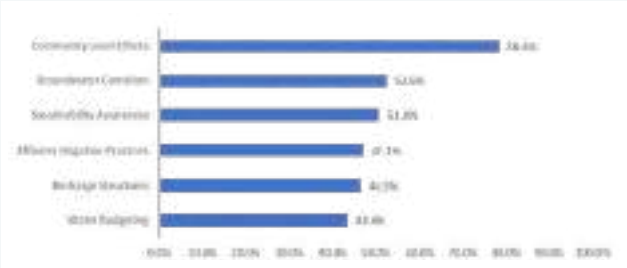


Figure 50: Areas of Knowledge Improvement Observed by Respondents

As shown in Figure 50 given above, knowledge of respondents improved significantly in key areas related to groundwater management, with the most notable advancement observed in community-level efforts, reflecting the scheme’s success in involving the community in decision-making.

Additionally, respondents demonstrated increased knowledge of technical concepts such as groundwater conditions, sustainability awareness, efficient irrigation practices, and recharge structures, indicating effective communication of these topics at the Gram Panchayat level. Furthermore, **97.51%** actively shared this information with others in their family or community.

97.51%

Knowledge Shared

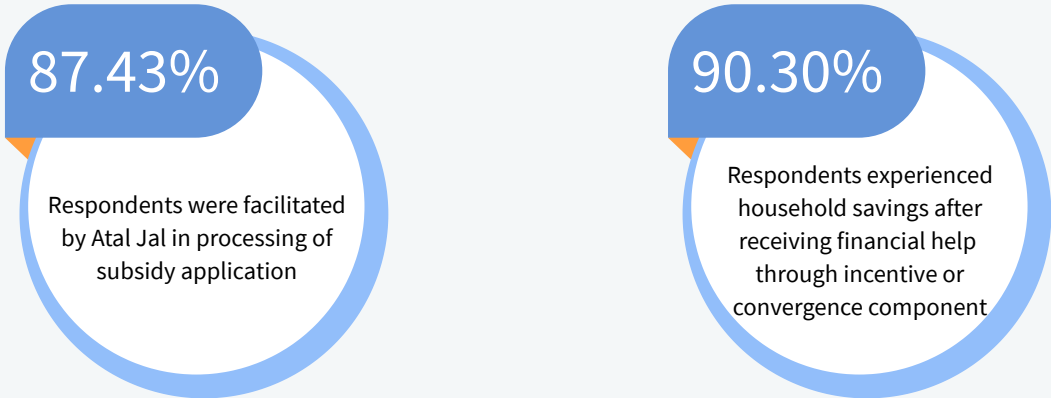
This indicates the emergence of a peer-to-peer learning culture at the grassroots level, where informed individuals became facilitators of awareness, contributing to the wider dissemination of the scheme’s objectives.

However, awareness of the long-term sustainability of groundwater resources was still limited, suggesting the need for further focus on this aspect in future capacity-building programs.



KPI 6. Socio-Economic Impact

Socio-economic conditions in Madhya Pradesh have improved with better groundwater access and targeted subsidies. Community-led water budgeting and monitoring have enabled efficient planning and equitable use of resources. Rising groundwater levels have reduced farming costs and strengthened rural resilience, while the adoption of low water-consuming crops supports sustainable agriculture and long-term water security.



As per on-ground assessment, **87.43%** of respondents found it easier to access subsidies for water-saving techniques, indicating improved support at the Gram Panchayat level.

In addition, **90.30%** of respondents experienced household savings on water-related expenses following financial assistance received through the incentive and convergence components of the scheme. These savings were primarily utilized for investments in agriculture, children’s education, household improvements, increased personal savings, and investment in livestock, reflecting a shift towards productive and welfare-enhancing uses.

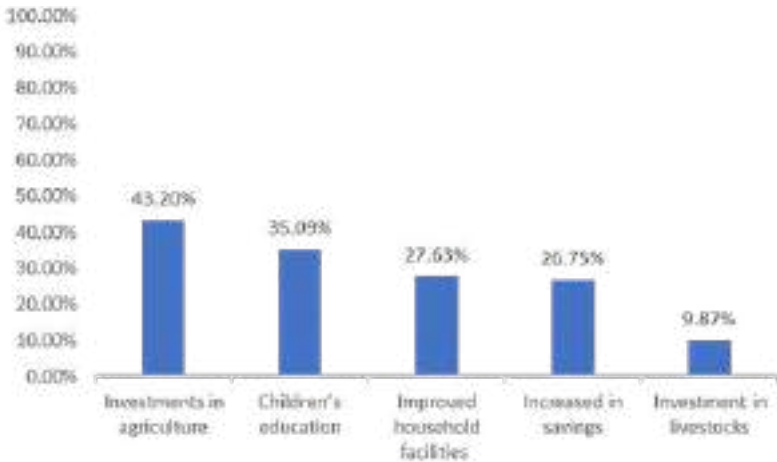


Figure 51: Respondents’ Perspective on the Economic Impact After Receiving Financial Support Through Convergence or Incentives

Respondents also stated that alongside financial gains, there has been widespread adoption of water-efficient practices, including drip irrigation, sprinklers, underground pipeline systems, and crop shifting.



Figure 52: Benefits of Adopting Water-Efficient Practices as Observed by Respondents

Most of the respondents observed increased earnings through low water-consuming crops (**86.72%**), reduced irrigation costs (**63.94%**), and improved soil quality and reduced degradation (**55.47%**). These benefits highlight both economic and environmental advantages of water-efficient farming.

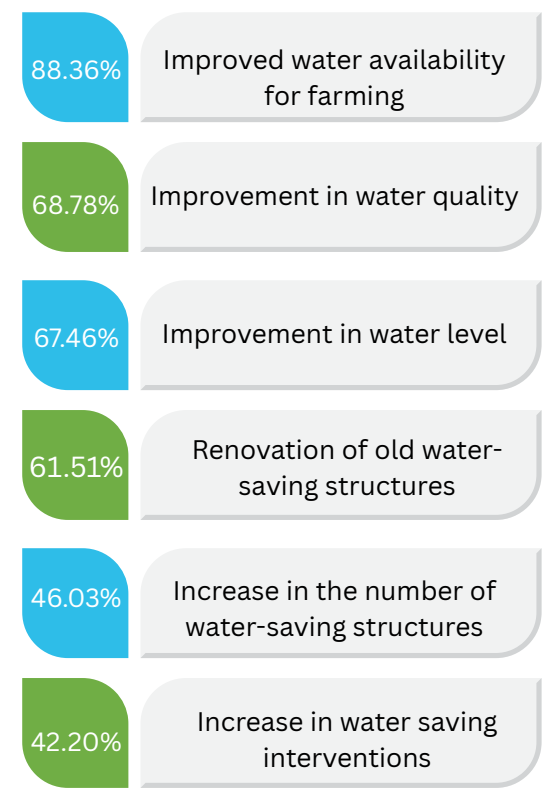


Figure 53: Changes Observed by Respondents Since the Implementation of the Scheme

Respondents observed tangible changes: (**88.36%**) reported better water availability for farming, (**68.78%**) observed improved groundwater quality, and (**67.46%**) noted better water level (*Figure 53*). Renovation/construction of water-saving structures and an increase in interventions were also widely recognized as significant outcomes. These changes show a positive impact on groundwater management and agriculture.

The outcomes indicate Madhya Pradesh's consistent progress in water management, which has been made possible through active community participation and the structured implementation of the scheme. However, sustained efforts and ongoing support will be necessary to maintain these improvements and to further strengthen the outcomes achieved under the scheme.

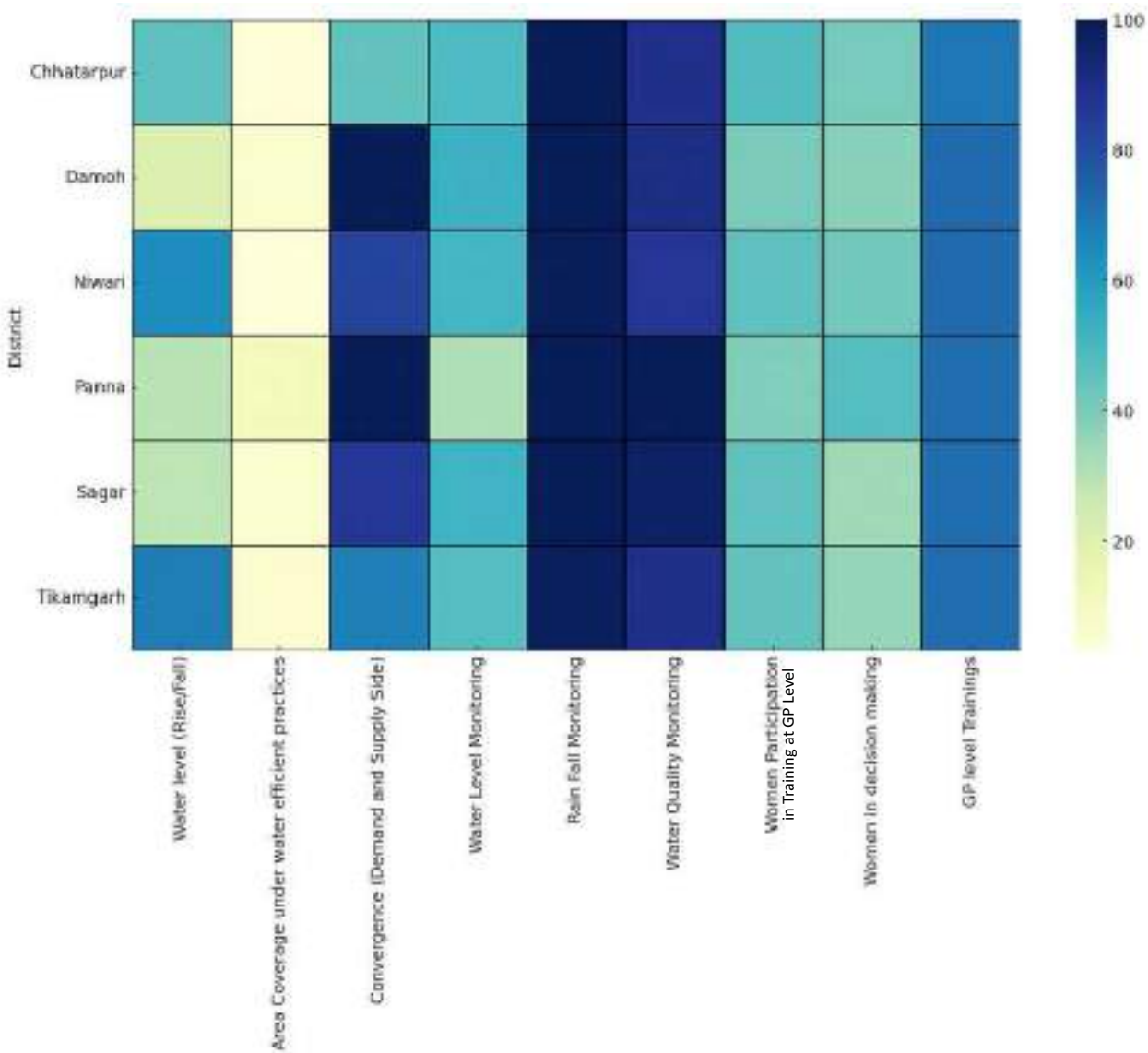


Performance Analysis of Madhya Pradesh

A. Scoring-Based Distribution of Gram Panchayats

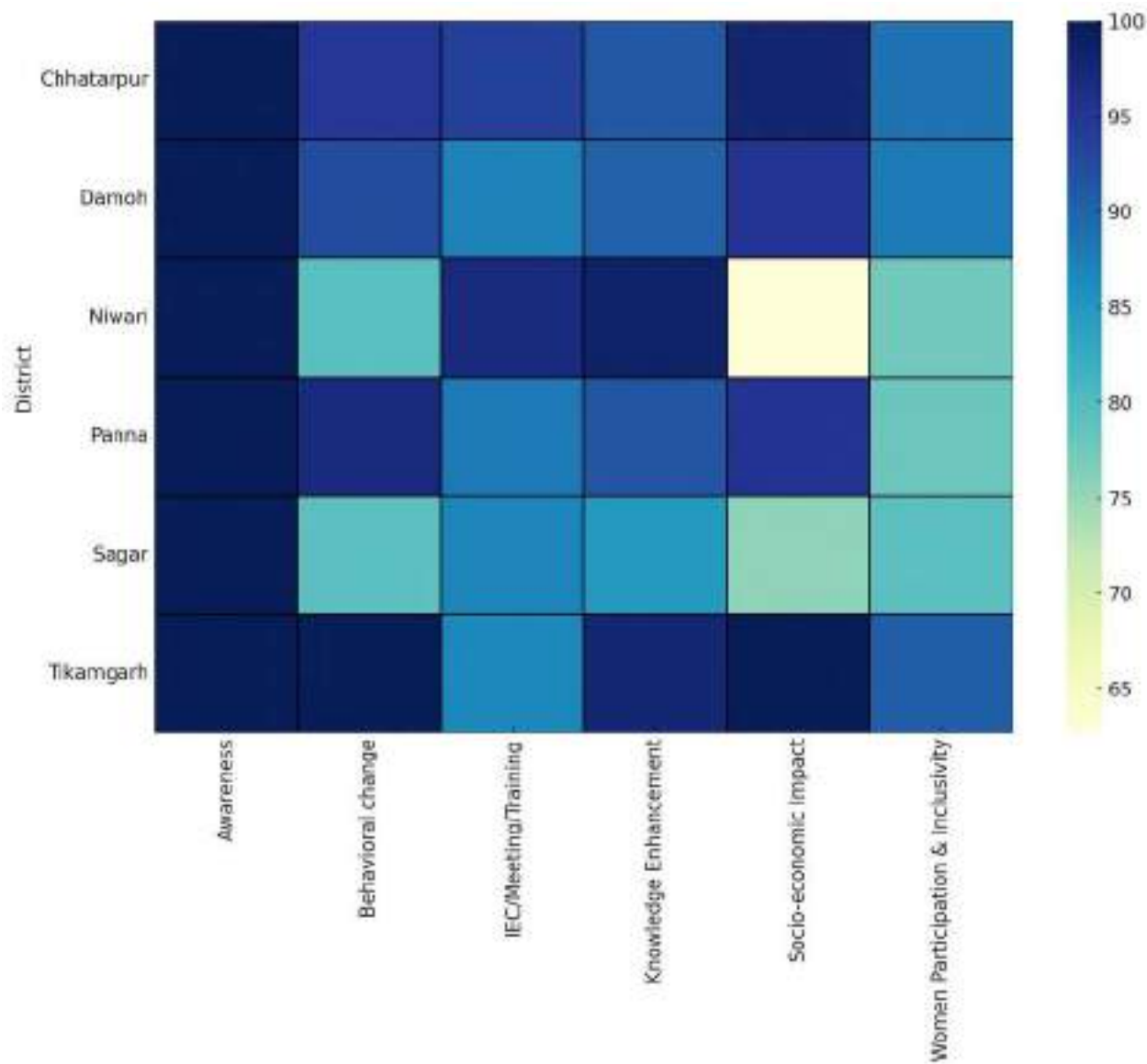
Scoring Categories	Low (21-40)	Medium (41-60)	High (61-80)	Very High (81-100)
Number of Gram Panchayats	0	3	151	52

B. Heat Map showing performance levels of Districts on the basis of Desktop Assessment





C. Heat Map showing performance levels of Districts on the basis of On-ground Assessment



District-level implementation under the Atal Bhujal Yojana reflected strong performance, with notable strengths in robust systems for rainfall and water quality monitoring, and effective implementation of IEC activities that significantly enhanced awareness, knowledge, and positive behavioural change at the community level.

According to the performance scoring analysis, the majority of the assessed Gram Panchayats in the state fall under the high performance category, reflecting substantial progress, while a small proportion of GPs, primarily from the Damoh district, remain in the medium to low-performance bracket, indicating the need for targeted interventions. Key areas for improvement include strengthening water level monitoring systems, expanding convergence for demand and supply-side interventions, and enhancing women’s participation and inclusivity in groundwater management activities and decision-making processes.



The state has made progress towards expanding area coverage under efficient water use practices, however, it has not yet fully met its incentive targets. There remains considerable scope to broaden the reach of these practices by covering a larger proportion of the Net Irrigated Area. Focused efforts in these areas are expected to contribute significantly to the long-term objective of improving groundwater levels by promoting more efficient water use, informed decision-making, and inclusive community engagement.

Key Observations

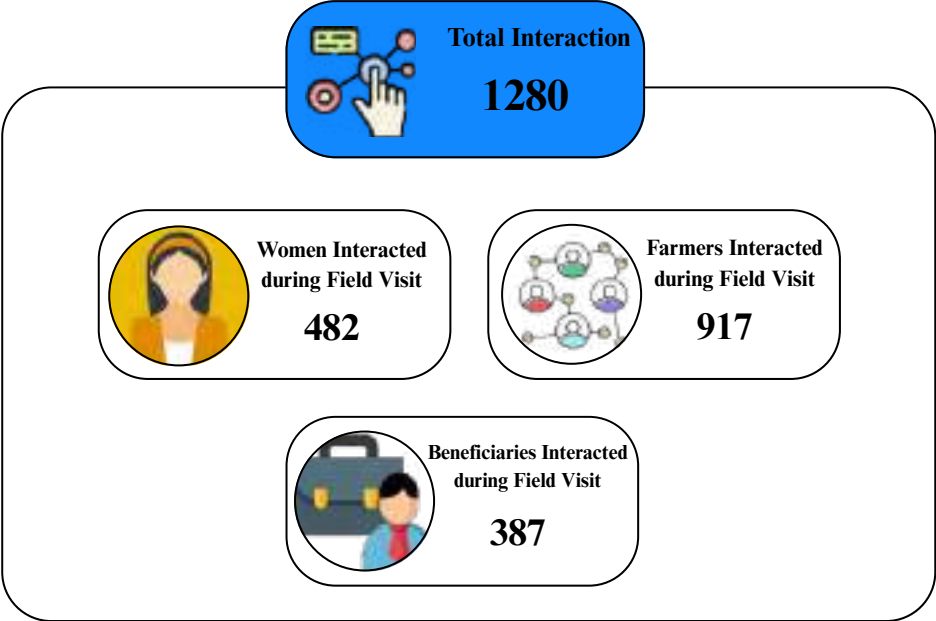
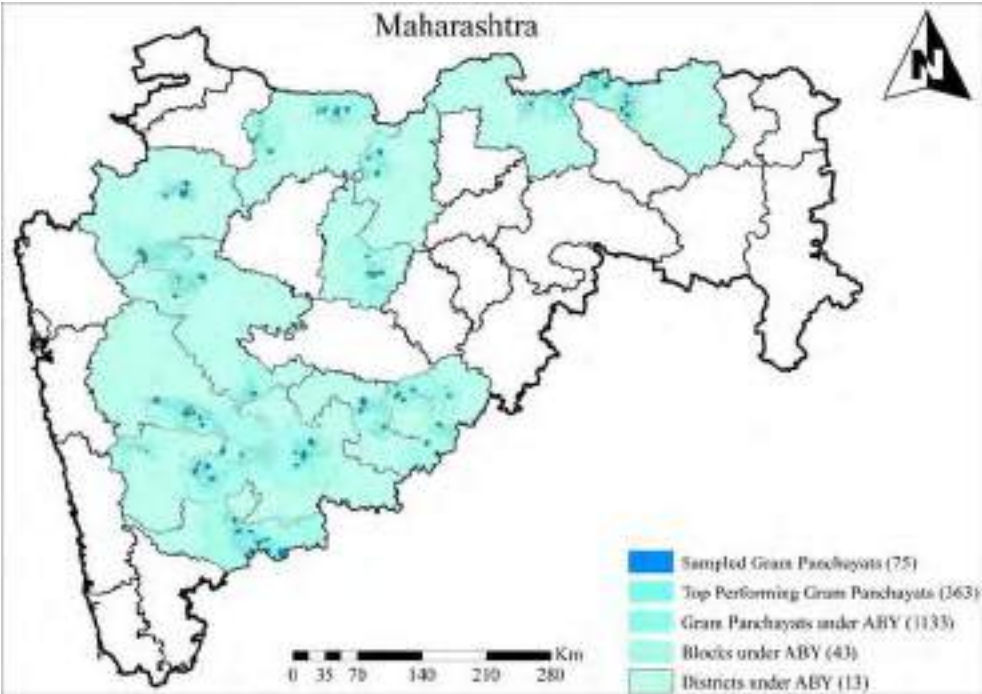
- Madhya Pradesh used IEC materials (**pamphlets/posters/leaflets**) to spread awareness about the Atal Bhujal Yojana.
- Community outreach was further strengthened through awareness **Rath campaigns** and **folksong performances**, enhancing public understanding of groundwater management under the Atal Bhujal Yojana.
- The state's supply structures such as loose boulder formations, recharge pits, and various bunding techniques reflected a context-specific approach tailored to local hydrogeological conditions.
- In Madhya Pradesh, the **Jal Samiti** initiative has empowered women as grassroots water leaders, playing a transformative role in water conservation and community mobilisation, particularly in water-stressed regions.
- The state can further strengthen water level monitoring systems to ensure timely detection of changes in groundwater levels and support adaptive planning.
- The state can further improve performance in convergence for demand- and supply-side interventions to ensure efficient utilization of resources and sustainable groundwater management.



MAHARASHTRA

Maharashtra has a total of **1133** Gram Panchayats under Atal Bhujal Yojana, and as a part of the Impact Assessment, the state submitted **363** Gram Panchayats as their top performers based on selected parameters.

QCI selected **75** Gram Panchayats as **20%** sample for the on-ground assessment. QCI ensured that this sample is a true statistical representative of the population through the method of clustered sampling at the block level.





KPI 1. Community Awareness

As part of the Impact Assessment, the QCI team engaged with **1,280** citizens, including community members, beneficiaries, members of PGWMC/VWSC, and other relevant stakeholders who were involved in the scheme. Information, Education and Communication (IEC) materials, such as pamphlets, fixed displays, and notice boards, emerged as the primary sources for disseminating scheme information. These materials were followed by community meetings and workshops, which played a reinforcing role in deepening public understanding of sustainable groundwater management practices.

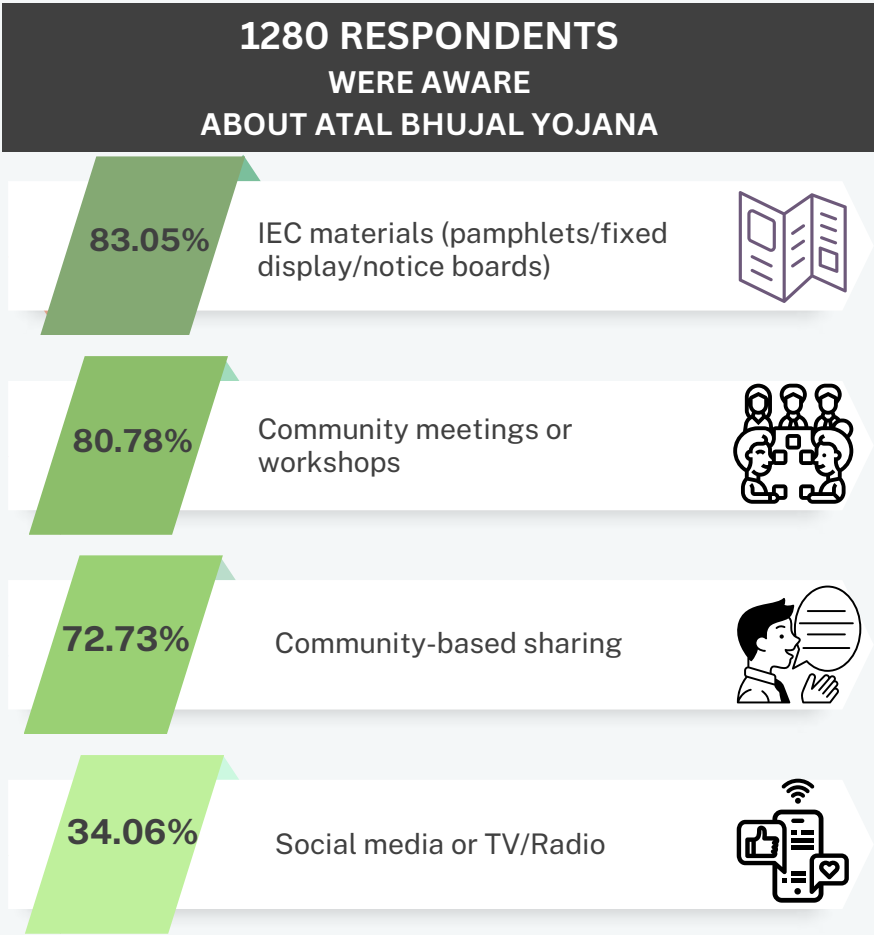


Figure 54: Mode of Awareness About Atal Bhujal Yojana

Beyond formal modes, awareness was also spread through various channels such as community-based sharing, social media platforms, television and radio. This combination of structured outreach efforts and discussions played a crucial role promoting responsible groundwater use at the community level.



Awareness within the community was also promoted by the Gram Panchayat-level meetings conducted under the scheme. They served as valuable platform for knowledge exchange and experience sharing, encouraging local farmers and households to adopt practical and effective water-saving methods.

These meetings, focused on WSP and Water Budgeting, facilitated in-depth discussions on the various water-saving methods and interventions. Prominently, micro-irrigation systems such as drip and sprinkler were discussed, following the shift to low-water-consuming crops. Other key practices discussed included the installation of underground pipelines, organic mulching and horticulture cultivation. This helped in raising awareness on the adoption of modern irrigation techniques and sustainable water management practices at the grassroots level.

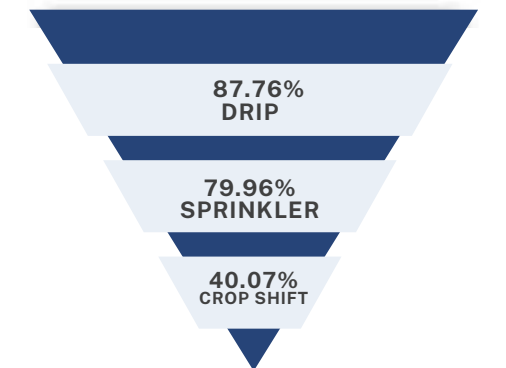


Figure 55: Top 3 Water-Saving Practices Discussed During Meeting: Focus on WSP & Water Budgeting

Role of Community Resource Person



Figure 56: Role of Community Resource Person as Observed by Respondents

96.09% of respondents indicated that Community Resource Persons (CRPs) engaged as volunteers at the Gram Panchayat level played a crucial role in raising awareness about sustainable groundwater management. **Bhujal Mitra**, functioning as CRPs, were instrumental in facilitating community engagement by encouraging active participation in water conservation initiatives. They also supported the disclosure and measurement of groundwater data using equipments such as rain gauges, DWLRs, and other basic monitoring equipments.

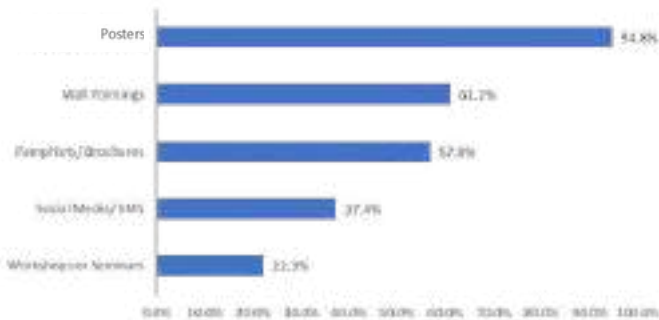
In addition to their role in capacity building, they significantly contributed to information dissemination, helping to make knowledge on groundwater conservation more accessible. Their involvement promoted greater community participation, thereby strengthening the local implementation of the Atal Bhujal Yojana.



KPI 2. IEC and Training

Information, Education and Communication (IEC) Materials/ Activities

The Impact Assessment found that IEC activities conducted under the scheme in Maharashtra were effective in achieving their intended objectives. This successfully raised awareness among community members, improved the knowledge of key stakeholders, and encouraged the adoption of sustainable groundwater conservation and management practices at the grassroots level.



As shown in the Figure 57, posters (94.8%) have been the most widely used IEC material for groundwater awareness, highlighting their effectiveness as accessible and visually engaging modes.

Figure 57: Types of IEC Materials/ Activities Used for Groundwater Awareness, as observed by Respondents

In addition, Wall Paintings and Pamphlets/ Brochures provided simple, easy-to-understand information to help raise awareness within the community. Supporting these efforts, activities like ‘school awareness campaigns’, ‘water-themed games’ and ‘Prabhat and Marshal Ferris’ played a pivotal role in engaging the rural community. The on-ground assessment findings suggest that traditional IEC methods remain central to community outreach, and there exists a significant opportunity to enhance the impact by integrating more interactive and digital platforms in data disclosure strategies.

Capacity-Building Initiatives



Figure 58: Respondents’ Participation in Trainings and Meetings

Figure 58 outlines respondents participation in GP level training sessions and meetings under the Atal Bhujal Yojana, covering topics such as groundwater issues, Water Security Plans (WSPs), and water budgeting.

These capacity-building initiatives under the scheme effectively supported community awareness and participation. **70.8%** of respondents stated that these efforts helped them understand the financial assistance available through the scheme, thereby enhancing both the accessibility and implementation of the scheme at the grassroots level.

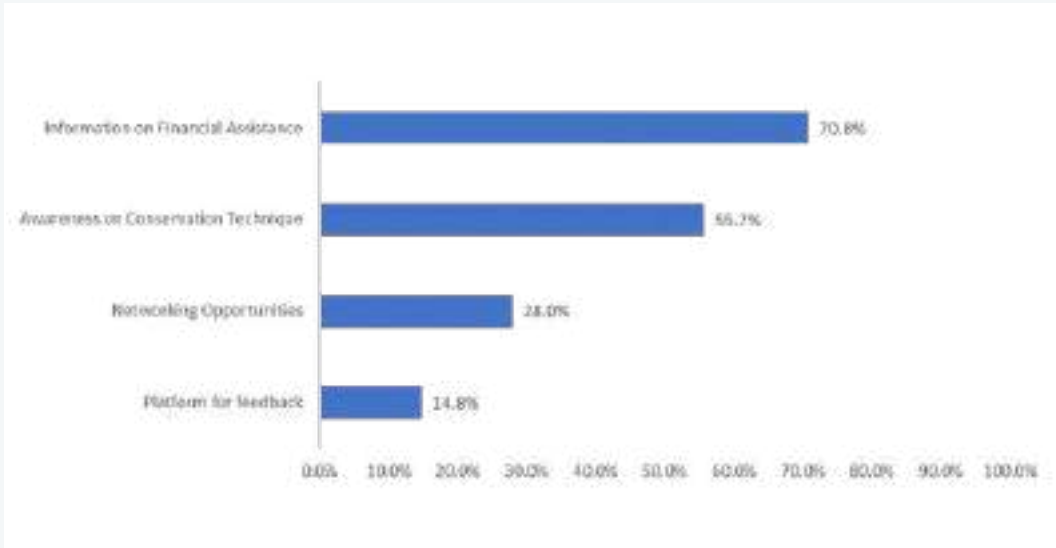


Figure 59: Respondents’ Perspective on the Impact of IEC Materials and Capacity Building Programs

Additionally, **55.7%** of participants became more aware of groundwater conservation methods, showing the educational impact of the program. The efforts also led to other positive outcomes, such as better networking opportunities and access to feedback platforms, which helped strengthen community engagement and collective decision-making.



KPI 3. Behavioural Change

Maharashtra has witnessed a meaningful transformation in community behaviour and practices related to groundwater conservation under the scheme. This is attributed to the scheme’s emphasis on awareness generation, capacity-building, and participatory engagement. The data presented in Figure 60 highlights the effectiveness of these interventions.

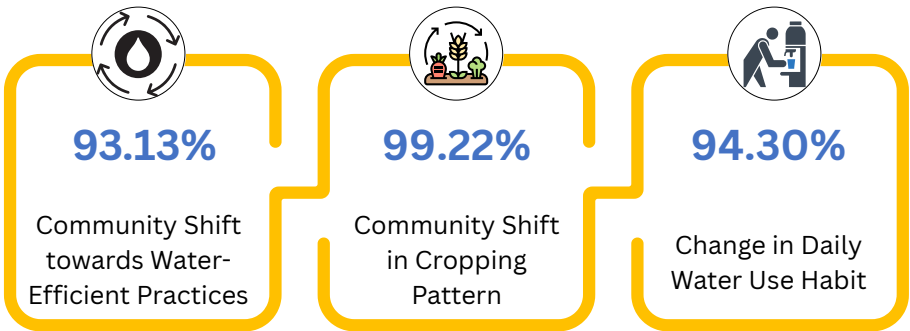


Figure 60: Respondent’s Perspective on Behavioural Shifts in Water-Efficient Practices

93.13% of respondents observed a community shift towards water-efficient practices, and **99.22%** of respondents indicated a community shift towards cultivating low water-consuming crops. Further, **94.30%** of respondents changed daily routines to reduce water use, specifically by storing rainwater (**35.88%**), reusing kitchen wastewater (**26.94%**), and avoiding overfilling (**25.69%**), reflecting a growing commitment to sustainable water management.

As per the IVA’s previous verification rounds, Maharashtra has made tangible progress in shifting towards sustainable irrigation practices. The area under Efficient Irrigation System **increased from 15,812.55 hectares in FY 2021-22 to 71,073.89 hectares in FY 2024**, accompanied by a steady increase in the cultivation area of low water-consuming crops, which reached **2,408.51 hectares** post implementation of the scheme.

This reflects a significant move away from traditional irrigation methods and crop patterns toward more efficient, water-saving technologies and climate-resilient farming. This shift is rooted not only in infrastructural improvements but also in changing mindsets and behaviour at the community level. Respondents shared that they have seen a growing use of modern irrigation techniques across their villages, with drip irrigation becoming the most widely adopted, followed by sprinkler systems.



98.59%

Respondents highlighted the improved collaboration and collective action within the community for groundwater management

The scheme positively influenced community dynamics by fostering stronger collaboration and collective action for groundwater management, as observed by **98.59%** of respondents. Stakeholders became more actively engaged in shared decision-making and the implementation of water-saving practices. This indicated that the program was effective not only in promoting technical solutions but also in cultivating a sense of community responsibility towards long-term groundwater sustainability.

KPI 4. Women Participation & Inclusivity

The implementation of the scheme in Maharashtra has led to increased involvement of diverse community groups in water governance, with a notable rise in women's participation in decision-making processes, community meetings, and leadership roles. This marks a shift toward more equitable representation at the grassroots level. The Impact Assessment also examined participation across different social strata, providing a comprehensive view of how diverse community segments engaged with the scheme. These findings reflected the scheme’s role in promoting inclusive and participatory groundwater management at the grassroots level.

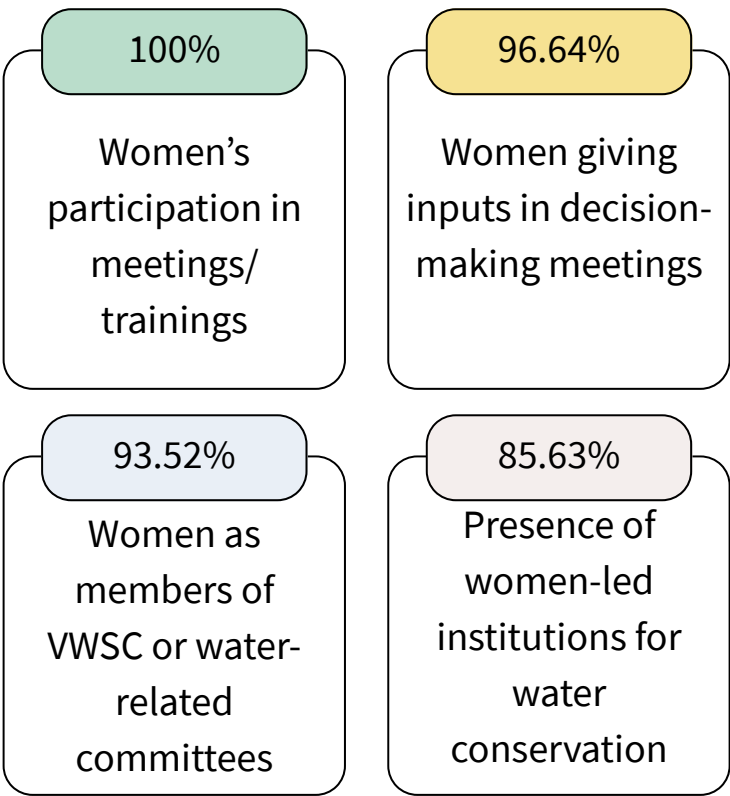


Figure 61: Respondents’ Perspective on Women Participation and Inclusivity in Ground Water Governance

Assessment findings reveal that, **100%** of respondents confirmed women’s participation in meetings and training, and **96.64%** acknowledged their active input in decision-making meetings, indicating a robust model of gender-inclusive governance.

Additionally, **93.52%** of respondents observed that women are members of VWSCs or other water-related committees, reinforcing their involvement in formal governance structures. While **85.63%** of respondents confirmed the presence of women-led institutions (*such as Bhujal Mitra*), for water conservation, these findings highlight the importance of continued support to strengthen women’s leadership at the grassroots level.



Atal Bhujal Yojana has contributed to improved awareness and participation of women in groundwater governance in Maharashtra. Women are progressively participating in community meetings, contributing to decision-making, and holding positions in local water committees. However, as observed by the respondents, relatively few women faced social or cultural restrictions, while lack of awareness and household responsibilities were common barriers to active involvement in water conservation activities.

These insights underscore the need for targeted interventions, including awareness-building, flexible participation models, and stronger community support systems. Strengthening women-led institutions and ensuring equal representation will be essential for sustaining inclusive and effective groundwater governance in the long term.

Strengthening Inclusion Through Socially Diverse Participation

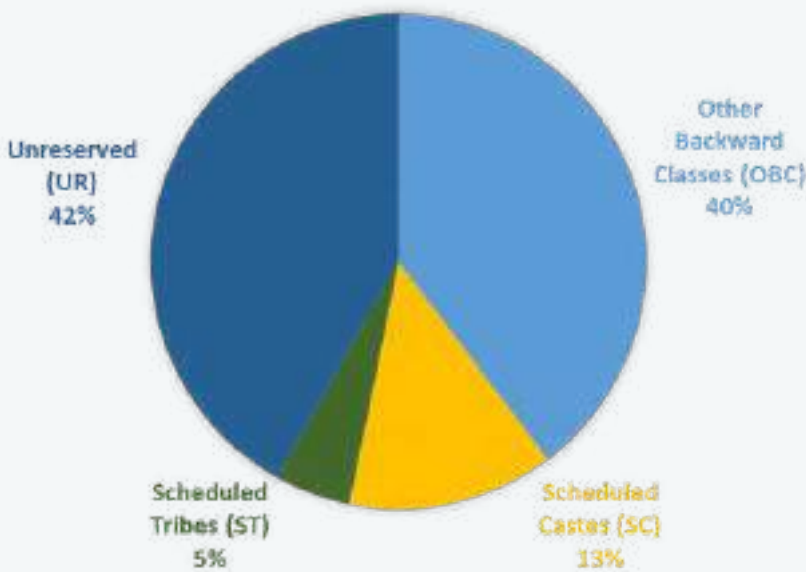


Figure 62: Voices from All Sections in WSP Formulation

The on-ground assessment revealed that **96.66%** of respondents confirmed that consensus was taken from all sections of society during the formulation and approval of Water Security Plans (WSPs). This indicates a strong emphasis on inclusive participation and community engagement at the Gram Panchayat level. However, continued efforts are needed to ensure equitable representation and to encourage more active participation from underrepresented groups in water-related decision-making processes.



KPI 5. Knowledge Enhancement

Community knowledge is a critical pillar for effective groundwater management and conservation. The scheme has strategically prioritized knowledge enhancement, significantly empowering local communities to adopt informed decisions, implement effective water conservation measures, and strengthen participatory water governance at the grassroots level



The on-ground assessment findings reveal that **97.73%** of respondents observed awareness programs and capacity-building efforts in the state, which enabled community members to make more informed decisions regarding water use, contributing to improved planning and sustainable practices at the GP level.

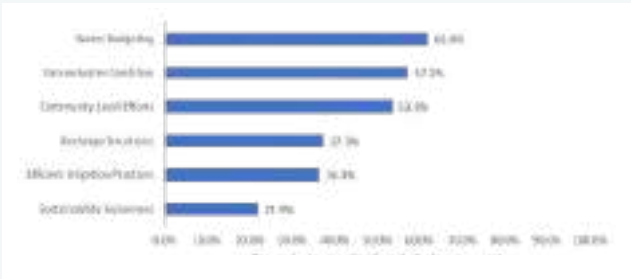


Figure 63: Areas of Knowledge Improvement Observed by Respondents

As shown in Figure 63, knowledge of respondents improved significantly in key areas of groundwater management, including a better understanding of water budgeting and local groundwater conditions. This reflects the scheme’s success in enhancing community knowledge and encouraging meaningful participation in decision-making processes.

Additionally, there was a significant improvement in community-level efforts, reflecting the scheme's success in involving the community in decision-making. With improved understanding, **99.44%** actively shared this information with others in their family or community.



This indicates the emergence of a peer-to-peer learning culture at the grassroots level, where informed individuals became facilitators of awareness, contributing to the wider dissemination of the scheme’s objectives.

However, awareness of the long-term sustainability of groundwater resources was still limited, suggesting the need for further focus on this aspect in future capacity-building programs.



KPI 6. Socio-Economic Impact

In Maharashtra, socio-economic conditions have improved with better groundwater access and streamlined subsidies, reducing farming costs. Community-led water budgeting and monitoring have enhanced planning and sustainable usage. Rising groundwater levels have strengthened rural livelihoods and improved water security. Promotion of low water-consuming crops supports efficient water use and long-term resilience.



As per on-ground assessment, **94.53%** of respondents found it easier to access subsidies for water-saving techniques, indicating improved support at the Gram Panchayat level.

In addition, **92.35%** of respondents experienced household savings on water-related expenses following financial assistance received through the incentive and convergence components of the scheme. These savings were primarily utilized for children’s education and increased personal savings, followed by investments in agriculture, livestock, and household improvements, reflecting a shift towards productive and welfare-enhancing uses.

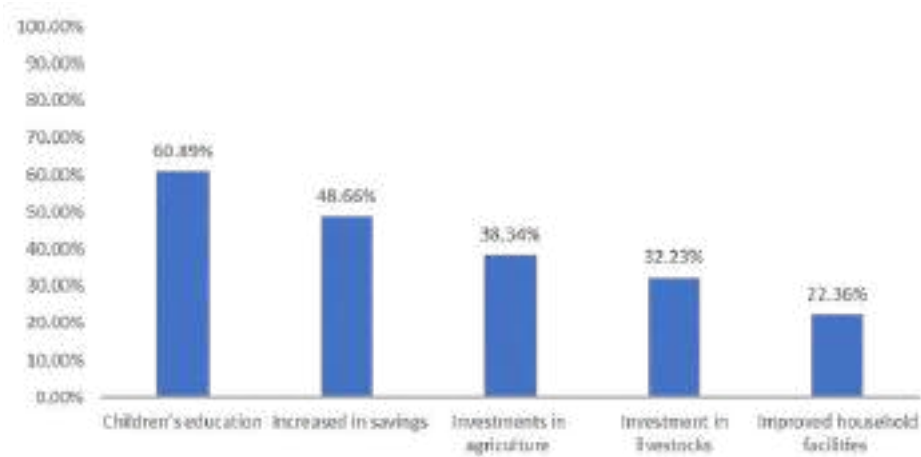


Figure 64: Respondents’ Perspective on the Economic Impact After Receiving Financial Support Through Convergence or Incentives

Respondents also stated that alongside financial gains, there has been widespread adoption of water-efficient practices, including drip irrigation, sprinklers, underground pipeline systems, and crop shifting.

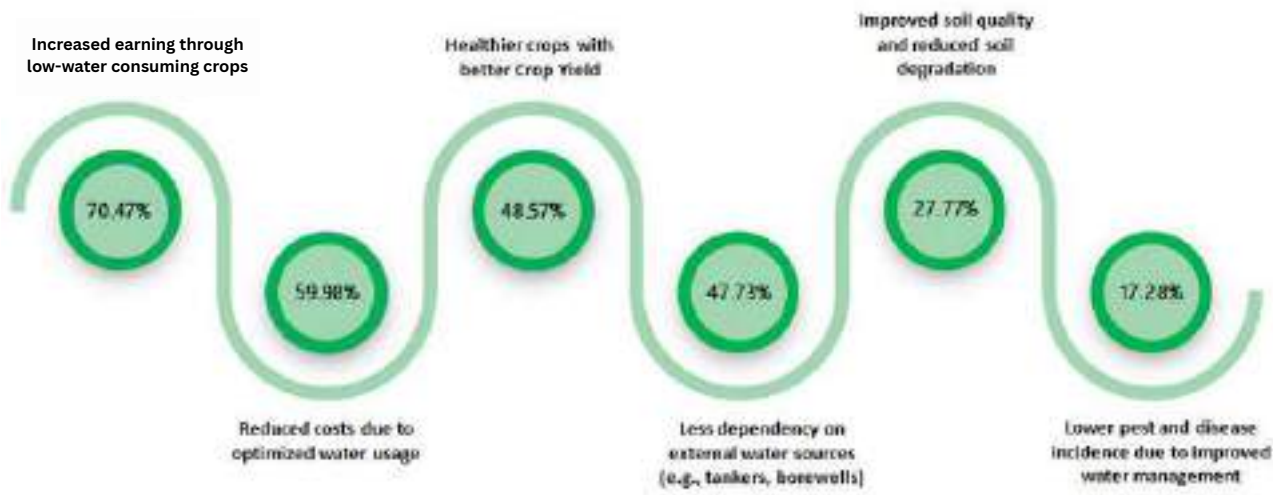


Figure 65: Benefits of Adopting Water-Efficient Practices as Observed by Respondents

The benefits of these practices were reflected in the form of increased earnings through low water-consuming crops (**70.47%**), reduced irrigation costs (**59.98%**), and better crop yields (**48.57%**). These results point to the dual advantage of profitability and productivity driven by improved water practices.

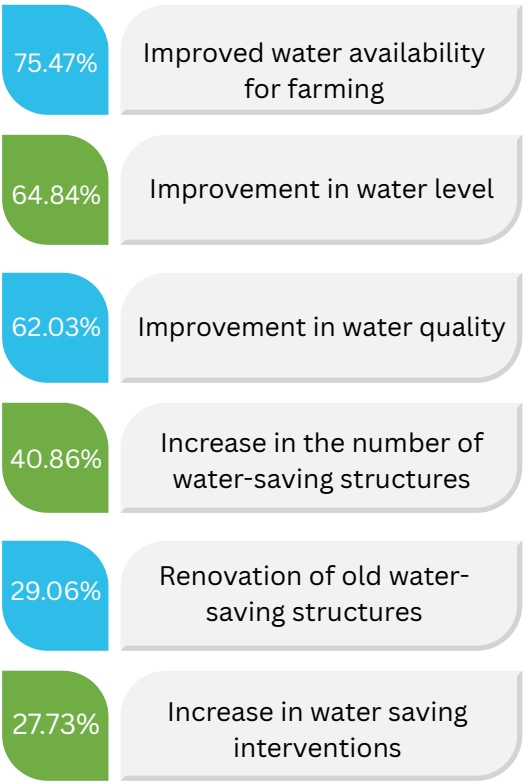


Figure 66: Changes Observed by Respondents Since the Implementation of the Scheme

Respondents observed tangible changes: (**75.47%**) reported better water availability for farming, (**64.84%**) observed improved groundwater levels, and (**62.03%**) noted better water quality (Figure 66). construction/renovation of supply structures and an increased in interventions also reflected notable progress since the implementation of the scheme.

The outcomes indicate Maharashtra's consistent progress in water management, which has been made possible through active community participation and the structured implementation of the scheme. However, sustained efforts and ongoing support will be necessary to maintain these improvements and to further strengthen the outcomes achieved under the scheme.

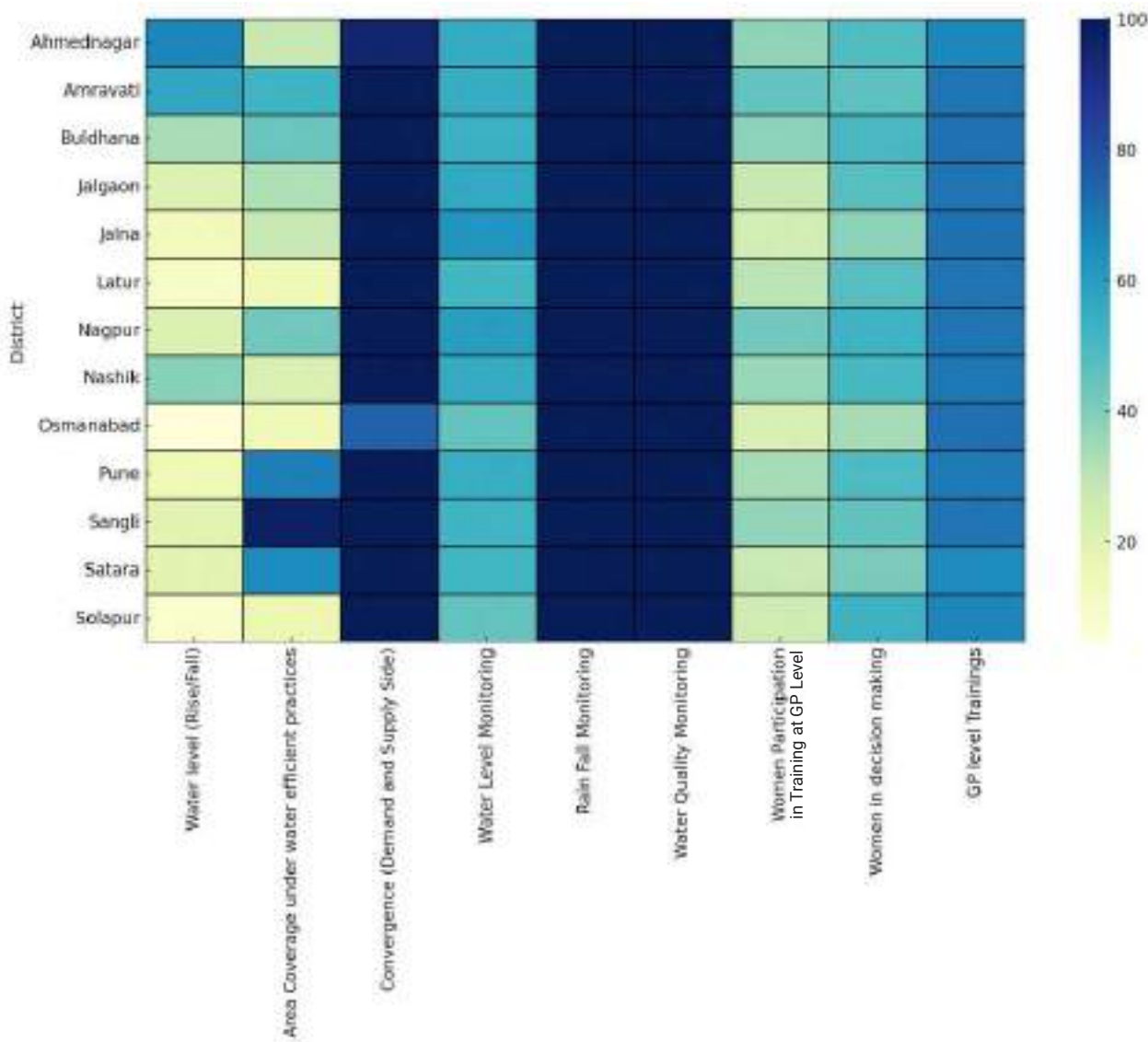


Performance Analysis of Maharashtra

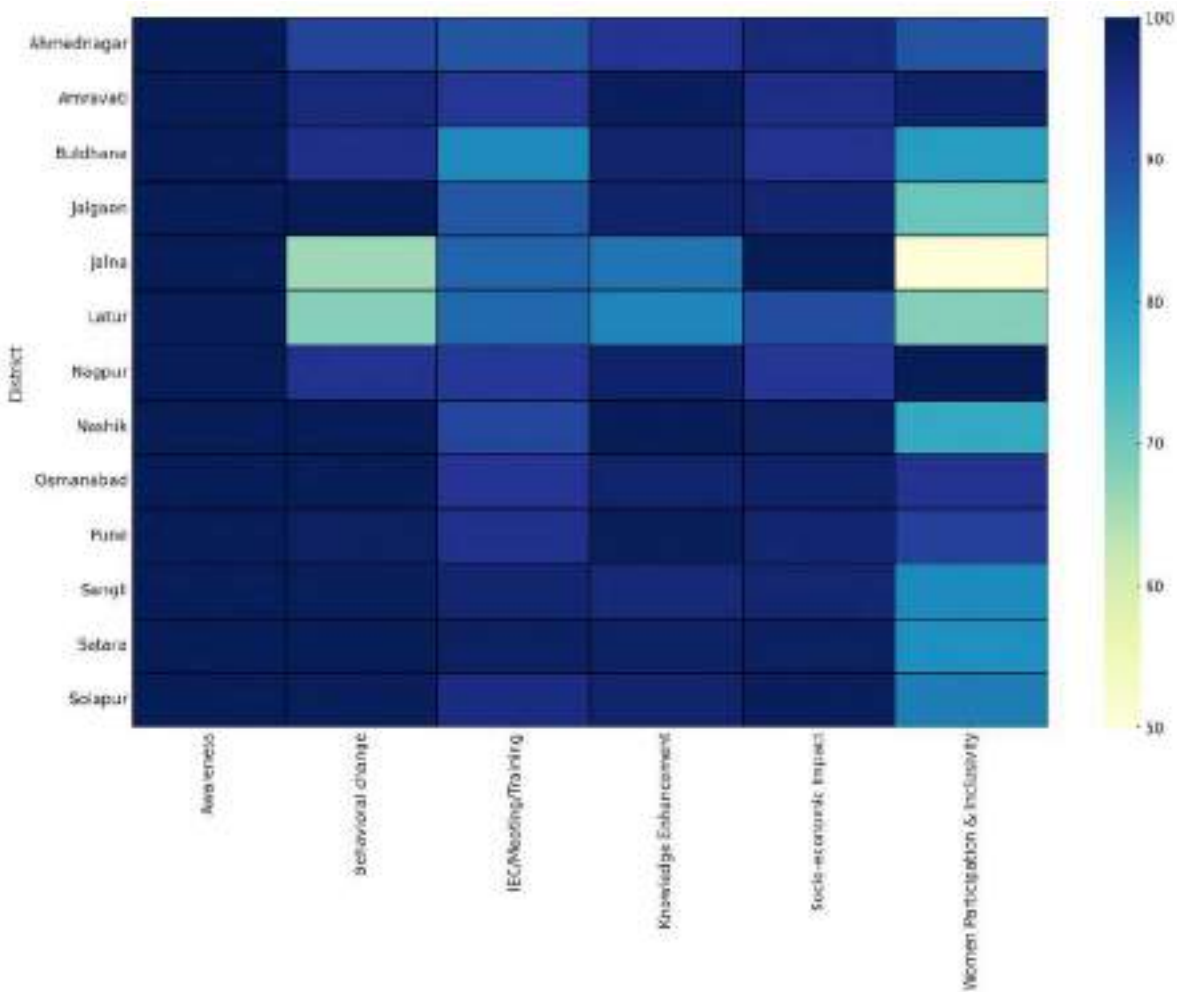
A. Scoring-Based Distribution of Gram Panchayats

Scoring Categories	Low (21-40)	Medium (41-60)	High (61-80)	Very High (81-100)
Number of Gram Panchayats	0	2	174	187

B. Heat Map showing performance levels of Districts on the basis of Desktop Assessment



C. Heat Map showing performance levels of Districts on the basis of On-ground Assessment



District-level implementation under the Atal Bhujal Yojana demonstrated strong performance, with particular strengths in robust systems for rainfall and water quality monitoring, community awareness, positive behavioural shifts, effective outreach through IEC activities, knowledge enhancement, convergence for demand and supply-side interventions and socio-economic impact.

According to the performance scoring analysis, the majority of the assessed Gram Panchayats in the state fall under the very-high performance category, signalling remarkable progress and strong uptake of scheme objectives. To maintain this trajectory, the state must focus on strengthening water level monitoring systems, increasing training at the GP level and enhancing the role of women in capacity building programs and decision-making processes. While the state has successfully achieved its incentive targets for area coverage under efficient water use practices, there remains scope to further broaden the reach of these practices by covering a greater proportion of the Net Irrigated Area. Targeted actions in these areas shall ensure consistent improvements in groundwater levels through efficient water use, data-driven decisions, and inclusive community participation.



Key Observations

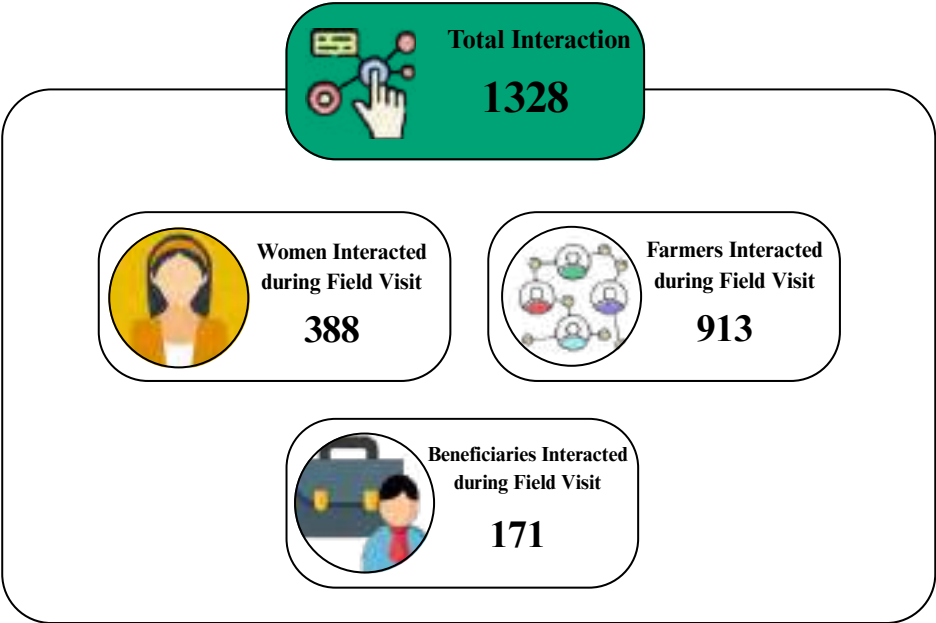
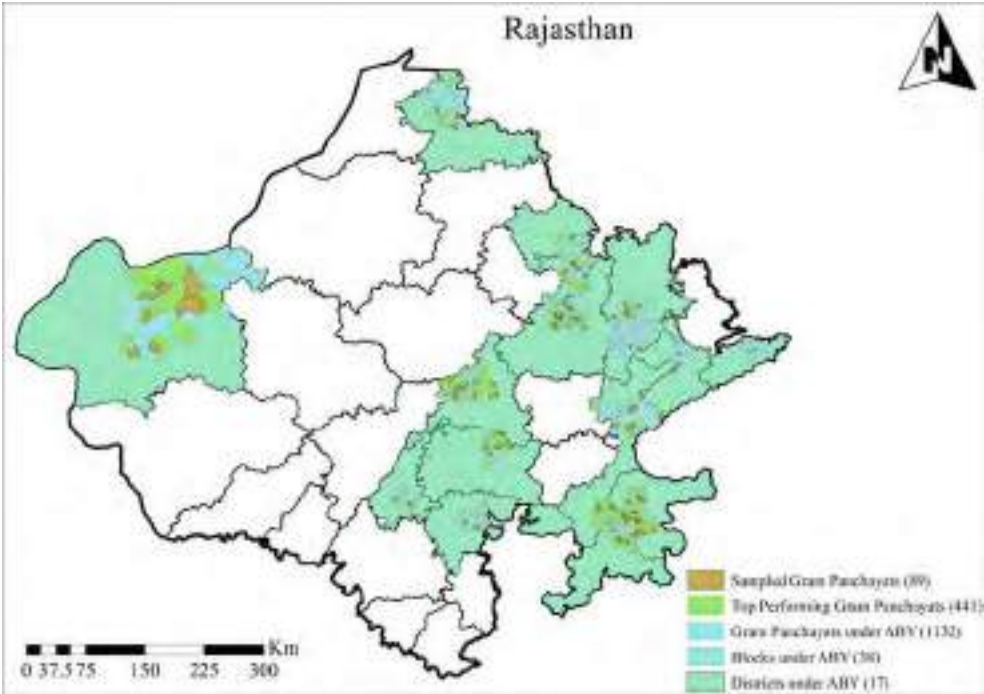
- Maharashtra established **GIDC (Groundwater Information and Dissemination Centre)** to share and store groundwater data, particularly in the areas of rainfall and water quality tracking, supporting data-driven water management.
- Here, initiatives like **Bhujal Mitra** have empowered women and community volunteers to promote sustainable farming, support data collection, and strengthen grassroots water management and conservation efforts.
- The state's water supply structures such as **soak pits and bandharas** addressed both groundwater recharge and storage, reflecting a comprehensive approach to resource management.
- Awareness efforts were amplified through **Atal Jal video-making initiatives, short films**, public announcements, and workshops aimed at community engagement and education.
- Maharashtra has demonstrated effective **rainfall and water quality monitoring**, showcasing its robust institutional mechanisms.
- The state requires more focus on strengthening water level monitoring to ensure accurate groundwater management and sustainability.
- It can further enhance women’s participation in training at GP level to ensure inclusive and community-driven decision-making.



RAJASTHAN

Rajasthan has a total of **1132** Gram Panchayats under Atal Bhujal Yojana, and as a part of the Impact Assessment, the state submitted **441** Gram Panchayats as their top performers based on selected parameters.

QCI selected **89** Gram Panchayats as **20%** sample for the on-ground assessment. QCI ensured that this sample is a true statistical representative of the population through the method of clustered sampling at the block level.





KPI 1. Community Awareness

In Rajasthan, **1,328** respondents participated in the focus-group discussions conducted at the gram-panchayat level. These included community members, beneficiaries, members of PGWMC/VWSC, and other relevant stakeholders who were involved in the scheme. The community-based sharing of information was found to be instrumental in increasing awareness of the scheme. This informal method of communication ensured that information about the scheme reached a wider audience at the grassroots level.

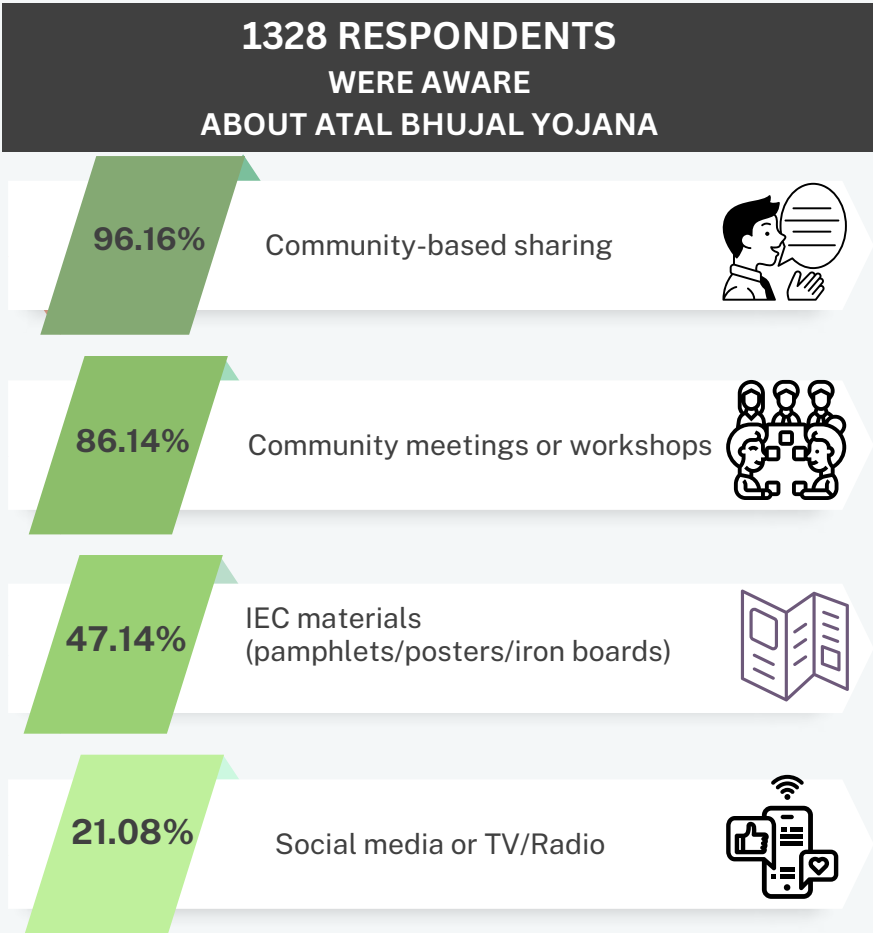


Figure 67: Mode of Awareness About Atal Bhujal Yojana

In addition, community meetings and workshops played a significant role in spreading awareness. Outreach was also carried out through Information, Education and Communication (IEC) materials such as pamphlets, posters, and iron boards, followed by social media platforms, television, and radio. The combination of structured outreach efforts and discussions played a crucial role in promoting responsible groundwater use at the community level.



Furthermore, the gram panchayat-level meetings conducted under the scheme served as valuable platform for knowledge exchange and experience sharing, encouraging local farmers and households to adopt practical and effective water-saving methods.

These meetings, focused on WSP and Water Budgeting, facilitated in-depth discussions on the various water-saving methods and interventions. Among them, the prominent shared methods were sprinkler systems, drip irrigation, and the shift to low-water-consuming crops. Other key practices discussed included installation of underground pipelines, plastic mulching and horticulture cultivation. This helped in raising awareness on the adoption of modern irrigation techniques and sustainable water management practices at the grassroots level.

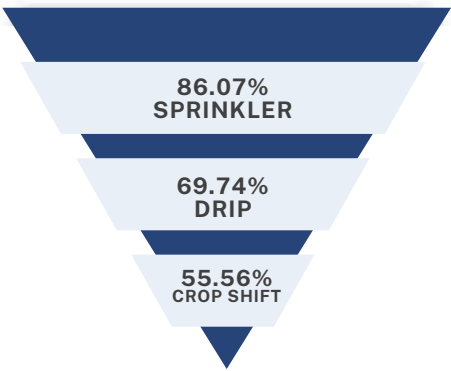


Figure 68: Top 3 Water-Saving Practices Discussed During Meeting: Focus on WSP & Water Budgeting

Role of Community Resource Person

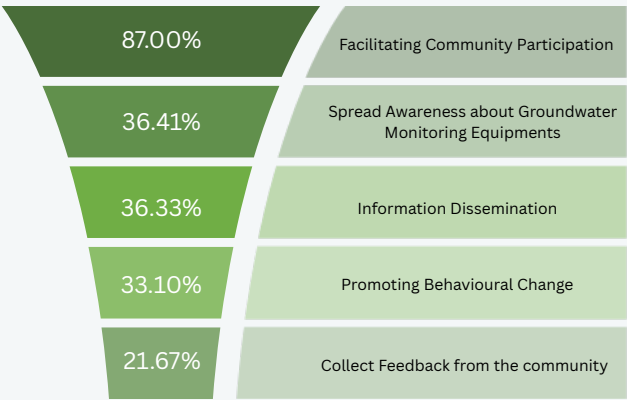


Figure 69: Role of Community Resource Person as Observed by Respondents

95.56% of respondents indicated that Community Resource Persons (CRPs) engaged as volunteers at the Gram Panchayat level, played a crucial role in raising awareness about sustainable groundwater management. CRPs were instrumental in facilitating community engagement by encouraging active participation in water conservation initiatives. They also supported the disclosure and measurement of groundwater data using equipments such as rain gauges, DWLRs, and other basic monitoring equipments.

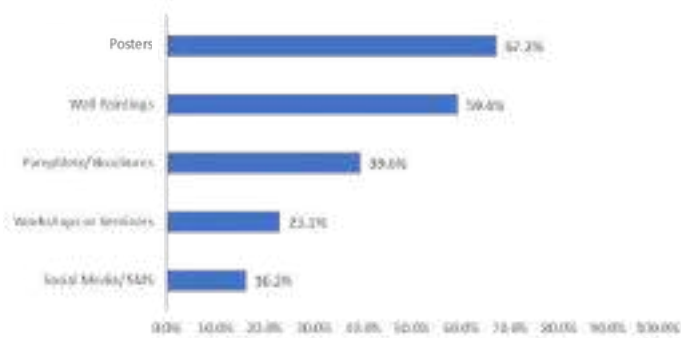
In addition to their role in capacity building, they significantly contributed to information dissemination, helping to make knowledge on groundwater conservation more accessible. Their involvement promoted greater community participation, thereby strengthening the local implementation of the Atal Bhujal Yojana.



KPI 2. IEC and Training

Information, Education and Communication (IEC) Materials/ Activities

In Rajasthan, it was observed that IEC activities, along with capacity-building initiatives and training sessions conducted under the Atal Bhujal Yojana, were effective in achieving their intended objectives. These interventions successfully raised awareness among community members, improved the knowledge of key stakeholders, and encouraged the adoption of sustainable groundwater conservation and management practices at the grassroots level.



IEC materials tools such as posters emerged as the most widely used forms of communication, with **67.2%** of respondents identifying them as key mediums for groundwater awareness (Figure 70).

Figure 70: Types of IEC Materials/ Activities Used for Groundwater Awareness, as observed by Respondents

In addition, Wall Paintings, and Pamphlets/ Brochures provided simple, easy-to-understand information to help raise awareness within the community. Initiatives like ‘Night Chaupals’ and ‘Puppet Shows’ in Rajasthan also played a pivotal role in engaging the rural community. The on-ground assessment findings suggest that traditional IEC methods remain central to community outreach, and there exists a significant opportunity to enhance the impact by integrating more interactive and digital platforms in data disclosure strategies.

Capacity-Building Initiatives



Figure 71: Respondents’ Participation in Trainings and Meetings

Figure 71 represents the participation level of respondents engaged in GP level training sessions and meetings under the Atal Bhujal Yojana, covering topics such as groundwater issues, Water Security Plans (WSPs), and water budgeting.



These capacity-building initiatives under the scheme effectively supported community awareness and participation. **51.8%** of respondents stated that these efforts helped them understand the financial assistance available through the scheme, thereby enhancing both the accessibility and implementation of the scheme at the grassroots level.

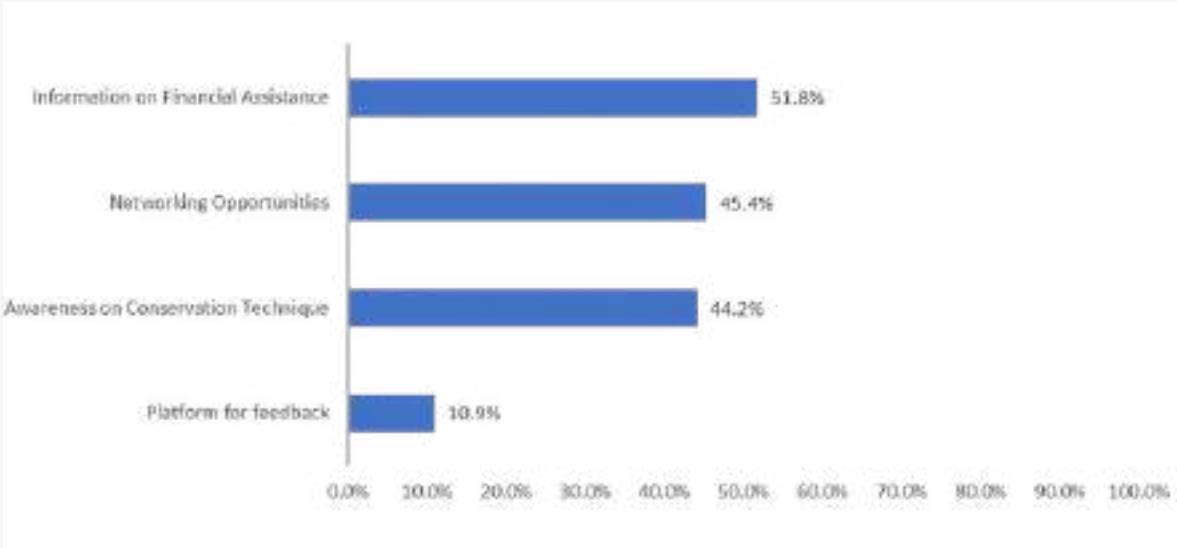


Figure 72: Respondents’ Perspective on the Impact of IEC Materials and Capacity Building Programs

Additionally, **45.4%** of participants became more aware of groundwater conservation methods, showing the impact of capacity-building program. The efforts also led to other positive outcomes, such as better networking opportunities and access to feedback platforms, which helped strengthen community engagement and collective decision-making.



KPI 3. Behavioural Change

The scheme has led to a measurable and meaningful shift in community behaviour toward groundwater conservation in Rajasthan. A core objective of the scheme was to promote sustainable groundwater management through awareness generation, capacity-building initiatives, and active community participation. The data presented in Figure 73 illustrates the effectiveness of these interventions.

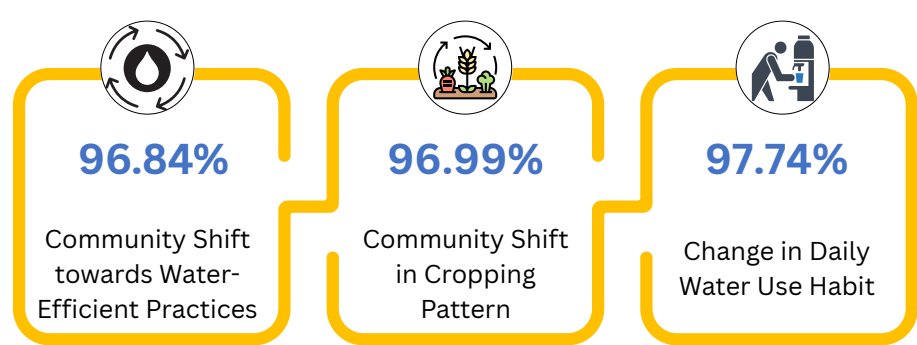


Figure 73: Respondents' Perspective on Behavioural Shifts in Water-Efficient Practices

96.84% of respondents observed a community shift towards water-efficient practices, and **96.99%** of respondents indicated a community shift towards cultivating low water-consuming crops. Further, **97.74%** of respondents changed daily routines to reduce water use, specifically by storing rainwater (**34.20%**), avoiding overfilling (**24.60%**), and using smaller vessels (**19.43%**), reflecting a growing commitment to sustainable water management.

As per the IVA's previous verification rounds, Rajasthan has made tangible progress in shifting towards sustainable irrigation practices. The area under Efficient Irrigation System **increased from 8,925.23 hectares in FY 2021–22 to 43,020.59 hectares in FY 2024**, accompanied by a steady increase in the cultivation area of low water-consuming crops, which reached **14,364.93** post-implementation of the scheme.

This reflects a significant move away from traditional irrigation methods and crop patterns toward more efficient, water-saving technologies and climate-resilient farming. This shift is rooted not only in infrastructural improvements but also in changing mindsets and behaviour at the community level. Respondents shared that they have seen a growing use of modern irrigation techniques across their villages—with Sprinkler systems becoming the most widely adopted, followed by drip irrigation systems.



98.12%

Respondents highlighted the improved collaboration and collective action within the community for groundwater management

The scheme positively influenced community dynamics by fostering stronger collaboration and collective action for groundwater management, as observed by **98.12%** of respondents. Stakeholders became more actively engaged in shared decision-making and the implementation of water-saving practices. This indicated that the program was effective not only in promoting technical solutions but also in cultivating a sense of community responsibility towards long-term groundwater sustainability.



KPI 4. Women Participation & Inclusivity

Implementation of the scheme in Rajasthan has led to increased involvement of various community groups in water governance. Insights gathered from respondents’ interactions highlighted active involvement of women in groundwater planning and governance at the Gram Panchayat level. Women's participation in decision-making processes, community meetings, and leadership roles has grown steadily, indicating a shift towards more equitable representation. The assessment also examined participation across different social strata, providing a comprehensive view of how diverse community segments engaged with the scheme. These findings reflected the scheme’s role in promoting inclusive and participatory groundwater management at the grassroots level.

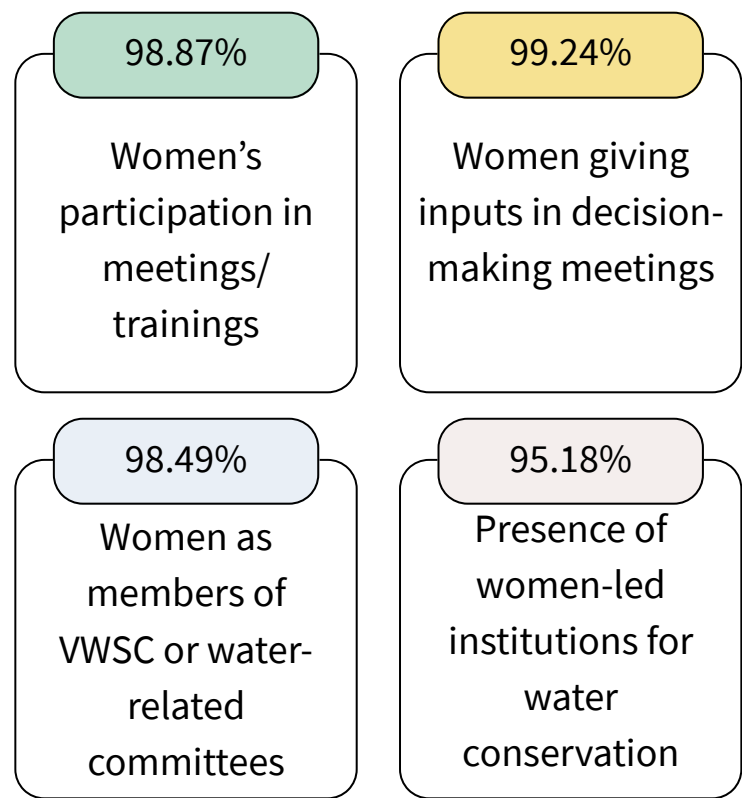


Figure 74: Respondents’ Perspective on Women Participation and Inclusivity in Ground Water Governance

Based on the assessment findings, **98.87%** of respondents confirmed women’s participation in meetings and trainings, and **99.24%** acknowledged their active input in decision-making meetings, indicating a robust model of gender-inclusive governance.

Additionally, **98.49%** of respondents observed that women are members of VWSCs or other water-related committees, reinforcing their involvement in formal governance structures. While **95.18%** of respondents confirmed the presence of women-led institutions (*Anganvadi karykarta/ SHG groups*), for water conservation. The findings highlight the importance of continued support to strengthen women’s leadership at the grassroots level.



Atal Bhujal Yojana has led to meaningful progress in enhancing women’s participation in groundwater governance in the state. Women are increasingly taking part in community meetings, contributing to decision-making processes, and serving on local water committees, indicating a shift towards more inclusive water management. However, as observed by the respondents, challenges remain, such as time constraints due to household responsibilities, limited awareness of the scheme, and social or cultural barriers that continue to restrict broader engagement.

These findings highlight the importance of targeted interventions, including awareness-building, flexible participation models, and stronger community support systems. Sustaining these efforts, particularly through strengthened women-led institutions and ensuring equal representation in water governance, will be essential for sustaining inclusive and effective groundwater governance in the long term.

Strengthening Inclusion Through Socially Diverse Participation

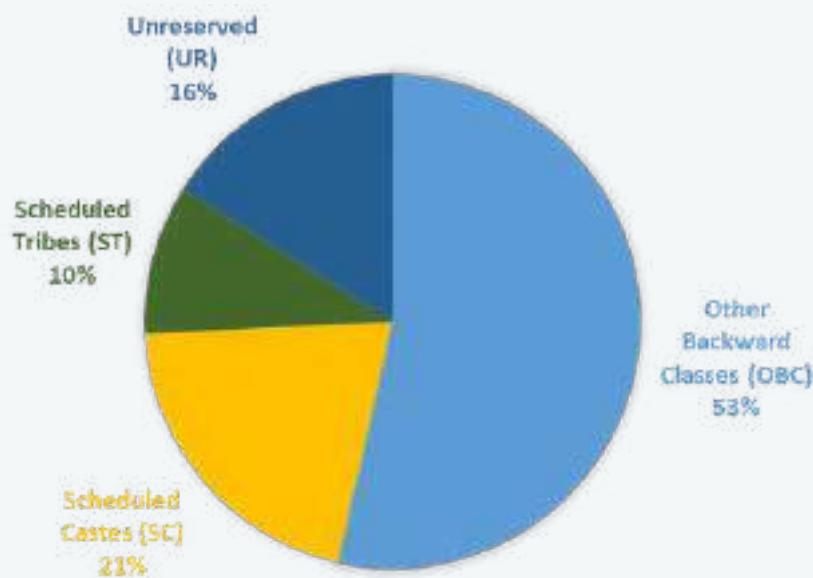


Figure 75: Voices from All Sections in WSP Formulation

The on-ground assessment revealed that **96.75%** of respondents confirmed that consensus was taken from all sections of society during the formulation and approval of Water Security Plans (WSPs). This indicates a strong emphasis on inclusive participation and community engagement at the Gram Panchayat level. However, continued efforts are needed to ensure equitable representation and to encourage more active participation from underrepresented groups in water-related decision-making processes.



KPI 5. Knowledge Enhancement

Community knowledge is a critical pillar for effective groundwater management and conservation. The scheme has strategically prioritized knowledge enhancement, significantly empowering local communities to adopt informed decisions, implement effective water conservation measures, and strengthen participatory water governance at the grassroots level



According to the on-ground observations, **98.57%** of respondents observed that, awareness programs and capacity-building efforts in the state enabled community members to make more informed decisions regarding water use, contributing to improved planning and sustainable practices at the GP level.

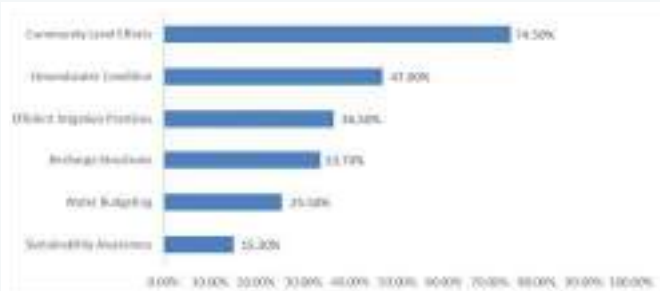


Figure 76: Areas of Knowledge Improvement Observed by Respondents

As shown in Figure 76, knowledge of respondents improved significantly in key areas related to groundwater management, with the most notable advancement observed in community-level efforts, reflecting the scheme’s success in involving the community in decision-making.

Additionally, respondents demonstrated increased knowledge of technical concepts such as groundwater conditions, efficient irrigation practices, recharge structures, and water budgeting, indicating effective communication of these topics at the Gram Panchayat level. Furthermore, **99.69%** actively shared this information with others in their family or community.



This indicates the emergence of a peer-to-peer learning culture at the grassroots level, where informed individuals became facilitators of awareness, contributing to the wider dissemination of the scheme’s objectives.

However, awareness of the long-term sustainability of groundwater resources was still limited, suggesting the need for further focus on this aspect in future capacity-building programs.



KPI 6. Socio-Economic Impact

Socio-economic conditions in Rajasthan have improved with better groundwater access and targeted subsidies. Community-led water budgeting and monitoring have enabled efficient planning and equitable use of resources. Rising groundwater levels have reduced farming costs and strengthened rural resilience, while the adoption of low water-consuming crops supports sustainable agriculture and long-term water security.



As per on-ground assessment, **91.11%** of respondents found it easier to access subsidies for water-saving techniques, indicating improved support at the Gram Panchayat level.

In addition, **88.45%** of respondents experienced household savings on water-related expenses following financial assistance received through the incentive and convergence components of the scheme. These savings were primarily utilized for children’s education, investments in agriculture and livestock, followed by increased personal savings, and household improvements, reflecting a shift towards productive and welfare-enhancing uses.

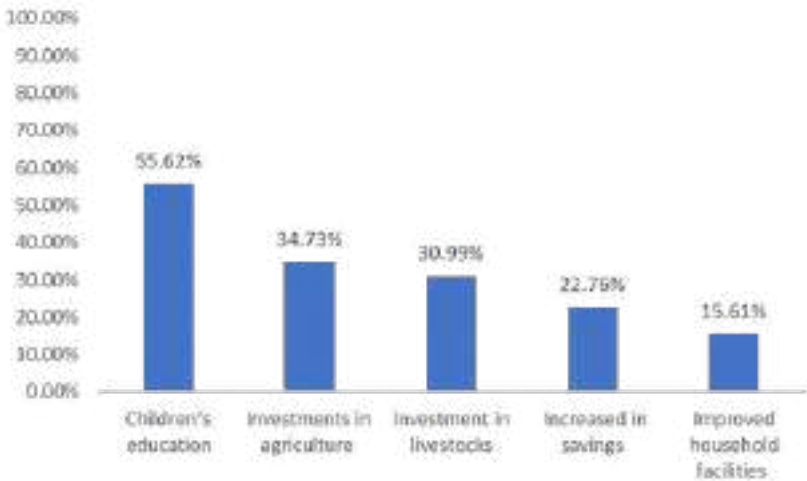


Figure 77: Respondents’ Perspective on the Economic Impact After Receiving Financial Support Through Convergence or Incentives

Respondents also stated that alongside financial gains, there has been widespread adoption of water-efficient practices, including drip irrigation, sprinklers, underground pipeline systems, and crop shifting.

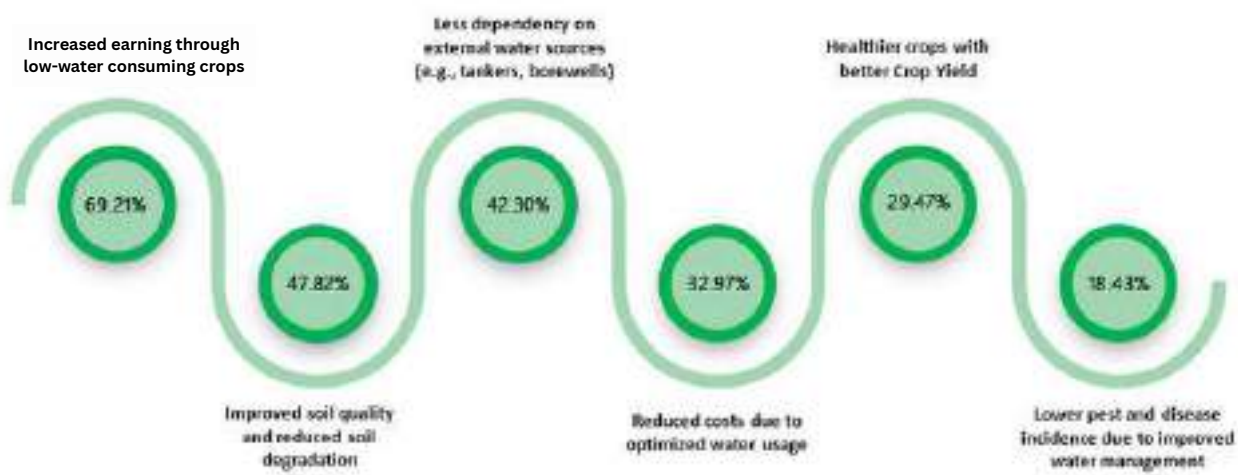


Figure 78: Benefits of Adopting Water-Efficient Practices as Observed by Respondents

The benefits of these practices were reflected in the form of increased earnings through low water-consuming crops (**69.21%**), improved soil quality (**47.82%**), and reduced dependency on external water sources (**42.30%**). These outcomes suggest a growing preference for sustainable and self-reliant agricultural practices.

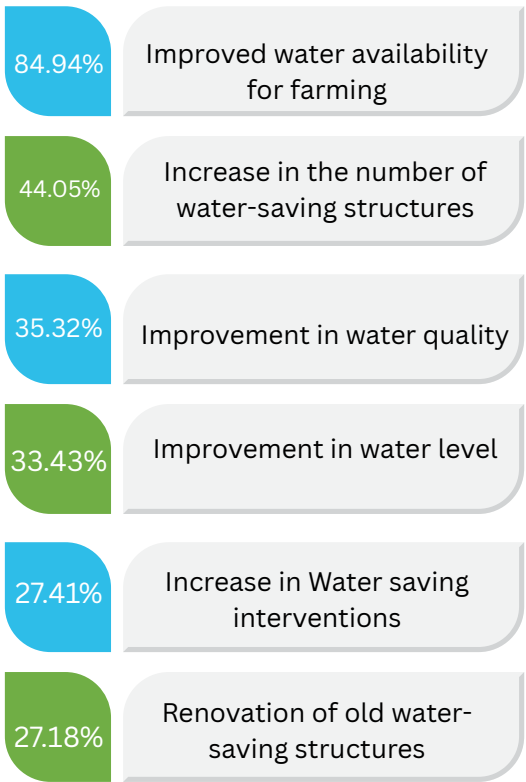


Figure 79: Changes Observed by Respondents Since the Implementation of the Scheme

Respondents observed tangible changes: (**84.94%**) reported better water availability for farming, (**44.05%**) observed an increase in supply structures, and (**35.32%**) noted improved groundwater quality (Figure 79). Improvements in groundwater levels, along with increased interventions and renovation of old water-saving structures, also reflected notable progress since the scheme’s implementation.

Rajasthan indicates steady progress in both the socio-economic and environmental aspects of groundwater management. High adoption of water-efficient practices and targeted use of financial savings demonstrate a shift towards sustainable agriculture and household development. Respondents also acknowledged visible improvements in water availability and infrastructure.

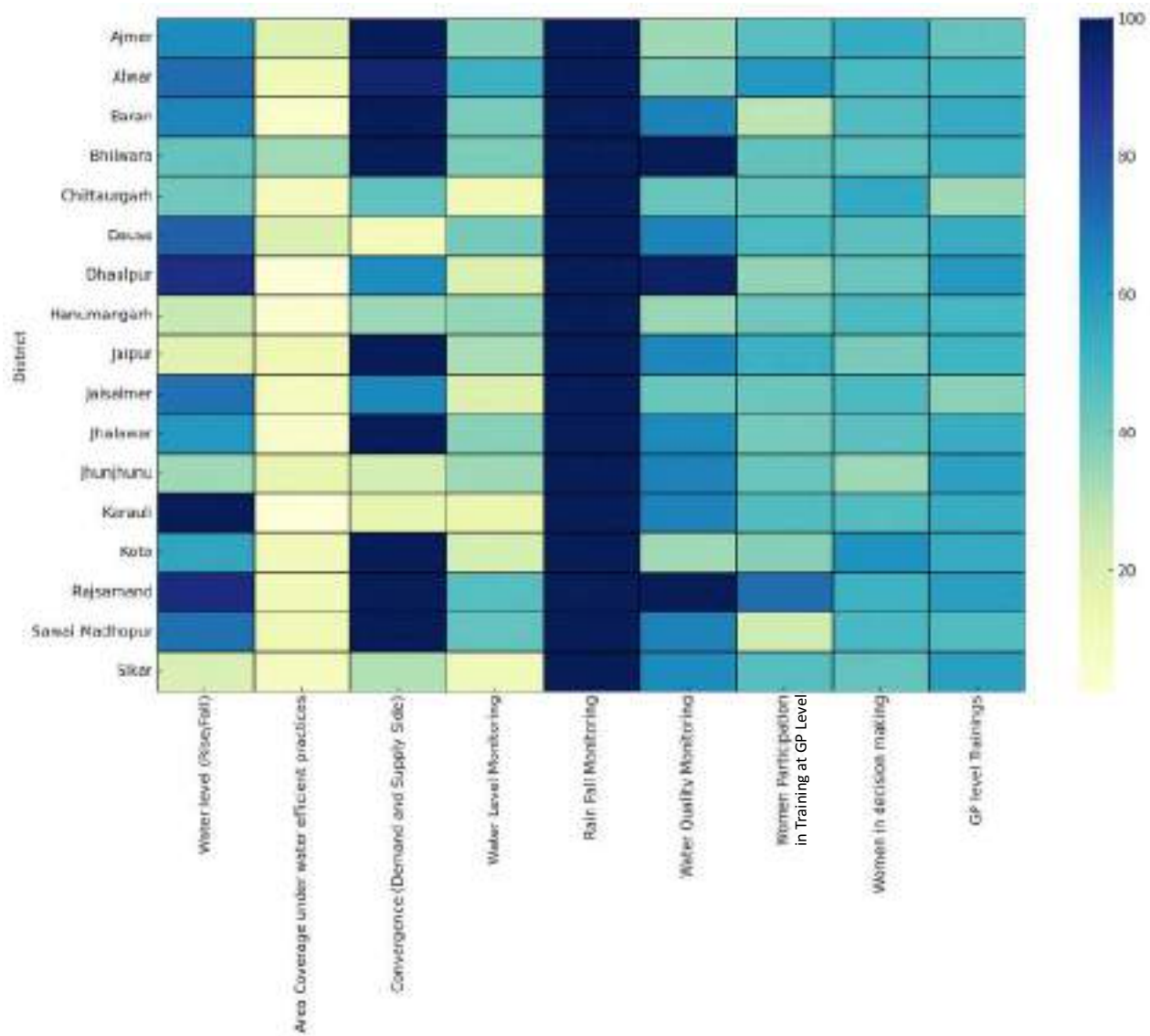


Performance Analysis of Rajasthan

A. Scoring-Based Distribution of Gram Panchayats

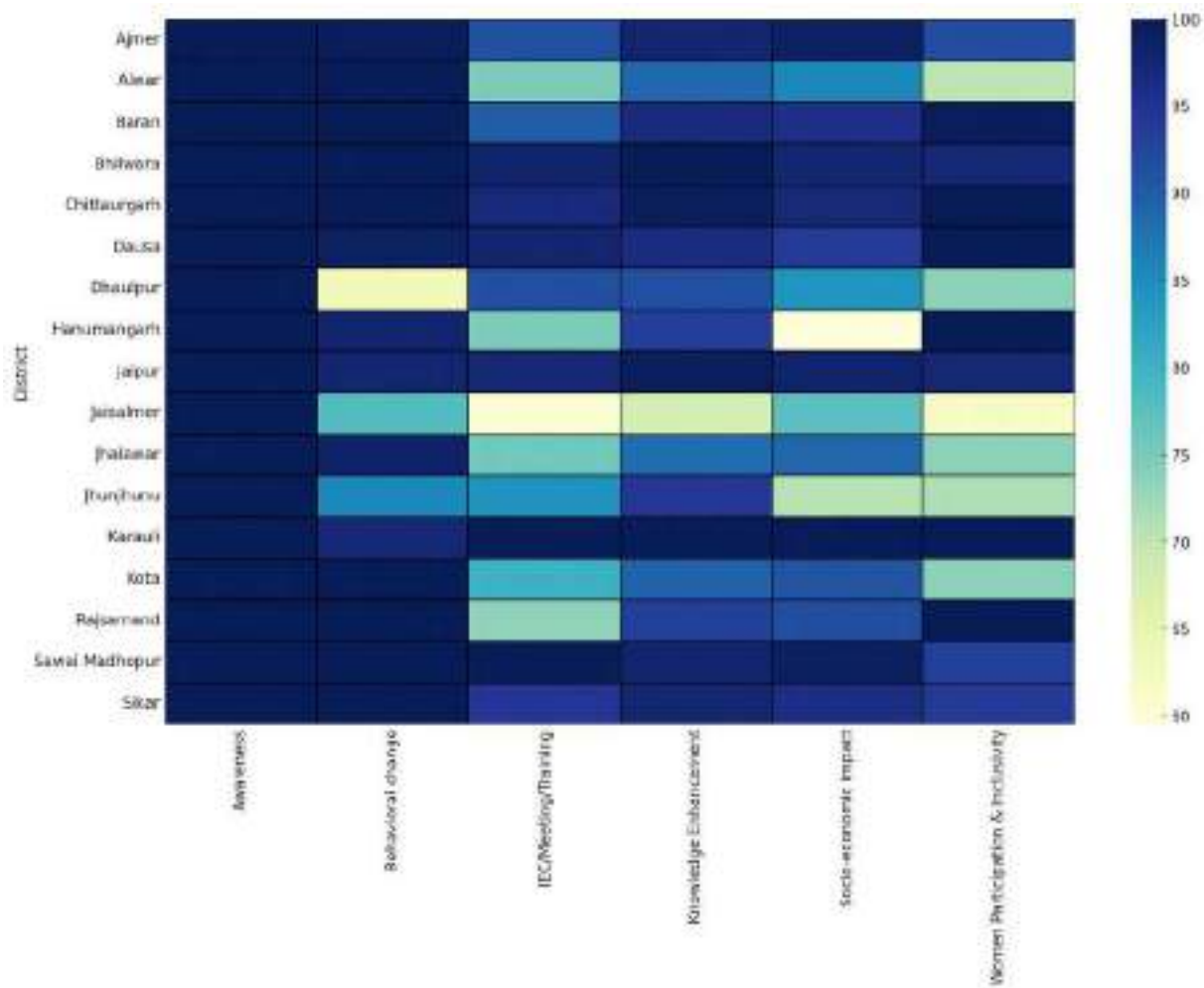
Scoring Categories	Low (21-40)	Medium (41-60)	High (61-80)	Very High (81-100)
Number of Gram Panchayats	6	1	294	140

B. Heat Map showing performance levels of Districts on the basis of Desktop Assessment





C. Heat Map showing performance levels of Districts on the basis of On-ground Assessment



District-level implementation under the Atal Bhujal Yojana reflected strong performance, with notable strengths in robust system for rainfall monitoring, community awareness, knowledge enhancement, and positive behavioural change at the community level. The state has demonstrated strong performance in convergence for demand and supply-side interventions across most districts. However, efforts should be scaled up uniformly to ensure consistent progress across the state.

According to the performance scoring analysis, the majority of the assessed Gram Panchayats in the state fall under the high-performance category, reflecting substantial progress, while a small proportion of GPs primarily from the Jaisalmer district remain in the medium to low-performance bracket, indicating the need for targeted interventions.

Key areas for improvement include strengthening water level monitoring systems, increasing training at the GP level and enhancing women’s participation and inclusivity in groundwater management activities and decision-making processes. The state has made progress towards expanding area coverage under efficient water use practices, however, it has not yet fully met its incentive targets.



There remains considerable scope to broaden the reach of these practices by covering a larger proportion of the Net Irrigated Area. Focused efforts in these areas are expected to contribute significantly to the long-term objective of improving groundwater levels by promoting more efficient water use, informed decision-making, and inclusive community engagement.

Key Observations

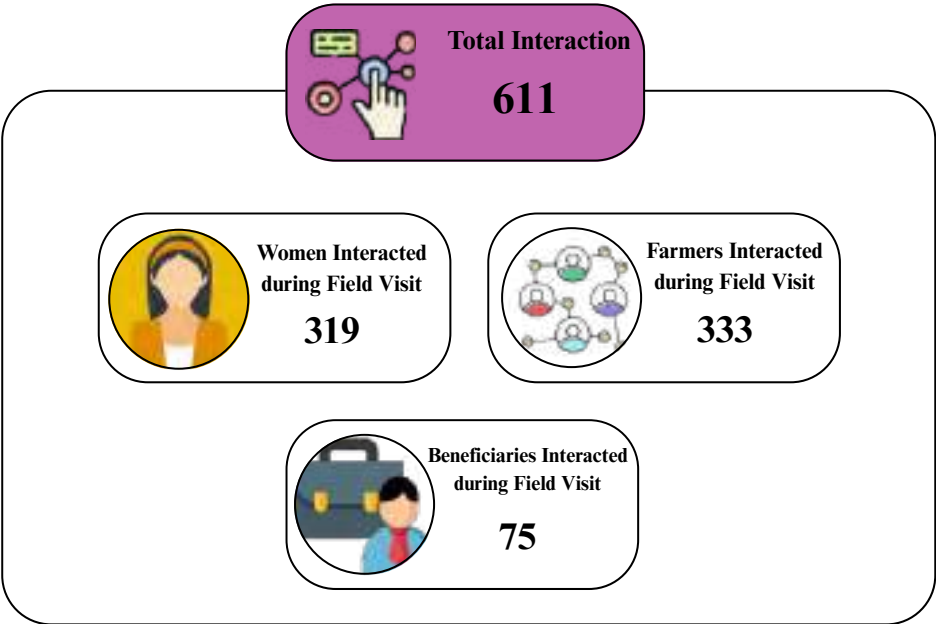
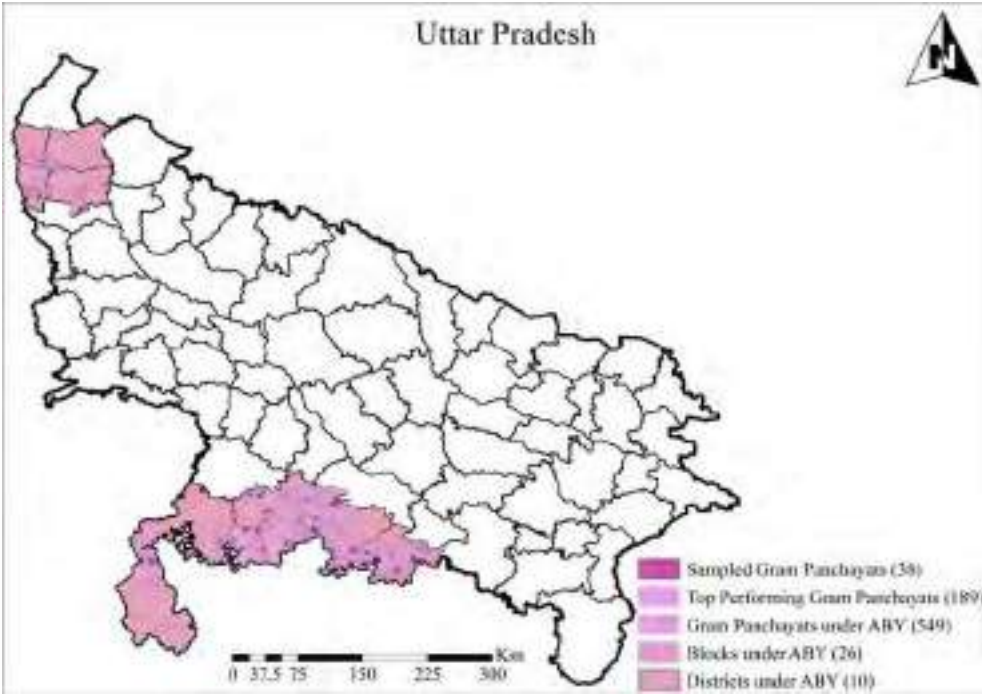
- Community engagement was strengthened through **Night Chaupals** which are the meetings held at night to encourage broader participation and open dialogue on water management.
- Rajasthan used a state **web portal** to disclose groundwater data, reflecting a centralized and accessible transparency mechanism.
- The state promoted groundwater use efficiency by promoting **laser land levelling** in addition to conventional practices. Supply-side interventions such as percolation ponds, nadi construction, and canal systems were aligned with the region’s arid climatic conditions.
- In Rajasthan, **Anganvadi karykarts** and **SHG groups** have fostered community-led water conservation, with women taking leadership roles to drive participatory groundwater management.
- The state has demonstrated effective rainfall monitoring, enabling data-driven planning and improved implementation of groundwater recharge interventions.
- There is scope for further improvement in water level and water quality monitoring to ensure accurate data collection and informed water resource management.



UTTAR PRADESH

Uttar Pradesh has a total of **549** Gram Panchayats under Atal Bhujal Yojana, and as a part of the Impact Assessment, the state submitted **189** Gram Panchayats as their top performers based on selected parameters.

QCI selected **38** Gram Panchayats as **20%** sample for the on-ground assessment. QCI ensured that this sample is a true statistical representative of the population through the method of clustered sampling at the block level.





KPI 1. Community Awareness

As part of the Impact Assessment, the QCI team engaged with **611** citizens, including community members, beneficiaries members of Pani Samiti/VWSC, and other relevant stakeholders who were involved in the scheme. Community meetings and workshops emerged as the primary sources for disseminating information about the scheme. Community-based sharing, an informal method of communication, played a supporting role in reinforcing awareness and understanding among community members regarding sustainable groundwater management.

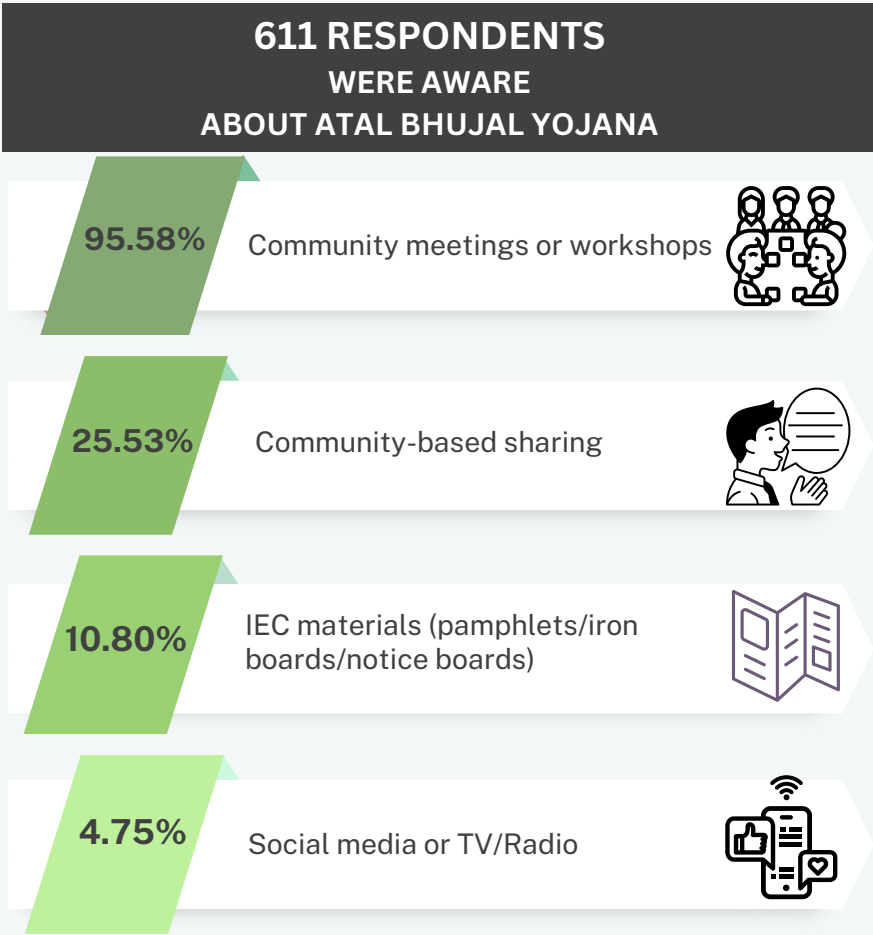


Figure 80: Mode of Awareness About Atal Bhujal Yojana

Additionally, awareness was further strengthened through the use of Information, Education, and Communication (IEC) materials such as pamphlets, iron boards, notice boards, as well as mass media platforms including social media, television, and radio. This combination of structured outreach efforts and discussions played a crucial role in promoting responsible groundwater use at the community level.



Awareness within the community was also promoted by the Gram Panchayat-level meetings conducted under the scheme. They served as valuable platform for knowledge exchange and experience sharing, encouraging local farmers and households to adopt practical and effective water-saving methods.

These meetings, focused on WSP and water budgeting, facilitated in-depth discussions on the various water-saving methods and interventions. Prominently, micro-irrigation systems such as drip and sprinkler were discussed, following the shift to low-water-consuming crops. Other key practices discussed included reusing water for irrigation, installation of underground pipelines, and pressurized irrigation in canal command areas. This helped in raising awareness on the adoption of modern irrigation techniques and sustainable water management practices at the grassroots level.

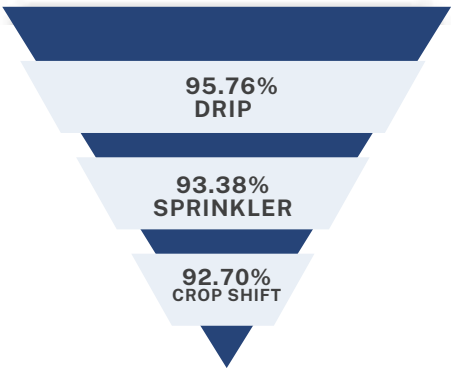


Figure 81: Top 3 Water-Saving Practices Discussed During Meeting: Focus on WSP & Water Budgeting

Role of Community Resource Person

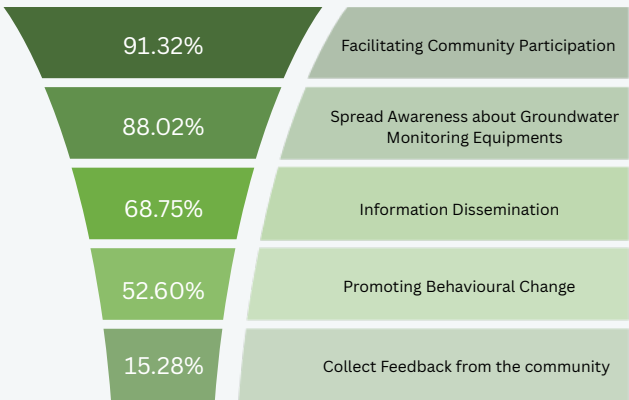


Figure 82: Role of Community Resource Person as Observed by Respondents

94.27% of respondents indicated that Community Resource Persons (CRPs) engaged as volunteers at the Gram Panchayat level played a crucial role in raising awareness about sustainable groundwater management. **Jal Veer**, functioning as CRPs, were instrumental in facilitating community engagement by encouraging active participation in water conservation initiatives. They also supported the disclosure and measurement of groundwater data using equipments such as rain gauges, DWLRs, and other basic monitoring equipments.

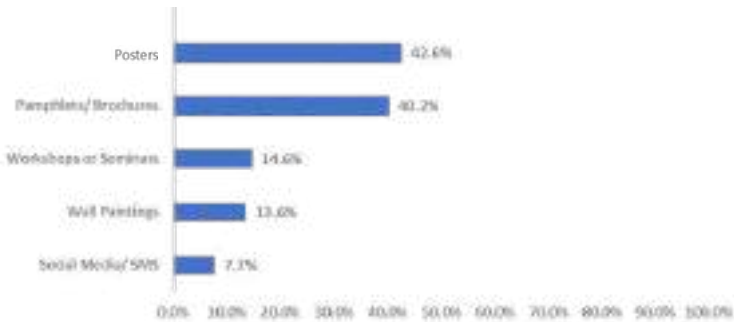
In addition to their role in capacity building, as CRPs significantly contributed to information dissemination, helping to make knowledge on groundwater conservation more accessible. Their involvement promoted greater community ownership and participation, thereby strengthening the local implementation of the Atal Bhujal Yojana.



KPI 2. IEC and Training

Information, Education and Communication (IEC) Materials/ Activities

The Impact Assessment found that IEC activities conducted under the Atal Bhujal Yojana in Uttar Pradesh were effective in achieving their intended objectives. This successfully raised awareness among community members, improved the knowledge of key stakeholders, and encouraged the adoption of sustainable groundwater conservation and management practices at the grassroots level.



As shown in the Figure 83, posters **(42.6%)** have been the most widely used IEC material for groundwater awareness, highlighting their effectiveness as accessible and visually engaging modes.

Figure 83: Types of IEC Materials/ Activities Used for Groundwater Awareness, as Observed by Respondents

In addition, Pamphlets/ Brochures, and Workshops/ Seminars provided simple, easy-to-understand information to help raise awareness within the community. Supporting these efforts, activities such as ‘Nukkad Nataks’ and ‘Jal Chaupals’ played a pivotal role in engaging the rural community. The on-ground assessment findings suggest that traditional IEC methods remain central to community outreach, and there exists a significant opportunity to enhance the impact by integrating more interactive and digital platforms in data disclosure strategies.

Capacity-Building Initiatives



Figure 84: Respondents’ Participation in Trainings and Meetings

Figure 84 represents the participation level of respondents engaged in GP-level training sessions and meetings under the Atal Bhujal Yojana, covering topics such as groundwater issues, Water Security Plans (WSPs), and water budgeting.



These capacity-building initiatives under the scheme effectively supported community awareness and participation. **86.4%** of respondents stated that these efforts helped them understand the financial assistance available through the scheme, thereby enhancing both the accessibility and implementation of the scheme at the grassroots level.

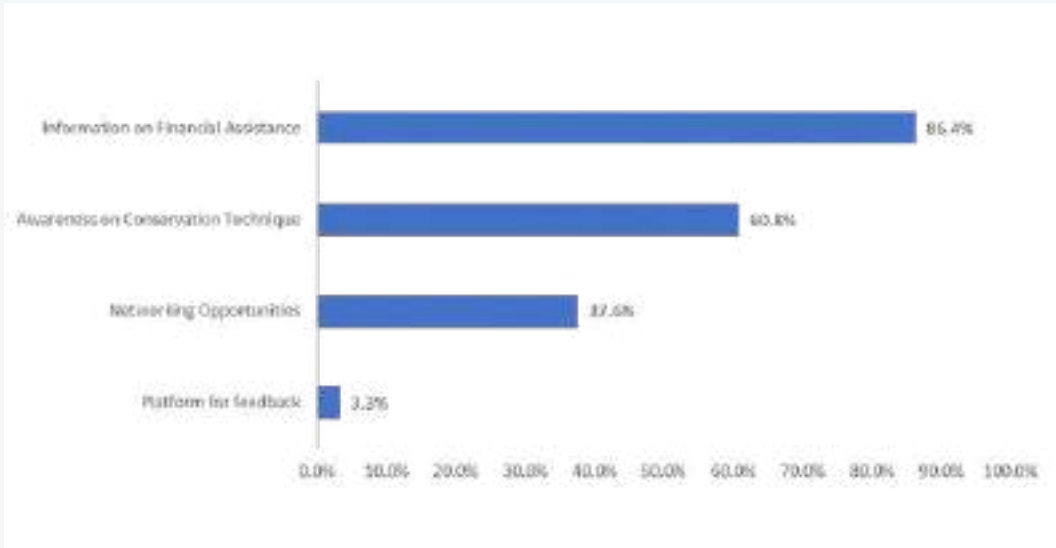


Figure 85: Respondents’ Perspective on the Impact of IEC Materials and Capacity Building Programs

Additionally, **60.8%** of participants became more aware of groundwater conservation methods, showing the educational impact of the program. The efforts also led to other positive outcomes, such as better networking opportunities and access to feedback platforms, which helped strengthen community engagement and collective decision-making.



KPI 3. Behavioural Change

Uttar Pradesh has witnessed a meaningful transformation in community behaviour and practices related to groundwater conservation under the scheme. This is attributed to the scheme’s emphasis on awareness generation, capacity-building, and participatory engagement. The data presented in Figure 86 highlights the effectiveness of these interventions.

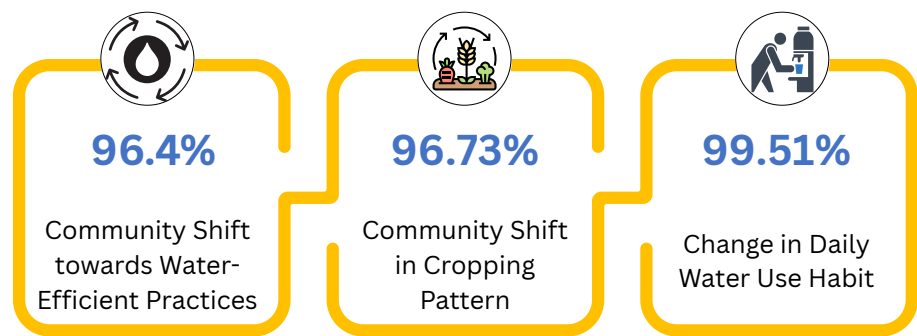


Figure 86: Respondents’ Perspective on Behavioural Shifts in Water-Efficient Practices

96.4% of respondents observed a community shift towards water-efficient practices, and **96.73%** of respondents indicated a community shift towards cultivating low water-consuming crops. Further, **99.51%** of respondents changed daily routines to reduce water use, specifically by storing rainwater (**23.73%**), reusing kitchen water (**23.45%**), and avoiding overfilling (**23.41%**), reflecting a growing commitment to sustainable water management.

As per the IVA’s previous verification rounds, Uttar Pradesh has made tangible progress in shifting towards sustainable irrigation practices. The area under Efficient Irrigation System **increased from 531.29 hectares in FY 2021-22 to 14,193.13 hectares in FY 2024**, accompanied by a steady increase in the cultivation area of low water-consuming crops, which reached **436.52 hectares** post-implementation of the scheme.

This reflects a significant move away from traditional irrigation methods and crop patterns toward more efficient, water-saving technologies and climate-resilient farming. This shift is rooted not only in infrastructural improvements but also in changing mindsets and behaviour at the community level. Respondents shared that they have seen a growing use of modern irrigation techniques across their villages, with drip irrigation becoming the most widely adopted, followed by sprinkler systems. Respondents shared that they have seen a growing use of modern irrigation techniques across their villages, with Sprinkler systems becoming the most widely adopted, followed by drip irrigation systems.



88.54%

Respondents highlighted the improved collaboration and collective action within the community for groundwater management

The scheme positively influenced community dynamics by fostering stronger collaboration and collective action for groundwater management, as observed by **88.54%** of respondents. Stakeholders became more actively engaged in shared decision-making and the implementation of water-saving practices. This indicated that the program was effective not only in promoting technical solutions but also in cultivating a sense of community responsibility towards long-term groundwater sustainability.



KPI 4. Women Participation & Inclusivity

The implementation of the scheme in Uttar Pradesh has led to increased involvement of diverse community groups in water governance, with a notable rise in women's participation in decision-making processes, community meetings, and leadership roles. This marks a shift towards more equitable representation at the grassroots level. The Impact Assessment also examined participation across different social strata, providing a comprehensive view of how diverse community segments engaged with the scheme. These findings reflected the scheme’s role in promoting inclusive and participatory groundwater management at the grassroots level.

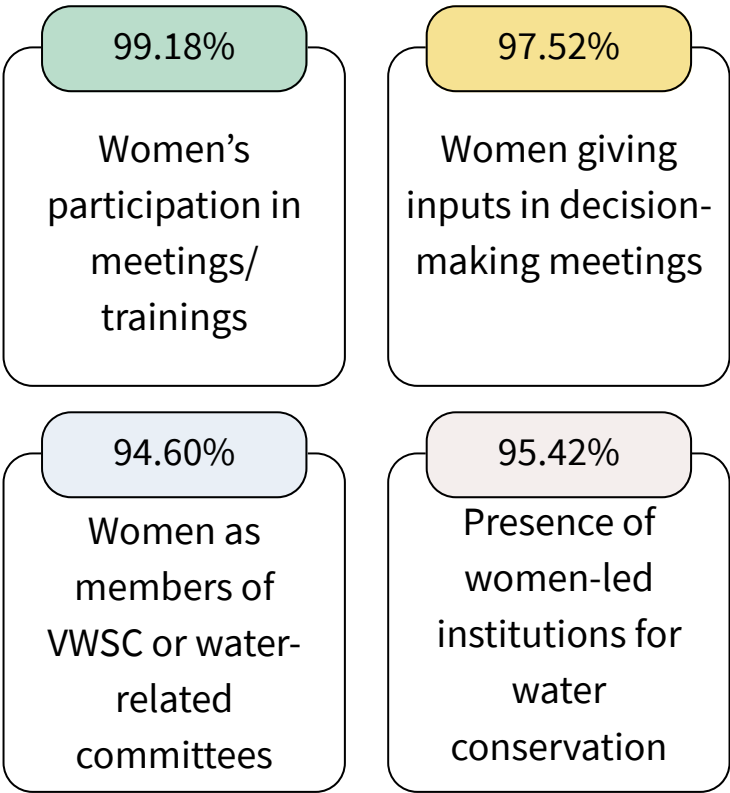


Figure 87: Respondents’ Perspective on Women Participation and Inclusivity in Ground Water Governance

Assessment findings reveal that, **99.18%** of respondents confirmed women’s participation in meetings and training, and **97.52%** acknowledged their active input in decision-making meetings, indicating a robust model of gender-inclusive governance.

Additionally, **94.60%** of respondents observed that women are members of VWSCs or other water-related committees, reinforcing their involvement in formal governance structures. While **95.42%** of respondents confirmed the presence of women-led institutions (*such as Jal Saheli*) for water conservation, these findings highlight the importance of continued support to strengthen women’s leadership at the grassroots level.



The scheme has thus facilitated progress in enhancing women’s roles in groundwater governance. Women are increasingly contributing to decisions, participating in meetings, and serving in local water committees. However, as observed by the respondents, challenges remain, such as time constraints due to a lack of awareness or knowledge about the scheme, lack of time due to household responsibilities, and social or cultural barriers that continue to restrict broader engagement.

These findings highlight the importance of targeted interventions, including awareness-building, flexible participation models, and stronger community support systems. Sustaining these efforts, particularly through strengthened women-led institutions and ensuring equal representation in water governance, will be essential for sustaining inclusive and effective groundwater governance in the long term.

Strengthening Inclusion Through Socially Diverse Participation

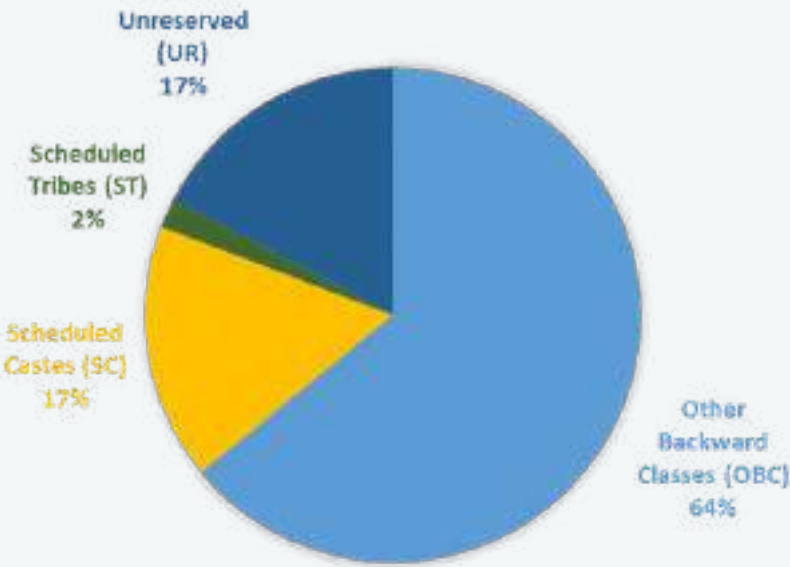


Figure 88: Voices from All Sections in WSP Formulation

The on-ground assessment revealed that **99.32%** of respondents confirmed that consensus was taken from all sections of society during the formulation and approval of Water Security Plans (WSPs). This indicates a strong emphasis on inclusive participation and community engagement at the Gram Panchayat level. However, continued efforts are needed to ensure equitable representation and to encourage more active participation from underrepresented groups in water-related decision-making processes.



KPI 5. Knowledge Enhancement

Community knowledge is a critical pillar for effective groundwater management and conservation. The scheme has strategically prioritized knowledge enhancement, significantly empowering local communities to adopt informed decisions, implement effective water conservation measures, and strengthen participatory water governance at the grassroots level



The on-ground assessment findings reveal that **100%** of respondents observed awareness programs and capacity-building efforts in the state, which enabled community members to make more informed decisions regarding water use, contributing to improved planning and sustainable practices at the GP level.

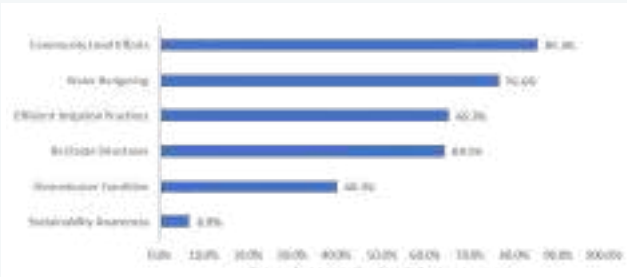
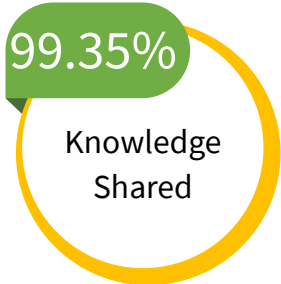


Figure 89: Areas of Knowledge Improvement Observed by Respondents

As shown in Figure 89, knowledge of respondents improved significantly in key areas related to groundwater management, with the most notable advancement observed in community-level efforts and water budgeting, reflecting scheme’s effectiveness in promoting participatory decision-making.

Additionally, respondents demonstrated increased knowledge of technical concepts such as efficient irrigation practices, recharge structures, and groundwater conditions, indicating effective communication of these topics at the Gram Panchayat level. Furthermore, **99.35%** actively shared this information with others in their family or community.



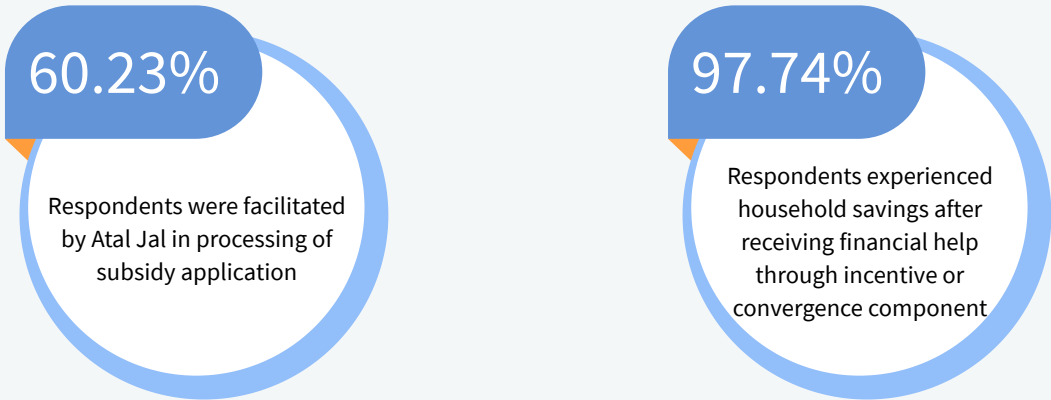
This indicates the emergence of a peer-to-peer learning culture at the grassroots level, where informed individuals became facilitators of awareness, contributing to the wider dissemination of the scheme’s objectives.

However, awareness of the long-term sustainability of groundwater resources was still limited, suggesting the need for further focus on this aspect in future capacity-building programs.



KPI 6. Socio-Economic Impact

Socio-economic conditions in Uttar Pradesh have improved with better groundwater access and targeted subsidies. Community-led water budgeting and monitoring have enabled efficient planning and equitable use of resources. Rising groundwater levels have reduced farming costs and strengthened rural resilience, while the adoption of low water-consuming crops supports sustainable agriculture and long-term water security.



As per on-ground assessment, **60.23%** of respondents found it easier to access subsidies for water-saving techniques, indicating improved support at the Gram Panchayat level.

In addition, **97.74%** of respondents experienced household savings on water-related expenses following financial assistance received through the incentive and convergence components of the scheme. These savings were primarily utilized for children’s education and increased personal savings, followed by household improvements, investments in agriculture, and livestock, reflecting a shift towards productive and welfare-enhancing uses.

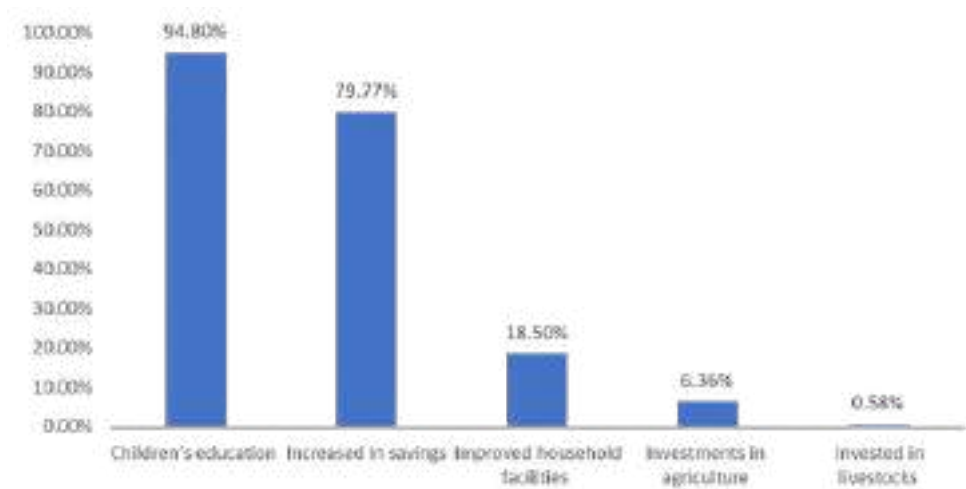


Figure 90: Respondents’ Perspective on the Economic Impact After Receiving Financial Support Through Convergence or Incentives

Respondents also stated that alongside financial gains, there has been widespread adoption of water-efficient practices, including drip irrigation, sprinklers, underground pipeline systems, and crop shifting.

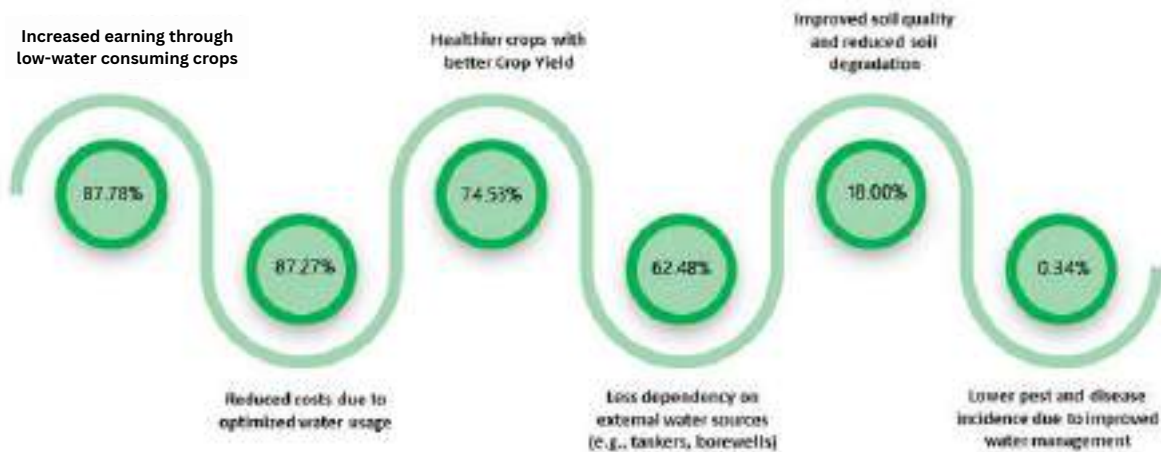


Figure 91: Benefits of Adopting Water-Efficient Practices as Observed by Respondents

The respondents observed increased earnings through low water-consuming crops (**87.78%**), reduced irrigation costs (**87.27%**), and improved crop yields (**74.53%**) as the top three benefits. This reflects strong financial gains and efficient use of water resources in the state.

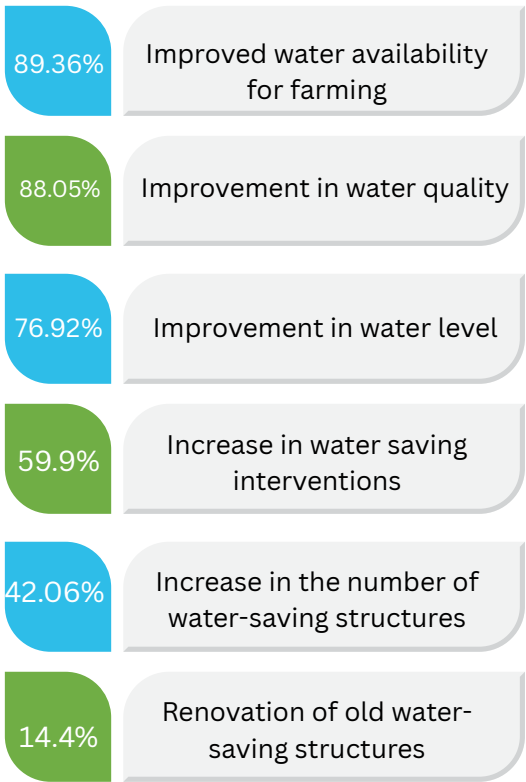


Figure 92: Changes Observed by Respondents Since the Implementation of the Scheme

Respondents observed tangible improvements: (**89.36%**) reported better water availability for farming, (**88.05%**) observed improved groundwater quality, and (**76.92%**) noted better groundwater level (Figure 92). Increased interventions and construction of supply structures emerged as major outcomes, along with the renovation of supply structures, reflecting progress in water conservation and infrastructure renewal.

Uttar Pradesh shows socio-economic improvements under the Atal Bhujal Yojana. The household savings, adoption of water-efficient techniques, and improvements in local water conditions demonstrate the scheme’s positive impact. However, the relatively lower accessibility to subsidies suggests a need to strengthen support mechanisms. Continued efforts towards inclusive outreach and sustained implementation is required across the state.

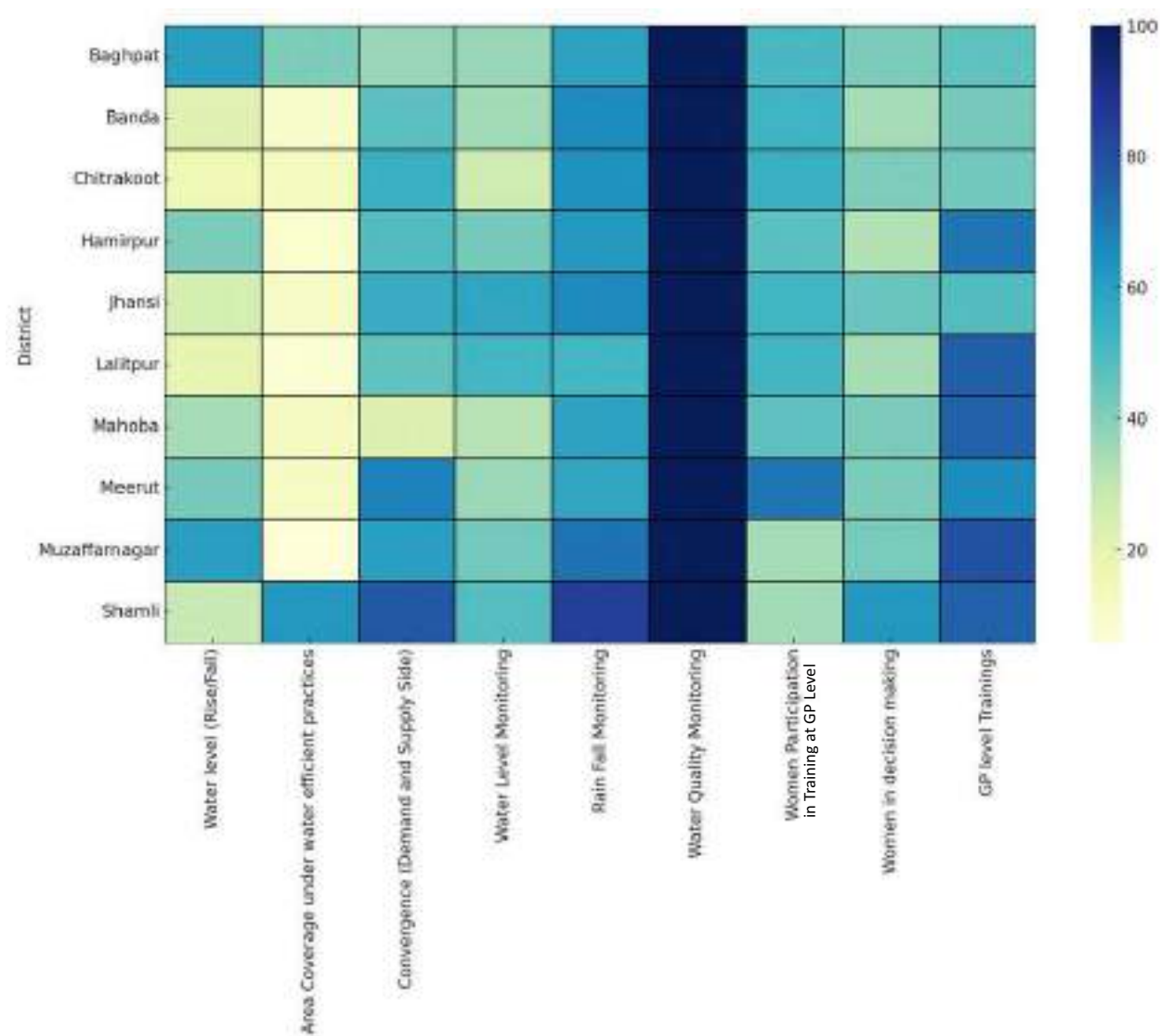


Performance Analysis of Uttar Pradesh

A. Scoring-Based Distribution of Gram Panchayats

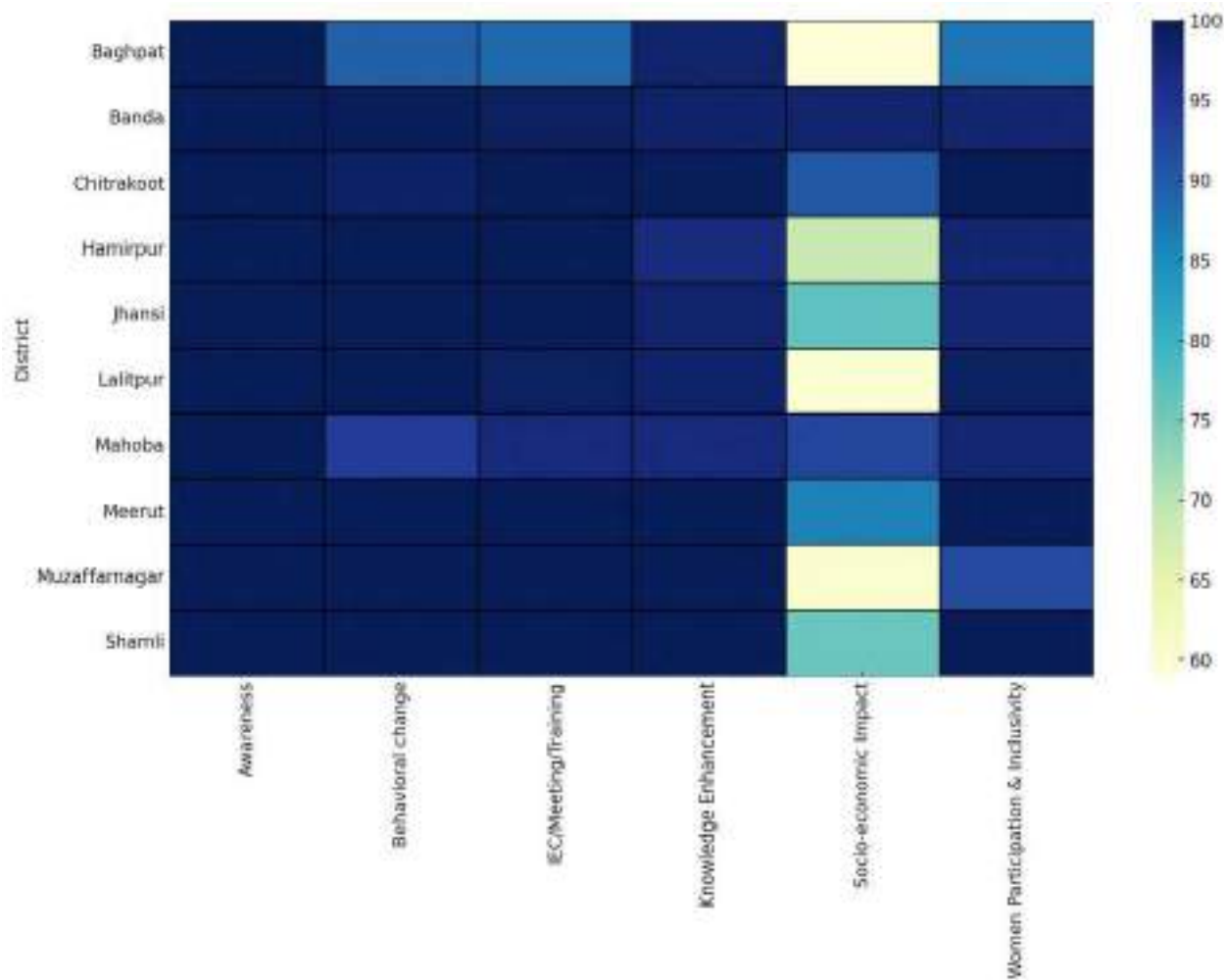
Scoring Categories	Low (21-40)	Medium (41-60)	High (61-80)	Very High (81-100)
Number of Gram Panchayats	0	0	162	27

B. Heat Map showing performance levels of Districts on the basis of Desktop Assessment





C. Heat Map showing performance levels of Districts on the basis of On-ground Assessment



District-level implementation under the Atal Bhujal Yojana reflected strong performance, with notable strengths in robust systems for water quality monitoring, and effective implementation of IEC activities that significantly enhanced awareness, knowledge, and positive behavioural change at the community level.

According to the performance scoring analysis, the majority of the assessed Gram Panchayats in the state fall under the high performance category, reflecting comprehensive and uniform progress under the scheme. However, despite this encouraging performance, further efforts are required to fully achieve the scheme’s long-term objectives.

Key areas for improvement include strengthening water level and rainfall monitoring systems, increasing training at the GP level, and expanding convergence for demand and supply-side interventions.

The state has made progress towards expanding area coverage under efficient water use practices. However, it has not yet fully met its incentive targets.



There remains considerable scope to broaden the reach of these practices by covering a larger proportion of the Net Irrigated Area. Focused efforts in these areas are expected to contribute significantly to the long-term objective of improving groundwater levels by promoting more efficient water use, informed decision-making, and inclusive community engagement.

Key Observations

- Uttar Pradesh displayed groundwater data through **QR codes** and Gram Panchayat water profiles to enhance local-level transparency in groundwater disclosure.
- Taking inspiration from the scheme, Hon’ble Chief Minister of UP had launched the scheme Uttar Pradesh Atal Bhujal Yojana (**UP Atal Jal**) in 2021.
- The state encouraged groundwater conservation by integrating zero tillage practices alongside common water-efficient methods.
- In Uttar Pradesh, **Jal Veer** and **Jal Saheli** have supported community-driven water conservation and strengthened local water governance frameworks.
- The state has established strong systems for effective water quality monitoring, ensuring timely detection of issues and informed decision-making for ground water management.
- However, water level and rainfall monitoring can be further strengthened to ensure accurate data collection and improved water resource planning.

Recommendations





Recommendations

The Impact Assessment under Atal Bhujal Yojana presents a comprehensive evaluation of the scheme’s implementation and outcomes. While the findings reflect meaningful progress toward achieving the objectives of scheme and a positive impact at the community level, they also indicate that reinforcing implementation mechanisms will be crucial to sustaining and amplifying the positive outcomes of the scheme in the long term. In light of these insights, the following recommendations are outlined to further strengthen the program’s reach, efficiency, and lasting impact.

- 1. Improving Capacity Building: From Quantity to Quality:** Implement a **state-specific, multi-tiered training model** tailored to different stakeholder groups. Training should **incorporate case studies, peer learning, and expert-led modules**. **Inter and Intra-State levels** knowledge sharing.
- 2. Advancing social inclusion and Leadership Development:** Prioritize the formation and long-term **strengthening of women-led and community-driven groups**, positioning them as custodians of water resource governance at the local level. Reinforcing implementation means not only including women in management bodies but also building their technical and leadership skills, thus tapping into a wider pool of community talent for long-term governance.
- 3. Data-Driven Adaptive Management:** Promote routine, data-driven review and adaptation of water budgets and security plans, ensuring responsive and resilient resource management. Use credible, regularly audited monitoring data to guide evidence-based decisions and adaptive resource allocation. QR code-enabled public dashboards, both physical and digital at GP offices. **Community-based monitoring** should be strengthened through targeted training of Community Resource Persons (CRPs).
- 4. Utilize Monitoring data for Adaptive Ground Water Management:** Implement **region-specific communication** and **nudge-based campaigns** to motivate action, and drive adoption, **expand training on micro-irrigation** and **crop diversification** at Gram Panchayat level to ensure greater participation of farmers. Facilitate continued access to subject matter experts for ongoing support, troubleshooting, and fostering local innovation.
- 5. Strategic Community-led Monitoring and Maintenance of Recharge Structures:** Community-led implementation mechanism to be established through **local user groups, SHGs, and village institutions** to ensure ownership and effectiveness. **Annual community scorecards**, and a **feedback mechanism**, must be institutionalized to monitor the functionality and impact of these recharge structures.
- 6. Recognizing Water-Sensitive Gram Panchayats:** To foster innovation at the grassroots level, a **“Water-Sensitive GP”** award system may be introduced. This award system can be implemented and promoted at the state level.



Impact Stories





Gujarat

From Scarcity to Sustainability

District: Kachchh
Gram Panchayat: Bhojay

Hemant Bhai, a 36-year-old farmer, had shared his farming journey with the QCI.



”

“Earlier, farming was challenging due to water scarcity and poor water quality. However, with improved water availability, and installation of drip irrigation under Atal Bhujal Yojana, my farming has become easier, and labour cost has reduced. Further, switching from castor to dragon fruit cultivation has improved my savings. More farmers in the community are now shifting to gardening practices, making agriculture more sustainable.”

Today, Hemant is not just a successful farmer; he is also leading the way for other farmers in his village to embrace sustainable farming practices, making agriculture more resilient for the future.



Roots Deepened, Harvests Strengthened

District: Banaskantha
Gram Panchayat: Dama

Meet Vasanthbhai Ishvarji Tang, a young farmer, sharing his inspiring success story.

”

“Earlier, I relied on traditional irrigation methods, which were inefficient and time-consuming. But after attending community meetings conducted under Atal Bhujal Yojana, I developed a clearer understanding and adopted better irrigation practices and water saving methods. As a result, water usage and labour costs have significantly dropped and crop yield has risen.”

Vasanthbhai, along with other farmers installed sprinkler system in fields, which led to even distribution of water, ultimately increasing the crop productivity. Overall, farming practices in Dama had evolved, and farmers are making more informed decisions about water use and conservation.



Haryana

Changing Mindsets, Conserving Water

District: Yamuna Nagar
Gram Panchayat: Rasoolpur
Story of Sheet Kumari, a 48-year-old farmer and a member of PGWMC (Participatory Groundwater Management Committee).



”

“Water wastage has been a problem for a long time and locals never took this topic seriously. However, after the introduction of the Atal Bhujal Yojana, locals became aware and began practicing water conservation consciously. As a result, water wastage has dropped. Also, Piezometer and Rain Gauge have been installed in nearby schools to measure the water level and rainfall.”
Overall, this scheme created a positive impact on everyone. Regular trainings and workshops by government officials had encouraged more people to adopt water efficient practices.



Empowered Women, Leading Local Change

District: Palwal
Gram Panchayat: Bhiduki

Radha, a young Jal Saheli Member learned about groundwater conservation and witnessed noticeable changes in her village after the implementation of Atal Bhujal Yojana.

”

“The implementation of the scheme has improved water availability for farming & strengthened groundwater management. The village has also benefitted by the construction of recharge structures like check dams and percolation ponds, along with the renovation of existing ones. Additionally, shift towards improved irrigation methods, including underground pipelines has reduced water wastage while enhancing overall efficiency.”
Overall, the scheme implementation has not only helped conserve water but also empowered women like Radha to actively participate in groundwater management.



Karnataka

Millet to Fruits, Prosperity Shoots

District: Hassan
Gram Panchayat: Bagivalu
Presented here is the story of Sahana B R, a 37-year-old woman engaged in farming.



”

"Earlier, I only practiced seasonal farming and had little knowledge about groundwater conservation. I relied on traditional irrigation methods and faced severe water shortage. Farming was limited to just a few months a year, with only millets and jowar being grown. I installed drip irrigation system in my fields and now, farming months have increased to almost 10 months, allowing the cultivation of vegetables and fruits in addition to grains. "

Sahana had not only transformed her farming practices also improved her livelihood. Her story highlights how adopting sustainable water management techniques can enhance agricultural productivity, ensuring a more secure and prosperous future for farmers in her community.



Reclaiming Land, Rebuilding Dreams

District: Kolar
Gram Panchayat: Madderi
Meet Gowthami, a 32-year-old member of a Self-Help Group.

”

“I inherited my father’s land, but it was rock-ridden and unsuitable for agriculture. Farming seemed impossible until I sought support from the Agriculture Department (Convergence of Atal Bhujal Yojana). With their guidance, I levelled my land and installed a drip irrigation system and constructed a farm pond. I am successfully practicing sustainable farming, turning my once-barren land into a productive agricultural field.”

Her dedication has transformed her life, making her a role model for others. Through her perseverance and the guidance she received, she has not only overcome significant challenges but also paved the way for others to follow in her footsteps.



Madhya Pradesh

Sustaining Water, Securing Futures: Rainwater Harvesting & Smart Irrigation

District: Chhatarpur
Gram Panchayat: Khajwa

Here we have Narayan Das Sen, a 47-year-old farmer.



”

“Before the Atal Bhujal Yojana, irrigation was a major challenge. Now, many farmers and I have installed underground pipelines, which provide a smooth and direct water supply to our fields, eliminating the need for long hours of manual irrigation. Moreover, after gaining knowledge from the meetings under Atal Bhujal Yojana, I began collecting rainwater in large tanks, which I now use through a tap system.”

With improved infrastructure like underground pipelines and rainwater storage systems, farmers are now able to manage water more efficiently, reduce manual effort, and focus on enhancing productivity. This shift not only supports better crop yields but also fosters long-term water conservation in the community.



Harvest Rain, Sustain Tomorrow!

District: Sagar
Gram Panchayat: Parsoriya

Meet Mani Kotbar, a 40-year-old beneficiary and farmer. Farming in his village had always relied on traditional methods that required a lot of water, time, and effort.

”

“I came across the Atal Bhujal Yojana through pamphlets, posters, TV, and radio. The scheme introduced me to modern irrigation techniques like sprinkler and drip irrigation. Curious about their benefits, I decided to try them on my farm. Over time, I noticed an improvement in my crop yield and soil health. I also learnt about rainwater harvesting, a simple yet effective way to conserve water and improve groundwater levels. By collecting and storing rainwater, I was able to secure a more reliable water source for my crops, even during dry periods.”

Seeing his positive results, many farmers in his village began adopting similar practices, gradually bringing a shift towards more efficient water use in the community. From transitioning from traditional methods to modern technologies, Mani has adopted improved water management solutions.



Maharashtra

From Dry Wells to Flowing Fields: A Village Turns the Tide

District: Satara
Gram Panchayat: Man
Presenting the success story of Sanjay Tanaji Madane, a resident of Bidal village.



”

“Before Atal Bhujal Yojana came to our village Bidal, the water situation was very bad. Every year, the water level dropped by nearly 15%. We had to depend on tankers even for drinking water. After ABY started, regular meetings were held in the village. We came together as a community and began taking action. One of the major steps was the construction of recharge shafts. Gradually, things started to improve. Earlier, in summer, water in the wells would drop to just 2 feet. Now it’s around 17 to 18 feet. Tankers are no longer needed, and even the dry wells have started filling up again. Most farmers here now use drip irrigation—we are saving water and getting better crops too.”



Building Sustainability with Conservation & Collaboration

District: Pune
Gram Panchayat: Moregaon
Highlighting the story of Manisha Sachin Nese, a 32- year-old farmer and a member of WUA (Water User's Association). She is also a Bhujal Mitra.

”

“Moregaon has always struggled with drought. However, after the implementation of the Atal Bhujal Yojana, the village began to transform. I was involved in spreading awareness about the scheme among villagers with special emphasis given on women’s participation. Recharge structures such as 3 check dams, 23 recharge shafts, Kolhapuri-style bunds and recharge pits were constructed to improve groundwater levels across the village. Additionally, kitchen gardens, drip irrigation, and sprinkler systems were introduced to demonstrate water conservation methods. Furthermore, various programs were organized in schools, including speech competitions, drawing contests, and awareness campaigns. Village walls were painted with messages promoting water conservation, and group farming was promoted under this initiative. All these efforts have contributed to water retention and sustainability across the gram panchayat.”



Rajasthan

Water Saved, Village Revived! Atal Bhujal Yojana Brought Our Home Back to Life

District: Jaipur

Gram Panchayat: Bilochi

The following is the success story of Babul Meena a 38-year-old farmer.



”

“In my village the groundwater began to decline due to over-extraction, leading to further decreasing water levels. Many people, who depended on agriculture, left the village in search of better opportunities. With no water left for farming, the village slowly became deserted. Then, the Atal Bhujal Yojana was introduced in the village. Some individuals took the initiative to implement water conservation measures, including construction of farm ponds and check dams. Inspired by their efforts, others also began adopting water conservation techniques. This included construction of Bandhs and Tankas, ensuring rainwater harvesting. Also, recharge pits were dug, allowing water to seep into the ground and replenish wells. With these efforts, the village began to heal. Groundwater levels were restored, and water storage improved. This allowed farming activities to resume, and agriculture flourished once again. As a result, many villagers who had migrated earlier started returning. Now, the villagers have started advocating for better water management. These initiatives of villagers transformed the village, proving that with proper water management, people who once had to leave their homes due to water scarcity can return and rebuild their lives.



From Struggle to Sustainability: Doubling Yields Through Modern Irrigation

District: Ajmer

Gram Panchayat: Babayacha

This is the journey of Mahfooj, a 27-year-old farmer.

”

“Before Atal Bhujal Yojana, irrigation was one of my biggest challenges. With no proper system in place, I struggled to irrigate even 5 bighas of land. The traditional methods I relied on were time-consuming and inefficient, and often led to uneven irrigation, affecting crop productivity. Everything changed with the introduction of Underground Pipelines (UGPL). Now, I can effortlessly irrigate 10 bighas of land, doubling my cultivation area and significantly improving my crop output. These pipelines ensure a smooth and direct water supply to my fields, eliminating the need for long hours of manual irrigation. Not only has this reduced water wastage, but it has also saved me time, labor, and costs. Today, I can manage irrigation effortlessly, ensuring that every part of my field receives adequate water without any hassle.” As a whole, the introduction of UGPL across the village had not only transformed Mahfooj’s approach but had inspired many others to adopt better water management practices.



Uttar Pradesh

Turning Drops into Harvests

District: Chitrakoot
Gram Panchayat: Lauri

Sharing the story of Mukesh Kumar a 32-years old farmer.



”

“Before the Atal Bhujal Yojana, I relied on flash flooding for irrigation, which was inefficient and led to excessive water wastage. As a result, sustaining my crops for long periods was challenging. However, with the adoption of drip irrigation, I can now use water more efficiently, ensuring that my crops receive adequate moisture while significantly reducing wastage. Additionally, recharge structures such as check dams and farm ponds have been constructed to recharge groundwater and maintain a steady water supply. These improvements have significantly reduced labour requirements, saving both time and resources.”
With the introduction of the scheme, there had been significant improvements in water quality and availability, making agriculture more sustainable.



Women Leading the Way: Conserving water, empowering communities

District: Muzaffarnagar
Gram Panchayat: Sara

Presenting the success story of Minakshi, a 32-year-old housemaker:

”

“Earlier, I wasn’t aware of how much water could be saved and reused in daily activities. My approach to water use was traditional, and I often struggled with shortages. However, I have now installed a rainwater harvesting system to store rainwater for various uses. I also save water by reusing kitchen water for watering plants, using laundry water for cleaning floors, and opting for buckets and showers instead of hoses for cleaning vehicles.

Beyond my own home, I actively share this knowledge with other women in my community, guiding them on how they can also save water in their households. Empowering other women has been the most fulfilling part of this journey. Many have joined me in saving water, and some have become Jal Saheli, spreading the message of conservation.”

Through her participation in the program, Minakshi has not only improved her family’s water usage practices but has also become a driving force for change in her community, inspiring others to take ownership of water conservation and make it a part of their daily lives.



Field Highlights





Field Highlights



Conducting FGDs at the GP level in Gujarat



Attendance sheet of GP-level meetings in Gujarat



Wall painting used as visual aids in Haryana



Water-level monitoring device installed in Haryana



IEC materials provided in Karnataka



Water testing Kit in Karnataka



FGD held with female participants in Madhya Pradesh



Piezometer installed in Madhya Pradesh



Field Highlights



Conducting FGDs at the GP level in Maharashtra



Newspaper Clippings Showcasing ABY Impact in Maharashtra



Women Participation during FGD in Rajasthan



Wall painting used as visual aids in Rajasthan



Attendance register maintained during meetings in Uttar Pradesh



QR code linking to detailed water profile insights for Uttar Pradesh

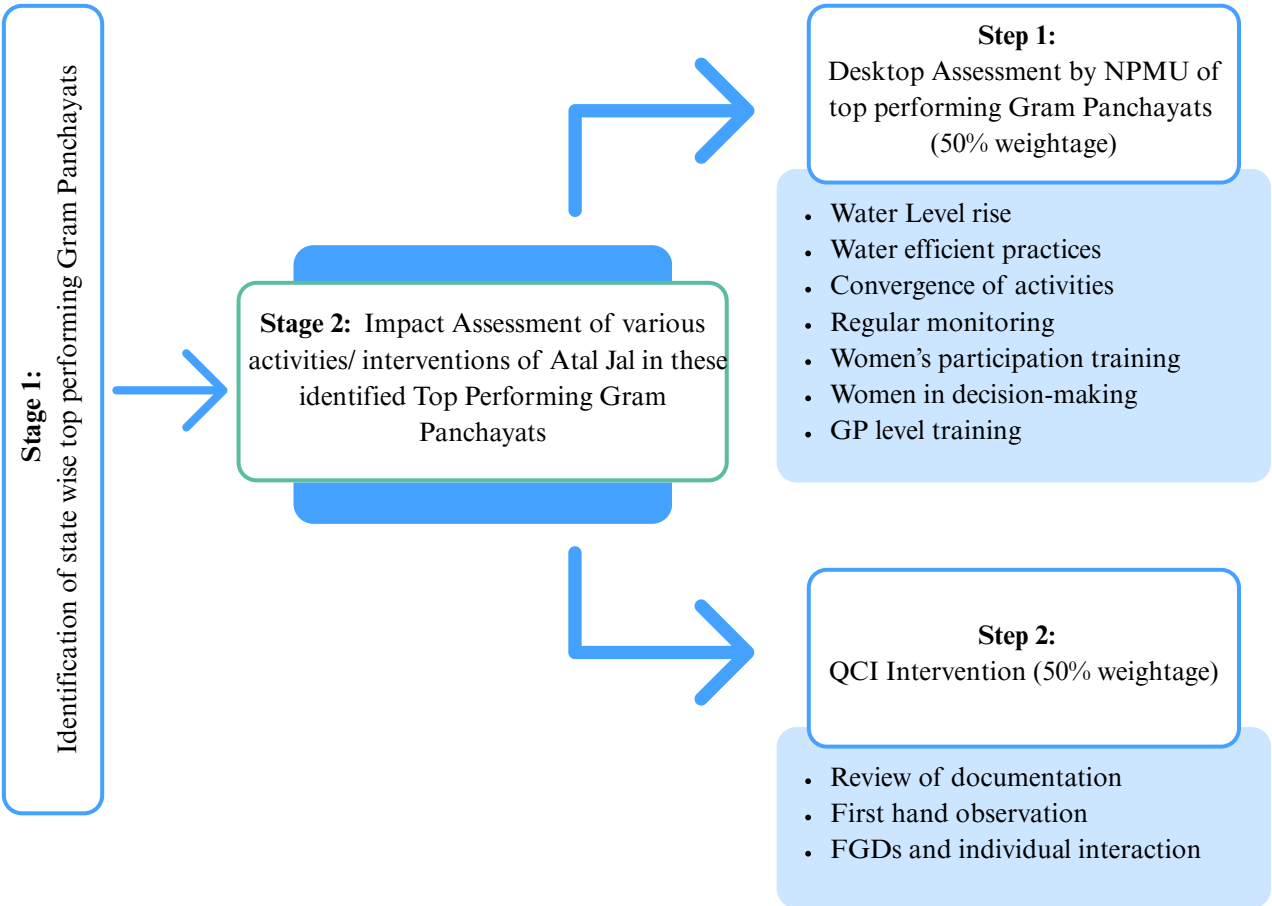


Annexure



Protocols

The Atal Bhujal Yojana aimed to demonstrate community-led, sustainable groundwater management. As the Scheme entered its fourth year, a decision was taken in the 5th NLSC meeting to carry out an Impact Assessment study in the top-performing Gram Panchayats to understand the performance of the Scheme at the GP level. This Impact Assessment required a multi-faceted approach, involving detailed data collection, community involvement, and continuous monitoring. The success of the program largely depended on the active participation of local communities, effective governance, and the implementation of sustainable groundwater management practices. Looking into the various aspects, it has been decided to undertake the Impact Assessment exercise in two stages, which shall be discussed in further chapters.



Stage 1

Identification of state-wise top-performing Gram Panchayats

A comprehensive criterion was prepared at the level of the team, constituting the officers and experts from the NPMU and experts from the World Bank, and shared with states. As per the laid down procedure, a total 2835 number of GPs were identified by the states and shared with the NPMU. The identification of the top-performing Gram Panchayats was selected based on the following steps and criteria.



1. Adoption of efficient water use practices

The first step incorporated the area coverage of all the demand-side activities undertaken in the Gram Panchayat that focused on a reduction in water use. Adoption of efficient water use practices was mainly assessed under DLI#4 based on the claim under efficient irrigation (viz., micro irrigation, Irrigation through Pipeline), crop shifting (area with a shift from high to low water consuming crops), and other water saving agricultural methods (viz., Polyhouse /net house, DSR, mulching, Hydrogel, Superseeder /zero tillage). Based on the claimed area under this DLI, a state-wise cut-off was arrived at considering that top-performing GPs had claimed the area above the required cut-off.

2. Implementation of Demand & Supply side activities through convergence

The second step highlighted the quantum of investment done in the groundwater sector through the convergence of various ongoing schemes as planned in the Water Security Plans. This helped to align the implementation of various programs and improve the effectiveness of financing on groundwater by moving to more coordinated investment in sustainable groundwater management. The convergence expenditure incurred for the implementation of demand & supply side activities, as proposed in the Water security plan of a GP as captured in DLI#3, was considered.

Based on the convergence claimed expenditure under the DLI#3, state-wise demand side and supply side cut-off amount (INR lakh) was arrived considering that top performing of GPs had claimed amount above the required cut-off.

3. Improvement/Arrest in the decline of Ground Water Level

This step was linked with the program’s ultimate aim to stabilize or reverse the decline of groundwater level. If any GPs showed improvement in water level in the current year (December 2023) with respect to the baseline (2019-2022) as per assessment under DLI#5 but were not covered in the previous steps (1&2), then that GP was automatically added as top-performing GPs for the assessment.

Additionally, while finalizing the list of top-performing GPs, adequate emphasis was also given to the key activities such as Training and IEC, regular monitoring, and data disclosure.

Stage 2

Impact assessment of various activities/interventions of Atal Jal in the identified top-performing GPs

The NPMU identified parameters based on which the impact of the scheme in the selected gram panchayats was evaluated. This Impact Assessment study considered various tangible and intangible outcomes and impacts of various initiatives under the scheme at the GP level.

One part of the Impact Assessment study was based on the tangible outcomes of various activities of the scheme, which carried a weightage of 50%. This part of the assessment included the Desktop Assessment of the GPs by NPMU.

The other part, with a weightage of 50%, included evaluation of the awareness generated, behavioural changes, knowledge enhancement of the community for taking informed decisions leading to sustainable management of Ground Water. The second part of the assessment was carried out by QCI through Focus Group Discussion at the Gram Panchayat level.



Step 1: Desktop Assessment

After the selection of top-performing GPs, the NPMU analysed the impact of the scheme in the selected GPs by analysing the scheme outcomes till 31st December 2024 through desktop assessment. Looking into the diverse outcomes and impact, the NPMU identified 7 parameters to assess the impact of the activities carried out at the level of GP since the inception of the project, as follows:

Water level rise in a GP (weightage 6.25)

The water level rise in a GP in the year 2023 and 2024 with respect to the baseline (average groundwater level from 2015 -2022/2023) was considered under this parameter. If a GP showed a rise in water level, then a full score of 6.25 was assigned, and if the GP showed a decline in water level, the GP did not get any score (0). In case a GP is not considered for DLI#5 assessment for December 2024 due to non-availability of sufficient water level data, then also the GP did not get any score (0).

Cumulative area coverage under water efficient practices¹ (weightage 9.375)

The cumulative area coverage in a GP under the scheme till 30th September 2024 through the adoption of water- efficient water use practices was assessed with respect to the net irrigated area of each GP. The net irrigated area was verified by an Independent Verification Agency during DLI#4 baseline finalization which was considered for the assessment.

Hence, the Score of a GP = {Cumulative area coverage in the GP / Net irrigated area of the GP} x Weightage assigned (9.375).

A GP received 9.375 marks if the area coverage was equal to or more than the net irrigated area of GP. (The cumulative area coverage under various indicators of DLI#4, which contributed to water saving in the agriculture sector, was considered an achievement, hence, the achievement could go beyond the net irrigated area of GP).

Cumulative convergence done for demand & supply side (weightage 9.375)

The cumulative investment done in a GP for implementation of demand & supply side activities through convergence of various schemes till 30th September 2024 was assessed with respect to the convergence target of each GP under this parameter. The convergence target of a GP was estimated by multiplying the geographical area of the GP with per hectare convergence target of the state under DLI#3.

Hence, Score of a GP = {Cumulative convergence in the GP / Convergence target of the GP} x Weightage assigned (9.375).



Convergence target of the GP = Geographical area of GP x Per hectare convergence target of the State.

Per hectare convergence target of the State = Total DLI#3 target of State/ Total Geographical area of Atal Jal GPs in the State.

A GP will get 9.375 marks if the area coverage is equal to or more than the target area of GP.

Regular monitoring² of ground water level, quality & rainfall (weightage 9.375)

GPs were scored based on the data of continuous monitoring of ground water level by sounder, ground water quality by Lab testing, and rainfall by rain gauge stations installed at every Atal Jal GPs. Continuity of monitoring was considered from April 2022 in the case of Water Level and Quality; however, in the case of the rain gauge, the starting date was the actual date of registration of the rain gauge in the Mobile App.

Score of a GP = {(No. of data points captured for Water Level monitoring /Total number of data points to be captured for Water Level monitoring) *3.125} + {(No. of data points captured for Water Quality monitoring /Total number of data points to be captured for Water Quality monitoring) *3.125} + {(No. of data points captured for Rainfall monitoring /Total number of data points to be captured for Rainfall monitoring) *3.125}

Number of data points captured = Total number of data entries captured for the particular parameter since April, 2022 at set frequency² for Water Level and Quality, however in case of rain gauge the starting date was actual date of registration of rain gauge in the Mobile App.

Total number of data points = Actual number of data entries for the particular parameter since April 2022 at the set frequency.

{Example- In a GP from 01.04.2022 to 30.11.2024, a monitoring well for Water level should have 8 total numbers of data points (quarterly monitoring), for water quality the data points should be 2(yearly once during pre-monsoon), for rainfall the number of data points should be 731 (daily once).

However, in this duration, if the water level monitoring well was monitored only 6 times, water quality monitored once, and rainfall data monitored for 600 days, then the score will be : (6/8)*3.125 + (1/2)*3.125 + (600/731)*3.125= 6.47}.

If a GP had more than one monitoring well, then the score of a GP was the average of the scores of all the identified wells in that GP. Accordingly, the scores for all the parameters were calculated to arrive at a final score of the GP.



Percentage of women participants in training (weightage 6.25)

The percentage of the total number of women participants at GP level trainings till 30th November 2024 was assessed under this parameter for each GP. If the percentage of women participants was more than 33%³, then a full score of 6.25 was given to GPs. If the percentage was below 33%, then the scoring was done as given below:

Score of a GP: $(\% \text{ of women participants in training} / 33^3) \times \text{Weightage assigned (6.25)}$

Percentage of women in decision-making (weightage 3.125)

The percentage of women in VWSC/PGWMC committees in a GP in the year 2023-24 was considered under this parameter. If the percentage of women members was greater than or equal to 33%, then the GP was given full weightage. In case it is less than 33%³, then the scoring was done as given below:

Score of the GP = $(\% \text{ of number women member} / 33) \times \text{Weightage assigned (3.125)}$

Cumulative number of GP Level Trainings (weightage 6.25)

The total number of GP level trainings held till November 2024 in a particular GP against the total cumulative target per GP was analysed and multiplied by the weightage of this parameter (6.25) to derive the score under this parameter.

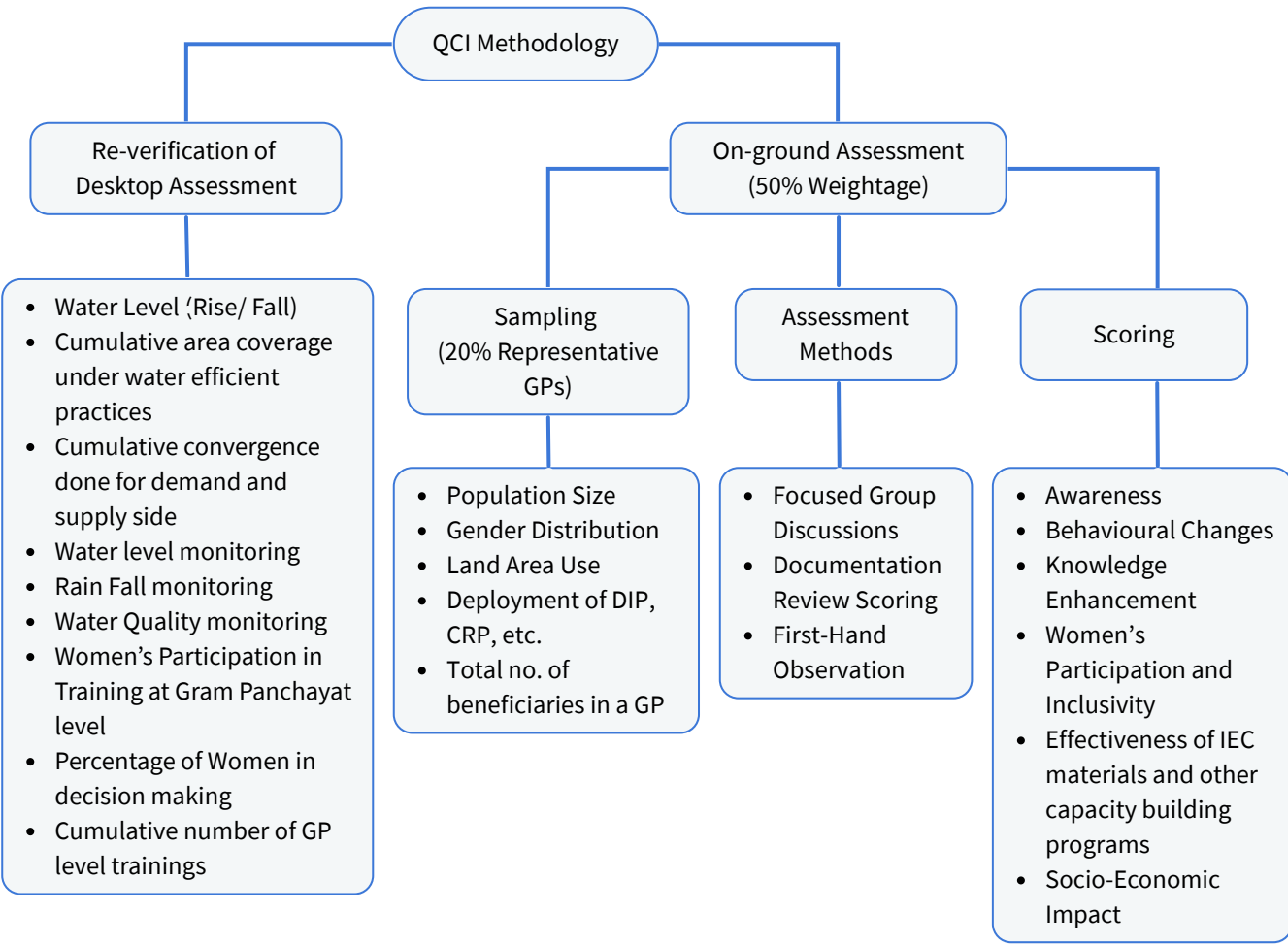
Score of the GP = $(\text{Total number of training held till date} / \text{Total target of training}) \times \text{Weightage assigned (6.25)}$

1. Water Efficient practices indicates adoption of water saving irrigation practices like drip, sprinkler & pipeline irrigation, shifting from high to low water consuming crops, agricultural techniques like Direct Seeded Rice (DSR), mulching, polyhouse/greenhouse/shadenet, vermicomposting, low tunnel, super seeder/zero tillage, silage etc which reduces the water demand.
2. Quarterly monitoring for Water level, daily for Rainfall and at least once in a year for Water Quality lab testing.
3. As per Program Guidelines 33% participation of women in water budgeting and water security planning exercises is mandatory members in the GP-level WUAs.



Step 2. QCI Methodology

In this step, QCI conducted the assessment in the following ways:



Re-verification of Desktop Assessment

The Quality Council of India (QCI) conducted a re-verification of the desktop assessment of the top-performing Gram Panchayats (GPs) that had been preliminarily evaluated by the National Program Management Unit (NPMU). This re-verification process was undertaken to ensure the accuracy and reliability of the initial assessment.

To facilitate a smooth and comprehensive re-verification of desktop assessment, all relevant supporting data available on the Management Information System (MIS) was accessed. This included Gram Panchayat demographic details, rainfall data, Water Level monitoring data, Water Quality Monitoring data, and records related to Gram Panchayat-level training programs.

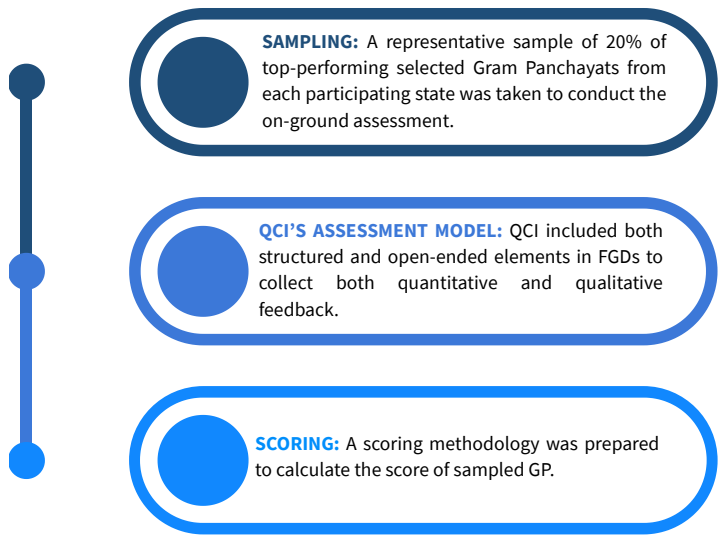
Additionally, data-sets of previous Independent Verification Agency's verification rounds of scheme, such as data on convergence, area coverage details, and Gram Panchayats demonstrating a rising trend in water level for the years 2023 and 2024, were thoroughly examined. The Independent Verification Agency utilized this information to systematically cross-check and validate the findings of the desktop assessment.



This re-verification process ensured that the evaluations were transparent, data-driven, and aligned with the program's objectives, thereby strengthening the credibility of the assessment outcomes.

On-Ground Assessment

QCI conducted the on-ground assessment on selected 20% of Gram Panchayats (GPs) from each block, focusing on top-performing GPs in each state. The assessment was conducted through Focus Group Discussion (FGD) to gather qualitative and quantitative data on the impact of the scheme. It was guided by a detailed questionnaire defining specific Key Performance Indicators (KPIs) aligned with the objectives of the program. A scoring methodology was prepared to calculate the score of the sampled GP.



2.1 Sampling

In consultation with the Ministry, the following sampling methodology was developed. The Quality Council of India (QCI) selected 20% of Gram Panchayats (GPs) from each block, focusing on top-performing GPs in each state. These selected GPs represented clusters formed within each block.

Step A: Submission of Top-performing Gram Panchayats and Key Parameters for Sampling:

In this step of the sampling process, NPMU submitted desktop analysis data for the top-performing Atal Jal Gram Panchayats (GPs) across seven states. Along with this, NPMU provided key parameters for these GPs, as mentioned below:

- **Population Size:** The total population of the GP.
- **Gender Distribution:** The male-to-female ratio in the GP.
- **Land Area Use:** The extent of cultivated vs non-cultivated land.
- **Deployment of DIP, CRP, etc.:** Number of District Implementation Partners (DIPs), Community Resource Persons (CRPs), and other personnel deployed under the scheme.
- **Total Number of Beneficiaries:** The total count of beneficiaries in the GP.
- **Source of Water Used for Irrigation:** Types of water sources (groundwater vs surface water) used for irrigation in the GP.

These parameters offered a comprehensive understanding of each GP’s functioning, and the data, collected from all GPs across various blocks within each state, formed the foundation for the sampling procedure.

Step B: Block-wise Normalization: Normalisation was a key step in standardizing data across different blocks, eliminating scale and unit variations that could affect the sampling process. Min-max normalization was applied to each parameter (e.g., population size, gender distribution) of top-performing GPs within a block, converting values to a standardized scale between 0 and 1. This ensured equal weighting for all parameters and made comparison across GPs easier.

Step C: Formation of Block-wise Clustering: This step involved clustering GPs based on their normalized scores to ensure a representative sample across performance levels within each block. A 20% sample from each block was used to determine the number of clusters, with GPs evenly distributed for spatial representation.

Step D: Sample Selection from Cluster: The sampled Gram Panchayat that represented the entire cluster was identified using the minimum deviation method based on the average scores of all Gram Panchayats within the cluster. This ensured that the selected sample closely reflected the overall characteristics of the cluster.

Additionally, QCI conducted on-ground assessments in the top-performing sampled GP from each state, based on the highest DA score, to ensure a broad spectrum of performance levels.

2.2 QCI’s Assessment Model

To evaluate the impact of the Atal Bhujal Yojana, QCI followed a two-step hybrid assessment model, combining both quantitative and qualitative approaches. The process began by engaging with the citizens of sampled gram panchayats associated with the scheme. Small groups of two to five participants were formed to foster open dialogue, minimize the dominance of any single individual, and ensure that the discussions reflected the concerns of all demographic segments. These small groups participated in a structured FGD format, where they collectively discussed their experiences, challenges, and perceived outcomes of the scheme. Simultaneously, individual inputs were captured to preserve personal viewpoints and gather in-depth knowledge on socio-economic parameters.

The on-ground assessment combined both structured and open-ended elements. Quantitative data was collected through scoring questions during the focus group discussions (FGDs), providing measurable insights into the scheme's tangible outcomes. Qualitative feedback was collected through open-ended questions, along with documentation of scheme outcomes and success stories to gain insights into the community's perceptions, challenges and broader impact of the scheme on their lives.

This approach provided a comprehensive understanding by merging both collective observations and individual insights to deliver a multi-dimensional evaluation of the scheme’s reach and effectiveness.



KPIs Assessed: The assessment was guided by a detailed questionnaire that outlined specific Key Performance Indicators (KPIs) aligned with the objectives of the program. These KPIs included, but were not limited to, community perception, behavioural changes, and knowledge enhancement brought about by the scheme. The questionnaire also focused on assessing the impact of water-efficient practices adopted under the Atal Bhujal Yojana, identifying areas for improvement, and evaluating the effectiveness of the capacity-building programs and trainings conducted under the scheme. Additionally, it explored the socio-economic impact, gender sensitivity, awareness among respondents, and improvements in groundwater levels.

Participants involved: QCI gathered valuable feedback from a diverse cross-section of the community, which included participants from various age groups, castes, occupation levels, and other socioeconomic backgrounds, allowing all participants, especially women and marginalized groups, to voice their concerns and opinions. During the FGDs, QCI interacted with the following participants:

- Members of the Village Water and Sanitation Committee (VWSC) or Panchayat Groundwater Management Committee (PGWMC)
- Members of Jal Saheli or any other groundwater-related group
- Members of NGOs who work in line with the scheme's objectives
- Community leaders, Self-Help Group (SHG) members, and Asha/Anganwadi workers.
- Community Resource Persons (CRPs)
- Beneficiaries
- Any other citizen of the respective gram panchayat associated with the scheme

2.3 Scoring Methodology

Following the above assessment model, a structured scoring analysis was done:

Step A: Identification of Key Performance Indicators (KPIs)

- The Key Performance Indicators (KPIs) were identified for the on-ground assessment, such as: Awareness, Behavioural Changes, Knowledge enhancement brought by the scheme, Effectiveness of the IEC activities, meetings and trainings, Socio-economic impact, Women’s Participation & Inclusivity
- A total score was assigned to each KPI to direct the assessment process.

Step B: Breakdown KPIs into Questions

- Specific questions were formulated under each KPI to measure its performance.
- The overall score for each KPI was then distributed among its individual questions, with the score distribution being proportional to the relative importance of each question.

Step C: Scoring of Individual Responses

- A predefined scoring scale was applied to assess each respondent's answers to the questions under the identified KPIs. Each individual respondent in the Gram Panchayat was scored on a total of 19 questions under these KPIs. The scores for each respondent were then summed up across all questions in all KPIs, ensuring that the total score was normalized to 50 to align with the on-ground assessment weightage.



Step D: Calculation of Score for Each Sampled GP in Each Cluster

- In order to calculate the score of sampled GP, the individual scores from all respondents within the GP were added together. By including all individual scores, the average score reflected the collective performance (Both Yes and No responses) rather than being biased by extremes. This method ensured a balanced evaluation by accounting feedback for both impact and no impact responses.
- The final score for the GP was calculated by dividing the total of all individual scores by the number of respondents in the GP.

Formula: Score of Sampled GP =
$$\frac{\text{Sum of respondents' scores in GP}}{\text{Number of respondents in GP}}$$

The on-ground assessment score of the sampled Gram Panchayat was considered representative and applied to all other Gram Panchayats within the respective cluster to compute the final score. Following this, all 2835 top-performing gram panchayats were scored out of 100, desktop assessment had a weightage of 50, and on-ground assessment had a weightage of 50.

Afterwards, GPs were categorised in 4 scoring ranges as per their performance:

- 21-40 – Low-Performing Gram Panchayats
- 41-60 – Medium-Performing Gram Panchayats
- 61-80 – High-Performing Gram Panchayats
- 81-100 -Very High-Performing Gram Panchayats

