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Impact assessment of Jal Sanchayan project

Dharuhera, Haryana

United Breweries Limited

December 2024

Contents

Abbreviations

ABGUS	Akhil Bhartiya Gramin Uthan Samiti
CGWB	Central Ground Water Board
CSR	Corporate Social Responsibility
FGD	Focus Group Discussion
GTBLLP	Grant Thornton Bharat LLP
KOF	Key Opinion Former
KL	Kilo Litre
NGO	Non-Governmental Organisation
OECD-DAC	Organisation for Economic Cooperation and Development-Development Assistance Committee
PRI	Panchayat Raj Institutes
UBL	United Breweries Limited
VWBA	Volumetric Water Benefits Accounting

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Executive summary

The water conservation project in Dharuhera, Haryana, was undertaken with the aim of improving groundwater recharge across four villages by rejuvenating five ponds. These ponds were intended to capture and retain rainwater, allowing for gradual percolation into the groundwater system, thereby stabilising water tables over time. Given that India is among the most water-stressed countries globally, with Haryana facing acute groundwater depletion due to intensive agriculture and high water needs as per national and state-level priorities for sustainable water management[1].

The project was driven by the understanding that improved water availability has a direct impact on agricultural outputs, which can enhance the livelihoods of farmers, who form the primary beneficiary group. Effective water conservation is crucial in agricultural regions like Haryana, where over-extraction of groundwater for irrigation has led to a steady decline in water tables, with the Central Ground Water Board (CGWB) classifying many parts of the state as "over-exploited[2]".

Key findings

Table 1- Key findings

Principles	Key Findings
Relevance	The pond rejuvenation project in Dharuhera aims to address critical groundwater depletion and water scarcity issues, impacting drinking, agriculture, and industry needs. Prior to intervention, 62% of locals identified water scarcity as a major concern, affecting agriculture, livestock, and daily life. By capturing rainwater, it mitigates flood risks and land degradation, thereby safeguarding agricultural productivity and local infrastructure. **Given the pond's prior role in supporting irrigation and livestock, this project provides a sustainable solution for long-term water management.**
Effectiveness	The Dharuhera pond rejuvenation project effectively addresses water scarcity and boosts groundwater recharge by constructing high-capacity ponds, capturing runoff, and reducing land degradation. Community involvement is central, with 64% of locals using ponds primarily for livestock and irrigation. **Information on water management is shared through community meetings, with Panchayati Raj Institutions (PRI) and Village Development Committees (VDCs) – voluntary groups of 10-12 members – promoting water conservation practices.**
Efficiency	The Dharuhera pond rejuvenation project exemplifies efficient, sustainable water conservation by actively involving gram panchayats, fostering community ownership, and leveraging local expertise to minimise costs. Thoughtfully placed ponds optimise water capture, supporting groundwater recharge without extensive infrastructure. By utilising natural topography, the project reduces construction and maintenance expenses, enhancing financial viability. **This community-driven approach serves as a replicable model, demonstrating how decentralised, cost-effective water management can promote long-term water security and resilience in similar regions.**
Impact	The pond rejuvenation project in Dharuhera has significantly impacted water management and agricultural resilience, with 68% of respondents reporting benefits. Increased irrigation water supply was noted by 69% of respondents, improving soil moisture (20%) and groundwater recharge (6%). This has enabled farmers to expand cultivated areas, grow multiple crops annually, and enhance crop yields, bolstering food security and income. **Community awareness sessions engaged 62% of participants, strengthening**

[1] Groundwater depletion in Haryana a cause of serious concern
[2] 2022-10-11-Blockwise Mastersheet-GWRA2022.xlsx

	water management knowledge. Occupational benefits are felt by 48% of respondents, particularly among farmers and livestock owners.
Sustainability	The pond rejuvenation initiative promotes sustainable development by enhancing groundwater recharge, reducing water stress, and preventing land degradation. **Active community involvement, through groups like VDCs, builds ownership and extends pond's lifespan, creating resilient water resources that support food security, economic stability, and climate change adaptation.**

KAP Analysis

The pond rejuvenation project has significantly increased the community's understanding of water conservation and management through awareness sessions and educational initiatives, equipping them with essential knowledge about sustainable practices like groundwater recharge and water budgeting. This has fostered a positive shift in attitudes, instilling a sense of responsibility and appreciation for water resources, and encouraging greater community involvement. KAP surveys reveal substantial positive impacts on practices and perceptions, highlighting the project's effectiveness in promoting sustainable water management and ensuring long-term water security for farmers and villages.

KOF Perception

The survey data indicates a highly successful water conservation project, with **87% of respondents aware of its objectives and 99% understanding the importance of water conservation. 81% respondents believe the interventions have benefited their community, with 93% agreeing it has increased groundwater levels.** Community involvement is high, with **82% satisfied with participation and 80% feeling well-represented.** Additionally, **93% believe the project has increased water access, and 75% see a positive environmental impact.**

Volumetric Water Benefit Accounting (VWBA)

The estimated recharge potential for rejuvenated ponds in Dharuhera, as per VWBA in 2024, is 333,767 KL per annum. Maintaining the recharge capacity of these ponds may require periodic desilting.

Conclusion

In conclusion, the water conservation project in Dharuhera, Haryana, has laid a strong foundation for sustainable water management through the rejuvenation of five ponds. While the immediate impact on groundwater levels may be gradual, the project's success in raising community awareness and fostering positive attitudes towards water conservation is evident. Continued community engagement, regular maintenance, and alignment with local conditions are crucial for long-term success. Collaboration with stakeholders and ongoing evaluation will further enhance the project's impact, ensuring it supports agricultural productivity and improves community livelihoods.

1. Background

1.1. About United Breweries Limited

United Breweries Limited (UBL), established in 1915, stands as one of the largest social beverage companies in India, offering both alcoholic and non-alcoholic products. The company is dedicated to serving the interests of all its stakeholders, including the communities surrounding its operations.

As part of its Corporate Social Responsibility (CSR) policy, UBL is committed to operating and growing its business in a socially responsible manner. This involves balancing commercial and economic progress with social and environmental development. The company's CSR policy focuses on four key areas: environment, women empowerment, community development, and address harmful use.

Figure 1-UBL's CSR thematic area

By integrating CSR into its corporate strategy, UBL aims to drive sustainable social development for its co-communities ensuring a positive and lasting impact. A significant emphasis is placed on water conservation initiatives across India, with ~70% of its CSR investments directed towards this domain.

1.2. About Jal Sanchayan Project

Haryana, a key agricultural state in India, is grappling with a severe groundwater crisis due to excessive extraction for irrigation. The widespread use of tubewells, once a boon during the Green Revolution, has now led to significant socio-economic and environmental challenges[3]. In India, most households in rural regions depend on

[3] https://yra.ijaar.co.in/wp-content/uploads/2023/10/120210.pdf

groundwater for drinking and agricultural practices. However, the quantity of water required to meet domestic use is relatively less compared to the water needed for agriculture and other livelihood practices.

To address this challenge, UBL, as part of its CSR initiatives, undertook the rejuvenation of 05 ponds in 04 villages of Dharuhera, district Rewari from 2020 to 2022. This project was carried out in collaboration with Akhil Bhartiya Gramin Uthan Samiti (ABGUS). The primary goal was to promote water conservation through water rejuvenation structures and rainwater harvesting practices. Additionally, the project aimed to enhance the knowledge of community members on water conservation practices.

Key activities:

- Rejuvenation of 5 ponds in 4 villages
- Grading the land to ensure consistent water flow and drainage
- Expansion of holding capacity of pond
- Strengthening of bund walls, weir and ramp around pond
- Facilitate plantation around pond walls
- Awareness camps & capacity building sessions

The project also included an awareness session and workshop with the aim to empower and motivate community members on the importance of water.

1.3. About Akhil Bhartiya Gramin Uthan Samiti

Akhil Bhartiya Gramin Uthan Samiti (ABGUS) is a voluntary civil society organisation dedicated to the holistic development of children, youth, women, and communities through active participation and empowerment. Established in 1987 and registered under the Societies Registration Act XXI of 1860, ABGUS was founded by a group of young professionals committed to addressing poverty and promoting sustainable development.

Initially focused on providing educational opportunities to deprived, excluded, and vulnerable children, ABGUS has expanded its thematic areas to include health and nutrition, water conservation, women empowerment, and livelihood development. The organisation runs programmes to improve health services, address malnutrition, and promote personal hygiene, particularly among women and children. It also implements watershed management and other water conservation practices to ensure sustainable use of water resources. Through Self-Help Groups (SHGs) and other initiatives, ABGUS empowers women to take control of their development and governance at local levels.

Operating across several states, including Rajasthan, Haryana, Punjab, and Delhi, ABGUS has been actively involved in water conservation through its watershed management programmes. These initiatives focus on the conjunctive use of water, promoting sustainable management of water resources to ensure long-term availability and quality. By educating and capacitating communities, ABGUS helps

them adopt effective water conservation practices, contributing to improved agricultural productivity and food security.

1.4. About the project location

Dharuhera

Dharuhera is a census town located in the Rewari district of Haryana, approximately 19 kilometres from Rewari city, the district headquarter, and 40 kilometres from Gurugram. It falls under the Delhi NCR region and is a major industrial hub within the district. Dharuhera is recognised as the new growth corridor of Gurugram and New Delhi and is located in one of the most prosperous regions of Haryana. According to the 2011 Census, Dharuhera had a population of 30,344, with males constituting 54.09% and females 45.91%.

Figure 2- Project location

Dharuhera has a semi-arid climate characterised by hot summers and mild winters. The average annual rainfall in the region is around 500-600 mm, with the majority occurring during the monsoon season, typically from July to September. While monsoon rains are crucial for replenishing groundwater, the region faces challenges with water scarcity due to high rates of groundwater extraction for agricultural, industrial, and domestic use, along with limited surface water resources. Additionally, rainfall variability from year-to-year impacts groundwater recharge rates, making sustainable water management and conservation practices essential for the area.

1.5. Scope of Work for the Impact Assessment

Grant Thornton Bharat LLP (GTBLLP) was engaged by UBL for conducting an independent impact assessment of their water conservation project in Dharuhera.

The scope of work for the assignment included:

1. Review of all the activities implemented under the project.
2. Assess the quality of the infrastructures constructed under the project.
3. Evaluate the status and usage of the structures.
4. Assess community awareness on water conservation practices.
5. Assess community awareness on UBL and the project being a CSR initiative.
6. Assess community awareness on ABGUS and the work undertaken.

7. Conduct site visits for data validation and conduct one-on-one stakeholder (implementing partner, Gram Panchayat, and community) meetings/focussed group discussions (FGDs) and household surveys to assess the effectiveness, efficiency, and sustainability of the project.
8. Quantify the volumetric benefits using the volumetric water benefit accounting (VWBA) method as developed by the World Resources Institute (WRI) to measure water recharge and rainwater harnessed.
9. Assess the programme results (outputs, outcomes, and impacts) through a survey of key stakeholders, key opinion formers to develop a perception index, review social benefits associated and overall impact on the community.
10. Draft report preparation and submission of an impact assessment report and a brief presentation (in PPT format).

2. Approach and methodology

2.1. Assessment framework

The aim of the study was to gauge an overall understanding of the outcomes and impact through discussions with relevant stakeholders and documenting their perception and feedback on the outcomes and impact of the project. The study also focused on capturing their suggestions for improvement.

Further an understanding of the modality of the programmes was developed. This was followed by an analysis of the beneficiary responses and further corroboration with inferences from stakeholder discussions, while identifying the critical factors, gaps, and possible methods of improvement.

The study was conducted through a pre-defined approach to assess the outcome/ impact of the project on the beneficiaries. The methodology adopted for the study considered quantitative and qualitative data collection. The study followed the OECD-DAC principles which helped understand the project holistically and focuses on five (05) key indicators. The indicators are presented below along with the explanation:

Table 2- OECD-DAC evaluation criteria

OECD DAC	Principle explanation
Relevance	• Correlation of the programme objectives with the need • Consistency of the activities with the overall goal / objectives • Consistency of the activities with the intended impact
Effectiveness	• Extent of the objectives achieved or to be achieved • Major factors influencing the achievement / non-achievement of the objectives
Efficiency	• Timely achievement of objectives • Efficiency of the implementation process as compared to alternatives
Impact	• Results of the programme • Difference in the lives of beneficiaries due to the activities • Number of people affected • Any undesirable impact
Sustainability	• Extent of benefits to continue after funding ceases • Major factors which influenced the achievement or non-achievement of sustainability of the model

KAP Analysis

Further, the impact assessment study included Knowledge-Attitude-Practices (KAP) analysis to gauge the changes within the community regarding their knowledge and behaviour with respect to water conservation (refer table 3).

Table 3- KAP survey indicators

Principle	Areas of Enquiry
Knowledge	• Pre-post situation w.r.t access to knowledge and capacity building etc. • Pre-post situation w.r.t, change in level of knowledge
Attitude	• Pre-post situation w.r.t, change in level of overall perception on water conservation • Pre-post situation w.r.t, ability to spread the awareness on water conservation
Practice	• Pre-post situation w.r.t, change in water usage practices • Pre-post situation w.r.t, change in safe drinking water practices, water budgeting etc.

2.2. Methodology for the study

The methodology followed to conduct the study was spread across three stages as follows:

Table 4- Methodology of the study

Stage I Planning	Stage II Data collection & analysis	Stage III Reporting
Quality assurance across all stages		
1. Inception meeting to understand the objectives of the study 2. Review of documents & identification of key stakeholders 3. Sampling strategy 4. Development and testing of tools	5. Selection/ training of enumerators and ethical concerns 6. Data collection and quality management – stakeholder (KOFs) and beneficiary interaction on sample basis 7. Draft cleaning and analysis	8. Share draft report for inputs from UBL team 9. Incorporate inputs and share final report to UBL 10. Share management presentation based on the final report

Stage I: Planning

Inception meeting

Kick-off meeting was held with UBL's CSR team to develop an in-depth understanding about the nuances of the projects, clearly articulate the expectations and identify the key stakeholders. Post the initial discussion, an information request was shared with UBL listing out the required project documents, reports, and other available data.

Review of documents

A desk review of the documents and reports was conducted. The understanding gained from the desk research was eventually fed into the identification of the key respondents and their respective areas of enquiry.

Study design

A mixed methods study design was adopted for data collection. It included both, quantitative survey with beneficiaries, and qualitative interviews with the key stakeholders.

Stakeholder mapping and areas of enquiry

The next step involved mapping of key stakeholders of the projects. The table below presents the list of stakeholders along with the key areas of enquiry:

Table 5 Stakeholder-wise areas of enquiry

Key stakeholders	Areas of enquiry
Community members	• Water sources and availability • Water usage patterns • Understanding ground water levels
PRI members	• Understanding current water sources • Water usage patterns • Understanding water scarcity periods • Understanding ground water levels
Implementation partners	• Understanding the need of the project • Rationale behind the geographical location for the project • Project implementation and execution
Key Opinion Formers (KOFs)	• Available water structures • Level of community awareness • Community participation and awareness levels

Development of survey tools

To triangulate the information captured from different stakeholders, both qualitative and quantitative data collection tools were developed. It was based on the areas of enquiry highlighted in the previous section. Qualitative interactions were conducted through in-depth interviews and Focus Group Discussions (FGDs) whereas quantitative survey was undertaken using a detailed survey questionnaire (with few open-ended questions) for on-field data collection. Further, a questionnaire in the form of statement-set for Key Opinion Formers (KOF) was developed. For VWBA, assessment tools were developed based on documents and type of structures.

The tools were reviewed and tested before administering on-field. The quantitative surveys were translated into Hindi, as per requirements. Qualitative interview questions were also translated into the local language, to enable easy comprehension of questions.

Stage 2: Data collection

Sampling plan

For the present assessment, a random sampling was done considering the population benefitted. The below table presents the sample size for each project:

Table 6- Planned vs actual data collection

Location	Planned	Achieved
Haryana	377	397

The below table presents the village-wise target achieved in both for quantitative, qualitative and KOF interactions.

Table 7- Coverage details

S/N	Location / Village name	Quantitative interactions	Qualitative interactions	KOF interactions
1.	Akera	175	10	7
2.	Ghatal Mahniyawas	117	4	2
3.	Masani	77	3	2
4.	Rajpura Alamgirpur	28	7	3

Data Collection

For the study, data collection was undertaken in four (04) villages of Dharuhera. For VWBA, all the project's structures were visited.

Data Analysis

Data was collated, cleaned, and coded as per the tools for closed ended questions. Descriptive and inferential statistics were used to analyse the quantitative data of the respondent group to understand trends and relations. Qualitative data analysis was carried out to triangulate the findings of the quantitative data, in line with its objectives. KOF data was analysed to assess the extent of the agreement with the statements. VWBA analysis was carried out based on the structure type, local geographic and geological conditions, and water storage capacities. Initial findings were shared with UBL team.

Stage 3: Reporting

Draft and final report

The analysed data was collated, triangulated, and segmented based on different areas of inquiry. Based on the data sets, points of analysis or trends were identified and presented with the aid of tools and diagrams. A draft report was prepared which incorporated the study findings and shared with UBL for feedback. Thereafter, a comprehensive report was prepared which included the key findings, inferences from stakeholder discussions, and recommendations.

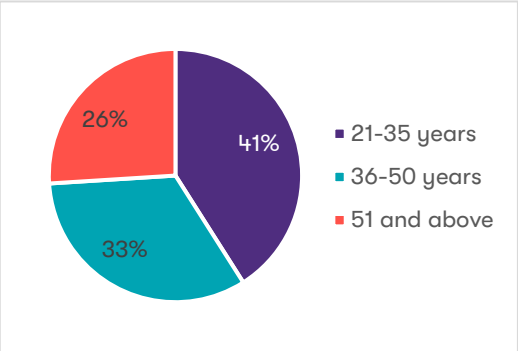
2.3. Coverage

This section presents details of the structures constructed at various project locations.

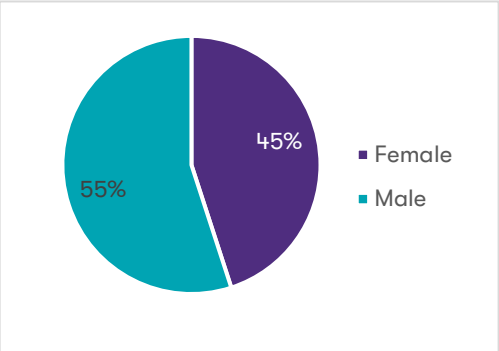
Demographic profile

For the assessment of the rejuvenation of ponds, the data was collected from a total of 397 respondents across 04 villages in Dharuhera. The demographic data collected is presented below:

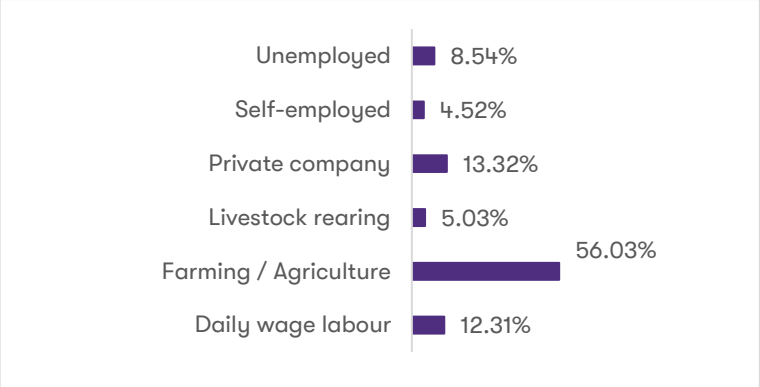
Graph 1- Age group of respondents(n=397)



Graph 2- Gender of respondents (n=397)



Graph 3- Occupation of respondents (n=397)



The data shows the distribution of 397 respondents across different age groups. The largest group, comprising 41%, is aged 21-35 years, the age group of 36 to 50 follows with 33%, while the 51 years and above accounts for 26%. In terms of gender, the data indicated 55% respondents as male and 45% as female.

Regarding the occupations of respondents, 56% fall into the “farming/ agriculture” category, daily wage labourers make up 12%, while 5% are involved in livestock rearing, 4% are self-employed, and 8% are unemployed. Additionally, 13% respondents work in private companies around villages.

3. Key Findings

The section highlights the key findings and observations from the activities conducted under the project. The analysis of these observations was guided by the OECD DAC principles. The KAP (Knowledge, Attitudes, and Practices) framework was also used to assess some of the key findings. In the KOF (Key Opinion Former) section, findings were assessed in terms of extent of agreeing or disagreeing of statements.
Below is a brief description for the infrastructure intervention made:

Ponds: Ponds are natural/ constructed water bodies, often designed for purposes like irrigation, aquaculture, and wildlife support. These ponds help manage water resources by collecting runoff, storing rainwater, and creating habitats for flora and fauna. They're also popular for landscaping and recreational uses. A total of 5 ponds were rejuvenated in Dharuhera.

Relevance

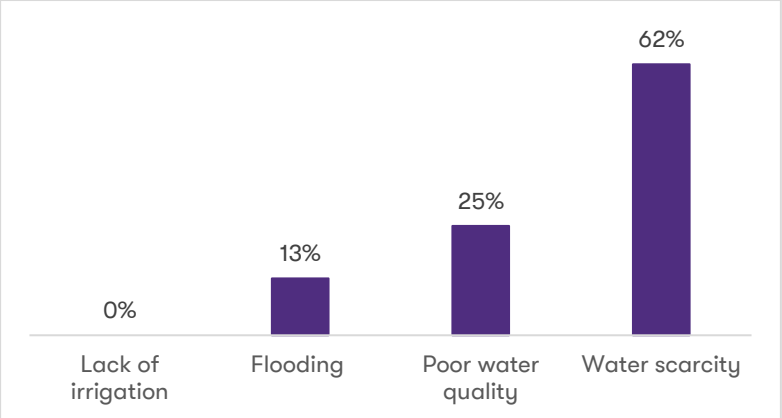
The following section highlights the critical need for the project in the intervention area, focusing on the rejuvenation of ponds.

The project was initiated to address the critical issue of depleting groundwater levels, which pose significant challenges including reduced water availability for drinking, agriculture, and industrial use. This depletion leads to increased costs for water extraction, greater reliance on alternative water sources, and potential conflicts over water rights.

64%

respondents stated that there was a shortage of water before the project intervention.

Graph 4- Water related challenges (n=397)

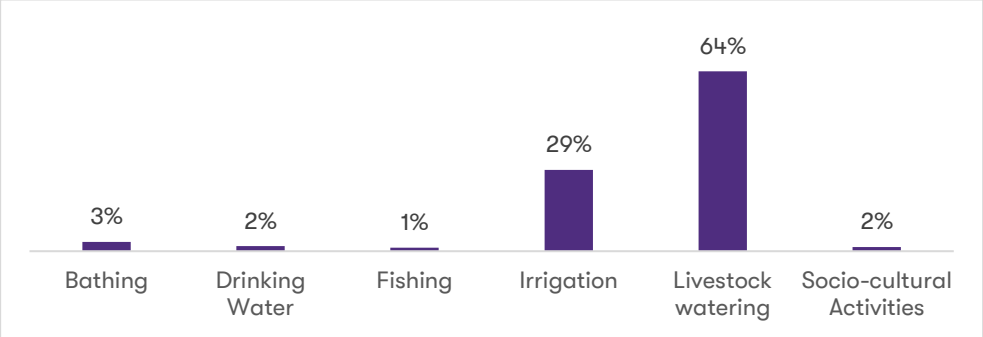


62% of respondents identified water scarcity as their primary concern, before the intervention, **with 25% reporting poor water quality and 13% citing limited irrigation access.** While water scarcity emerged as a prevalent issue, the varied responses indicate that each village experienced a unique combination of water challenges.

Further, 64% of respondents reported facing water shortages annually, underscoring a persistent strain on water resources, while 21% reported no shortage issues, and 15% experienced shortages only occasionally.

During the interactions, community members highlighted several issues caused by water scarcity and poor water quality. Water scarcity led to significant agricultural challenges, as farmers struggled to irrigate their crops, resulting in reduced yields. Additionally, livestock suffered from a lack of adequate water, impacting their health and productivity.

Graph 5- Usage of pond- before project (n=397)



> “”
>
> Since the pond was built, our livestock are healthier, and we have more water available for them during dry seasons.
>
> **Punam, village Ghatal Mahniyawas**

64% of respondents reported using the pond, primarily for livestock watering and 29% for irrigation, before the project. Minimal use was reported for bathing (3%), drinking water (2%) and fishing (1%). This indicates the **pond's crucial role in supporting livestock and irrigation activities within the community**. 2% respondents used the ponds to conduct socio-cultural activities. Overall, the pond was a **vital resource for the majority, particularly for livestock and irrigation, highlighting its importance in the community's water management practices before the project's intervention.**

The pond rejuvenation project in Dharuhera addresses a critical need in the intervention area, tackling the pressing issue of depleting groundwater levels and associated water scarcity. **The project focuses on rejuvenating ponds to provide a sustainable solution to recharge groundwater, mitigating the adverse effects of water depletion, including increased extraction costs and reliance on alternative sources**. The project also impacts flood control and land degradation prevention. By capturing rainwater and recharging groundwater, the ponds help regulate water flows, reducing the risk of floods and land degradation. This safeguards agricultural productivity and protects the community's infrastructure and natural resources. Given the community's reliance on the pond and the critical need for sustainable water management solutions, the pond rejuvenation project is a timely and essential intervention, addressing pressing environmental and socio-economic challenges in Dharuhera.

Effectiveness

The pond rejuvenation project in Dharuhera effectively addresses water scarcity and significantly enhances groundwater recharge. **By rejuvenating ponds with substantial storage capacity, the initiative successfully captures water from surrounding fields, reducing surface runoff and preventing land degradation.**

The involvement of the community ensures the effective dissemination of information about water management practices and promotes a culture of water conservation. Community meetings serve as a primary source of information about the project, allowing members to discuss and share updates on water usage. Additionally, PRI members and VDCs, play a supportive role in spreading awareness about the judicious use of water resources. **This multifaceted approach to communication leverages various sources to ensure that all community members are informed and actively participate in water conservation initiatives.**

79%

respondents stated that they were satisfied with the functioning of VDC.

> “”
>
> Community members actively participate in maintaining the pond, fostering a sense of unity and shared responsibility among us.
>
> **Rajni, village Rajpura Alamgirpur**

Overall, the project's effectiveness lies in its community-driven approach, emphasising both top-down and bottom-up engagement. Through the active involvement of local members in construction, resource management, and maintenance efforts, the project efficiently enhances groundwater recharge and tackles water scarcity. This decentralised, affordable method of water conservation demonstrates the power of community collaboration, creating a positive impact on agricultural productivity and livelihoods while fostering a sustainable culture of water stewardship.

Efficiency

The pond rejuvenation project showcases high efficiency in its implementation and maintenance, ensuring lasting impact and sustainability. **By actively involving Gram Panchayats in the rejuvenation process and conducting awareness sessions, the project has successfully fostered a sense of community ownership and decentralised management. This collaboration has allowed for timely completion and strategic use of resources, drawing on local expertise to keep expenses minimal.**

Thoughtful placement and design of the ponds optimise water capture and storage, effectively supporting groundwater recharge while reducing the need for extensive infrastructure. The use of existing topography and natural water flows further minimises construction and upkeep costs, enhancing the project's overall financial viability.

The project stands as a replicable model for water conservation, demonstrating how community-led management, careful planning, and resource efficiency can offer sustainable solutions to water scarcity. By prioritising cost-effective, locally driven approaches, this initiative serves as an exemplary framework for future efforts in water security and community resilience.

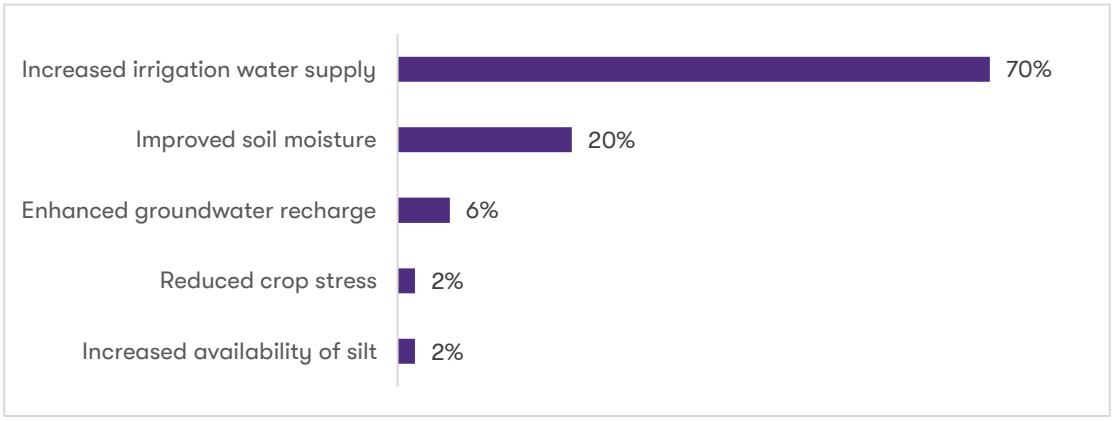
> “”
>
> The pond restoration project has brought our community together. With the Gram Panchayat leading the way, we took ownership and responsibility for the work. Our collective effort ensured the project was completed on time. This initiative has given us a sustainable water source and a sense of pride.
>
> **Rajesh, Village Akera**

Impact

The following section assesses the impact of the pond rejuvenation project, examining its effectiveness in addressing water scarcity and promoting sustainable water management practices.

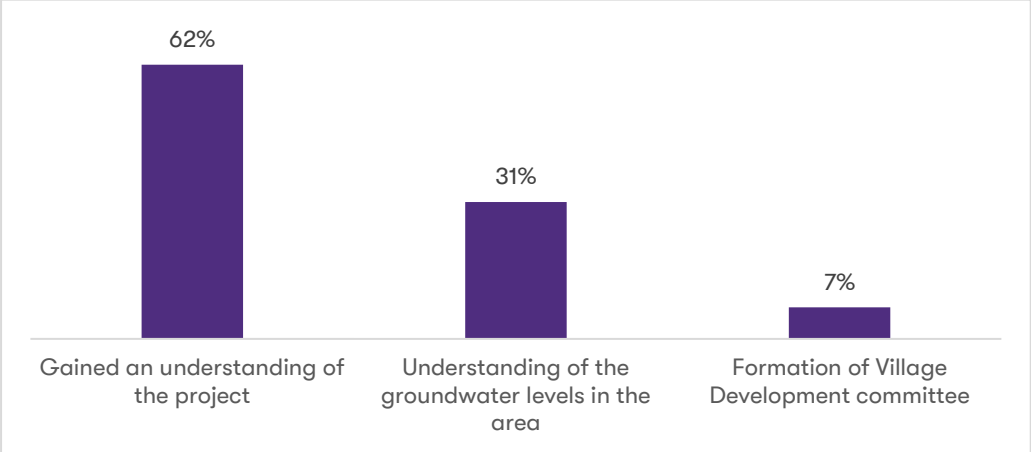
70% respondents indicated that there has been an increased irrigation water supply, followed by 20% respondents who mentioned improved soil moisture. Additionally, 6% of respondents reported enhanced groundwater recharge, and both increased availability of silt and reduced crop stress were indicated by 2% respondents each.

Graph 6- Impact on agriculture (n=397)



During the discussion, the community members stated that with more water available for irrigation, they can now potentially increase the area under cultivation, grow multiple crops in a year, and improve crop yields. This has resulted in enhanced food security and increased income for them. Better soil moisture has also led to healthier crops, reduced the need for frequent irrigation, and improved the efficiency of water use. This has further contributed to better crop quality and higher productivity.

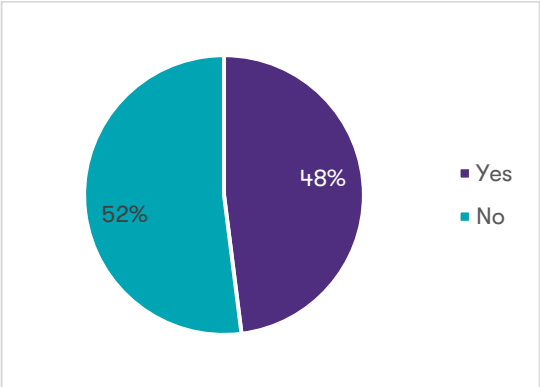
Graph 7- Impact of community awareness sessions (n=397)



Community awareness sessions have significantly contributed to the success of the project by actively engaging community members and fostering a strong sense of ownership. Through these sessions, 62% of respondents reported gaining critical information about the project's objectives, while 31% enhanced their understanding of groundwater levels in their area. Additionally, 7% of respondents learned about the VDC, a voluntary group responsible for maintaining the pond structures.

During the discussion, the community members shared that this targeted awareness-building initiative has strengthened community involvement, promoted sustainable water management practices, and reinforced the importance of long-term conservation efforts at the village level.

Graph 8- Impact of project on occupation (n=397)



48% of respondents recognise a positive occupational impact from the pond rejuvenation project, with many of them being farmers who are now able to irrigate their fields more effectively. Livestock owners also benefit from a stable water source for both drinking and bathing, which supports the health and well-being of their animals. However, 52% of respondents indicate that they have yet to experience an occupational benefit from the project.

This nearly even division highlights an opportunity to further explore why some community members are not seeing the same level of benefit. Enhancing project outreach and targeted support could help expand positive outcomes across more of the community. Furthermore, understanding the specific advantages enjoyed by

those reporting a positive impact—such as better crop yields for farmers and improved livestock care for herders—can offer valuable insights to refine the project, making its benefits more accessible and sustainable for a wider range of community members.

Sustainability

The pond rejuvenation initiative promotes sustainable development by fostering community ownership and environmental stewardship. Through groundwater recharge, these ponds alleviate water stress and provide a stable water supply, protecting communities from climate change impacts and unpredictable rainfall. They contribute to healthier ecosystems, stabilise water levels, and prevent land degradation, supporting long-term growth, food security, and economic stability.

> “”
>
> By involving the community in every step, from planning to maintenance, we have ensured the project’s success and sustainability. The ponds have not only provided a reliable water source but also improved our agricultural productivity and overall quality of life.
>
> **Vinod, Village Akera**

Active community involvement in maintenance strengthens the initiative’s sustainability, as voluntary actions like VDCs build a sense of ownership and extend the ponds’ lifespan. This combined approach of community engagement and environmental focus creates a lasting impact, ensuring resilient, reliable water resources.

Figure 3- Pond structure at Akera village

4. KAP Analysis

Knowledge

The pond rejuvenation project has significantly improved the community's understanding of water management and conservation practices. Through awareness sessions and educational initiatives, community members gained essential knowledge about the project's objectives, groundwater recharge and sustainable resource use. This enhanced understanding has enabled the community to better assess groundwater levels and recognise the importance of preserving natural water resources. The increased knowledge empowers individuals to adopt informed and effective water conservation measures, laying a strong foundation for long-term water security.

Attitude

The project has fostered a positive shift in the community's attitude toward water usage and conservation. Engagement through awareness sessions instilled a sense of ownership, responsibility, and environmental stewardship among community members. Recognising water as a valuable and finite resource, the community now appreciates the benefits of sustainable water management. This attitudinal change is crucial for long-term success, as it motivates proactive participation and inspires collective commitment to protecting and maintaining local water sources.

Practice

The project has had a tangible impact on the community's water management practices. Respondents reported actively using the rejuvenated ponds for livestock watering, irrigation, and daily needs, reflecting the project's practical benefits. The establishment and active involvement of VDCs played a pivotal role in ensuring the project's success. These committees facilitated community participation in the construction, resource management, and maintenance of the ponds. By coordinating responsibilities and promoting sustainable practices, VDCs have helped integrate water management into the community's daily routines, ensuring the long-term viability of the initiative.

Figure 4- Pond structure at Ghatal Mahniyawas village

5. KOF Perception Analysis

During the impact assessment study, opinions of some of the key prominent and influential members of the community were asked to respond to a series of 16 statements. These statements were drafted to gauge their opinion about the project relevance, planning, operations, impact, and sustainability. The Key Opinion Formers (KOF) included community members such as village leaders, community and Panchayat members. They were asked to respond in terms of extent of agreement to the statements. The KOF tabulated below highlights the various responses in terms of agreement levels.

S.No.	KOF Questions	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Percentage in agreement*
1	I am aware about the objectives and activities that were undertaken for the water conservation project	0%	1%	12%	17%	70%	87%
2	I am aware of the benefits of the water conservation project	0%	0%	13%	18%	69%	87%
3	I understand the importance of water conservation	0%	0%	1%	12%	87%	99%
4	I believe that the interventions have been to the benefit of my community	0%	1%	18%	33%	48%	81%
5	I believe that the interventions have led to an increase in the groundwater levels in my village	0%	0%	7%	28%	65%	93%
6	I believe that the interventions have reduced the vulnerability of my community to water shortages	0%	1%	27%	11%	61%	72%
7	I believe that the intervention was carried out in a fair and satisfactory manner	2%	0%	0%	19%	79%	98%
8	I am satisfied with my level of involvement in the project	1%	4%	13%	18%	64%	82%
9	I believe that my community was well represented in the decision- making process throughout the intervention	0%	1%	19%	13%	67%	80%
10	I believe that the intervention has increased access to water in my community	0%	0%	7%	36%	57%	93%
11	I am satisfied with the support provided by ABGUS throughout the project	0%	0%	9%	27%	64%	91%
12	I believe that the project was carried out smoothly and there was good collaboration among different stakeholders involved in the project	0%	0%	4%	23%	73%	96%
13	I believe that the intervention has improved public infrastructure within the community	0%	0%	11%	21%	68%	89%

14	I believe that the intervention has had a positive impact on the environment which has led to an improvement in our quality of life	0%	0%	25%	22%	53%	75%
15	I believe that the intervention will benefit my community for a very long time	0%	3%	10%	31%	56%	87%
16	I believe that the intervention has improved community's awareness on water related issues	0%	2%	14%	20%	64%	84%

	Above 15% in Neutral, and disagree responses
	Below 90% in Percentage of agreement
	90% and above in Percentage of agreement

The data collected from the survey provides a positive response from key opinion formers to the water conservation project, highlighting high levels of awareness, positive attitudes, and engagement in the intervention.

The survey results show that the water conservation project has been highly successful in raising awareness and fostering positive attitudes within the community. **87% of respondents are aware of the project's objectives and activities**, and **99% understand the importance of water conservation**. 81% respondents believe the interventions have benefited their community, with **93% agreeing that the project has helped increase groundwater levels.**

The community has also been actively involved, with **82% satisfied with their level of participation and 80% feeling well-represented in decision-making**. **93% of respondents believe the project has increased water access in their community**.

The project has had a significant impact, **with 87% of respondents confident that it will provide long-term benefits**. Additionally, **75% believe the project has positively impacted the environment, improving their quality of life**. Overall, the project has been effective in addressing water scarcity, raising awareness, and ensuring long-term sustainability.

6. Volumetric Water Benefit Accounting

In order to assess and account the benefits of their water stewardship activities under the project, Volumetric Water Benefit Accounting (VWBA) was undertaken as a part of the impact assessment study. VWBA was conducted to disseminate the hydrogeological impact in terms of quantified amount through various water conservation measures. The methodology included collection of information related to hydro-physical properties of soils, detailed and careful inspection of the project implementation sites, water storage/retention/infiltration capacities, and performance of the structure.

For the purpose of VWBA, 100% structures were covered. A specialised agency called People's WASH Solution LLP was appointed for conducting VWBA. GT oversaw the work of the agency and managed logistics for the team.

About the People's WASH Solution LLP (PWS)

People's WASH Solution LLP (PWS) is a start-up firm recognised by Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India and a Micro Enterprise as registered with MSME/ Udyam. It offers services and products to help organisations with solutions in areas of water, air sanitation, and hygiene and adopts a pro-planet development model.

6.1 Methodology for VWBA

For estimating the potential volumetric water benefits under this study, the methodology prescribed in the document titled "Volumetric Water Benefit Accounting: A Method for Implementing and Valuing Water Stewardship Activities," developed in 2019 by the World Resources Institute (WRI) in association with LimnoTech, Quantis, and Valuing Nature, has been used as the basis. The VWBA methodology provides water stewardship practitioners with standardised methods for implementing stewardship actions and quantifying the benefits of various water stewardship activities.

Category	Activity	VWB Indicator	Calculation Methods	Annexure
Water Supply and Reliability	Recharge Ponds	Increased Recharge	Capture and Infiltration Method	A

To calculate additional infiltration potential created from the activities, the Capture and Infiltration Method described in Appendix A-4 of the VWBA working paper was adopted. The capture and infiltration method estimates the groundwater recharge based on three parameters as given below:

Ground Water Recharge Estimation	
01	Available Water Supply The volume of water draining from a catchment (runoff) corresponding to the intervention under consideration

02	Volume of Water Volume of water captured by the intervention under consideration
03	Water Loss Losses due to evaporation and usage (i.e., withdrawal)

Accordingly recharge volume is calculated using the Equation A as presented below:

1.	Recharge volume = Volume captured - [Evaporation + Withdrawal] Where, volume captured (actual volume captured by the intervention) is considered as minimum of the volume of the available supply or runoff from the catchment and the storage potential minus the sum of evaporation and withdrawal.
2.	Volume captured = Min [Available supply, Storage potential] Storage potential is the volume of water stored by the intervention under consideration during the assessment period. Accordingly, the storage potential is calculated as the volume of the intervention multiplied by the number of times the structure is filled to its capacity during the assessment period.
3.	**Storage potential = Design storage capacity x Number of times filled to capacity** **Available water supply or runoff is calculated based on the catchment area, runoff coefficient, and the rainfall during the assessment period (e.g., year)**
4.	Available supply (aka runoff) = Catchment area x Runoff coefficient x Annual rainfall For modified structures, these calculations are estimated for the baseline condition and then repeated using the improved storage capacity of the lakes after the rejuvenation activities. The difference would provide the additional recharge volume or potential volumetric water benefit that has been created as a result of the project activities.

Applications

Ponds capture excess rainfall and runoff for groundwater recharge and community, economic, and/or ecosystems use. Increased recharge is calculated as the difference in recharge volume for the "with-project" condition compared to the "baseline" condition. The "baseline" condition typically has no recharge, unless the project improves the recharge capability of an existing intervention (e.g., by desilting an existing pond). The "with-project" condition represents construction of rainwater capture interventions to increase recharge.

The method is applied through the following steps:

- The available supply is calculated by multiplying the catchment area by the annual average precipitation (rainfall depth) and an appropriate catchment runoff coefficient.
- Storage potential is then calculated based on the design storage capacity of the intervention(s) and the number of times the intervention(s) fill(s) to capacity during a typical year.
- The volume captured is then calculated as the minimum of available supply and storage capacity.
- Finally, the volume available for recharge is calculated by subtracting evaporative and usage losses (for some features, such as infiltration pits and

wells, the usage and evaporation losses may be negligible) from the volume captured, if applicable.
- The VWB is quantified as the difference in recharge volume for the "baseline" and "with-project" conditions.

VWB = Recharge (With-project) – Recharge (Baseline)

Note: For rainwater harvesting projects, typically the "baseline" recharge volume can be assumed to be 0, and the equation simplifies to VWB = "with project" recharge.

The process for undertaking VWBA consisted of following steps.

- Attending preparatory inception phase meetings with UBL, GT and implementing partner teams for undertaking VWBA at all sites.
- Collection of project completion reports, baseline reports from ABGUS.
- Collection of technical data of all water conservation structures created and works done by ABGUS on a format developed by PWS.
- Site visit to 100% of the water conservation structures constructed for validation of technical data for VWBA and functionality of each of the structures.
- Compilation and cleaning of all data reported by ABGUS.
- Preparation of final report on VWBA.

6.2 Key assumptions for VWBA

The following key assumptions were made during the calculation of the VWBA for the structures across Dharuhera.

- Evaporation losses are assumed to be 10% of the total water storage capacity per annum and have been accounted for accordingly.
- During the site visit, groundwater recharge is considered zero if the structure is completely damaged, non-functional, or affected by other developmental activities or encroachments.
- The runoff coefficient is taken as 0.2 for open and green areas and 0.8 for paved/road or concrete/shed roof areas for calculating rainwater storage and groundwater recharge.
- Groundwater recharge potential is assumed to be 50% of the annual water storage capacity and the number of fillings reported in 2023 by stakeholders and project teams. The rest of the water is assumed to be either lost as runoff or used for irrigation and other purposes from rejuvenated ponds.

6.3 VWBA study for Rejuvenated Ponds

The rejuvenated ponds as per completion reports of the project, were visited and verified by the PWS team. The team undertook a key stakeholder interviews and focused group discussion at each site to understand the functionality of each

structure. A total of five (05) water conservation structures were visited by PWS engineer for VWBA.
The table below summarises the functionality status of the water conservation structure visited by consultants . The remarks and verification of structure at site is based on observation/key stakeholder interviews /focused group discussions at each of site/ villages.

Table 8- Site observations of Water Conservation Structures in Dharuhera

S.No.	Village	Type of structure	Available	Available and fully functional	Available but partially functional	Site observations and remarks
1	Akera	Pond Rejuvenation	Yes	Yes	-	Functional but needs maintenance
2	Ghatal Mahniyawas	Pond Rejuvenation I	Yes	Yes	-	Functional but needs maintenance
3	Ghatal Mahniyawas	Pond Rejuvenation II	Yes	Yes	-	Functional but needs maintenance
4	Rajpura Alamgirpur	Pond Rejuvenation	Yes	Yes	-	Functional but needs maintenance
5	Masani	Pond Rejuvenation	Yes	Yes	-	Functional but needs maintenance

Rejuvenation of Ponds

All the 5 ponds selected for rejuvenation in Dharuhera were either filled with silt, waste and wastewater prior to rejuvenation as observed in joint inspection report of the partner organisation with UBL staff early into the project implementation. Therefore, baseline ground water recharge potential in case of these rejuvenated /restored pond is taken as zero.

Table below present the assessment of VWBA (Estimated Ground Water Recharge potential) created by rejuvenation of ponds in Dharuhera.

Table 9- VWBA for recharge pond structures in Dharuhera

Project Activity	No. of structure	Estimated VWBA in KL/Year in 2024	Type of Benefit	Assumptions
Recharge Pond	5	333767	Recharge Potential	-10% evaporation losses considered - 3 fillings per annum

It may be noted that the estimated Recharge Potential for rejuvenated/ restored ponds in Dharuhera, as per VWBA in 2024 is 333767 KL/ Annum.

7. Way Forward

Provision of maintenance of structures post-completion: During the implementation phase, the VDC and Gram Panchayat played a strong role in maintaining the pond structures. However, to ensure the long-term sustainability of such projects, additional measures to formalise and strengthen post-completion maintenance activities could be included. This could involve the implementing partner facilitating capacity-building sessions for the VDC and Gram Panchayat on technical and financial aspects of maintenance, as well as exploring the creation of a structured maintenance plan or fund.

Training on water usage: It was noted that farmers may lack the training needed to optimise water usage, which could lead to inefficient practices and resource depletion. UBL may consider offering comprehensive training on water conservation for irrigation, equipping farmers with knowledge on efficient water usage techniques. Adopting improved irrigation practices could help farmers conserve water, increase crop yields, and support environmental sustainability.

Developing well-defined KPIs: It was observed that KPIs were not identified during the baseline study by implementing partner. Establishing these KPIs early on would have provided a clearer framework for tracking progress and measuring outcomes. UBL might consider defining KPIs during baseline studies to help streamline project objectives, improve documentation, and create a strong foundation for monitoring and evaluating the project's impact throughout its lifecycle.

8. Case studies

Ashok Kumar

Sarpanch, village Akera

As the Sarpanch of village Akera, our village used to face water scarcity, affecting agriculture and cattle rearing. The project, focused on constructing pond structures, enhancing water conservation methods and increasing awareness. Gram Panchayat members were involved from the planning stage, ensuring that the project addressed our specific needs. Regular meetings and awareness camps were held, educating villagers about the importance of water conservation and sustainable practices. This inclusive approach fostered a strong sense of ownership and responsibility among the community members. These ponds now significantly reduce water runoff and increasing groundwater recharge. Villagers actively participated in the construction and maintenance of the ponds, through VDCs. This collective effort not only minimised costs but also strengthened community bonds. The project has enhanced agricultural productivity, improved water quality, and ensured long-term water security".

Beena Kumari

Community member, village Ghatal Mahniyawas

The water conservation has brought significant changes for women who are involved in animal rearing. Before the project, we struggled with water scarcity, which made it difficult to provide enough water for our livestock. The construction of ponds has been a blessing. These ponds collect and store rainwater, ensuring a steady supply of water during summer season. It has improved the health and productivity of our animals, as they now have access to clean and sufficient water. Additionally, the awareness sessions conducted as part of the project have educated us on efficient water use and conservation practices.

The benefits extend beyond animal rearing. The improved groundwater levels have made it easier for us to irrigate our small kitchen gardens, leading to better crop. The sense of community ownership and responsibility by the project through VDC meetings has helped us work towards maintaining the ponds.

9. Annexures

A. VWBA Study for Ponds

Table 10- VWBA from Rejuvenated Ponds in Dharuhera

S. No	Village	Longitude	Latitude	Storage Capacity in KL	No. of Fillings in a year till top level of the Pond	VWBA assuming 10% evaporation losses
1	Rajpura Alamgirpur	28.22234	76.77084	12438	3	33583
2	Ghatal Mahniyawas Pond-1	28.23343	76.83717	23896	3	32260
3	Ghatal Mahniyawas Pond-2	28.23376	76.83357	14070	3	18995
4	Akera	28.22861	76.85019	29782	3	40206
5	Masani	28.20529	76.72577	154611	3	208725
						333767

Tools

Questionnaires for Dharuhera, Haryana

Quantitative questionnaire for Pond Rejuvenation

Sl. no	Question	Response
1.	Name of Respondent	
2.	Name of State	
3.	Name of Village	
4.	Age	
5.	Gender	Male
		Female
		Others/ Prefer not to say
6.	Caste	SC
		ST
		OBC
		General
		Prefer not to say
7.	Occupation(s)	Farming / Agriculture
		Livestock rearing
		Daily wage labour
		Self-employed
		Employed in Govt or Private company
		Unemployed
		Others_____
8.	Was there a shortage of water in the area before the construction of ponds?	Yes
		No
9.	If yes, how often did you experience water shortage before the project?	More than 2 times in a month
		1 - 2 times in a month
		Once in two months
		Once in three months
		Only in summer / winter
		Never
		Not sure
10.	What was the main water-related challenge you faced before the project?	Water scarcity
		Poor water quality
		Lack of irrigation
		Flooding
11.	How often would the pond dry up before the programme	Every Year
		Every Few years
		Rarely
		Never
12.	Was the pond used before the project	Yes
		No
13.		Irrigation

	If, yes, what was the pond used for before the project	Drinking Water
		Bathing
		Livestock watering
		Fishing
		Socio-cultural Activities
14.	Are you aware of the pond rejuvenation efforts undertaken by UBL	Yes
		No
15.	If yes, how did you first hear about the pond development project?	Community meeting
		Local government
		Neighbors
		Other
16.	Do you think that the project has had a positive impact on the community	Yes
		No
17.	If yes, what impact have you seen since the start of the project?	Improved water quality
		Better irrigation
		Increased underground water table
		Increased surface water
18.	Do you think that the project has had a positive impact on your livelihood?	Yes
		No
19.	If yes, what impact has it had on your livelihood?	Enhanced Agricultural Productivity
		Improved livestock health
		Improved availability of ground water
		Increased income due to diversification of agriculture
		Created new job opportunities in pond maintenance
		No noticeable impact
20.	Is your primary occupation farming?	Yes
		No
21.	Do you think the rejuvenation of the pond has had an impact on agriculture in the area?	Yes
		No
22.	What impact has there been on the rejuvenation of the pond on agriculture	Increased irrigation water supply
		Improved soil moisture
		Enhanced groundwater recharge
		Increased availability of silt
		Reduced crop stress
23.	Is your primary occupation animal husbandry	Yes
		No
24.	Do you think the rejuvenation of the pond has had an impact on your occupation?	Yes
		No
25.		Reliable water source for bathing

	If yes, what impact has there been on animal husbandry	Reliable water source for drinking water
		Improved livestock health
		Increased milk and meat production
26.	Did you attend any of the awareness sessions held in your village during the project?	Yes
		No
27.	What was the impact of the community engagement sessions?	Gained an understanding of the project
		Understanding of the groundwater levels in the area
		Formation of Village development committee
		Improved understanding of the need for water conservation
28.	Are you aware of any committee formed in the village for the maintenance of the pond?	Yes
		No
29.	Are you aware of any maintenance efforts undertaken by the Village Development Committee after project completion	Yes
		No
		Satisfied
		Neutral
		Not Satisfied
30.	**Satisfaction ratings**	Not Satisfied, Neutral, Satisfied, Extremely Satisfied
	Pong Rejuvenation	

Qualitative Tool for Community members – Pond Rejuvenation

S/N	Question	Response
A.	**General Details**	
1	Name	
2	Age	
3	Date	
4	Village name and GP Name	
B.	**Programme Specific Details**	
5	What are the sources of water for your community? **Probe**: perennial ponds, lakes, rivers, streams, tap water, community borewell, private borewells, seasonal (rain-fed) ponds or tanks	
6	What were the water-related challenges faced by your community before the project? Please explain in detail. **Probe**: availability and access to ground water, water for agriculture, livestock, domestic purposes, seasonality	
7	Are you aware that pond rejuvenation activities have been undertaken in your village? If yes, could you tell me a bit about the intervention? Probe: Awareness of the project, understanding of water conservation, awareness of the benefits of the project)	
8	Do you think the project here has helped the community in any way? (Probe: impact on ground water levels, awareness among the community, behavioral change among community members, impact on livelihoods)	
9	Do you think the project here has helped the community in any way? (Probe: impact on ground water levels, awareness among the community, behavioral change among community members, impact on livelihoods)	
10	Did you take part in the awareness meetings? If yes, what was discussed during the meetings and how has it impacted your understanding of water conservation? Probe: improved understanding of the project, need for the project, understanding of water conservation, understanding of groundwater levels and its importance, way sessions were conducted)	
11	Are you aware of the activities of the Village Development Committee? If yes, could you tell me more about their activities? Probe: regularity of meetings, discussion points, action taken on repairs and maintenance, any other water conservation activities undertaken)	
12	**Rate the following (1-5, 1: not satisfactory 5: very satisfactory)**	
	Project procedures / processes	
	Involvement of community	
	Effectiveness of awareness sessions	
	Support from PRI members in project implementation	
	Effectiveness of infrastructures in ground water recharge	
	Availability of ground water post project completion	
	Impact of project on over-all wellbeing of the community	
13	How sustainable are these improvements? (probe: maintenance and repairs, long term impact on the lives of community members)	

Qualitative questionnaire for PRI members

S/N	Questions	Response
A	**General details**	
1	Name	
2	Village	
3	Block/District name	
4	Designation	
5	Occupation	
B	**Programme specific questions**	
1	Could you provide detailed information regarding the activities/initiatives undertaken by ABGUS in your village? (Probe: details on the activities, how they were taken place, duration of the activities)	
2	What has been your role and responsibility in the overall programme duration? (Probe: facilitating programme implementation, involvement in project phases, mitigating challenges in the project, collaboration and decision making)	
3	What was the situation of water availability and quality before project implementation and how has the programme benefited the village? (Probe: understanding water quality before intervention, challenges faced regarding water availability, post implementation how challenges were addressed)	
4	Have you noticed any changes in the community w.r.t. water conservation and participation in the implementation of the project? (Probe: behavioural changes, improved awareness, and education on water conservation)	
5	How active is the Gram Panchayat towards ensuring the sustainability of the water conservation practices introduced by the project? (Probe: any ongoing initiatives stated by the GP, maintenance and monitoring of ground water level, community engagement)	
6	How was the collaboration with ABGUS (implementing partner)? (Probe: communication with ABGUS, roles and responsibilities, planning and execution, community involvement)	
7	**Rate the following (1-5, 1: not satisfactory 5: very satisfactory)**	
	Project procedures / processes	
	Involvement of community	
	Effectiveness of awareness sessions	
	Support from PRI members in project implementation	
	Effectiveness of infrastructures in ground water recharge	
	Availability of ground water post project completion	
	Impact of project on over-all wellbeing of the community	
8	Feedback and suggestion	

Qualitative questionnaire for Implementing Partner

S/N	Questions	Response
A	**General details**	
1	Name	
2	Designation	
B	**Programme specific questions**	
1	Please elaborate on project execution and implementation and details on activities undertaken. (Probe: rationale behind the project, geographical significance, details of the activities undertaken)	
2	Please elaborate upon the awareness level among community member w.r.t. water conservation before project implementation. (Probe: project team's observation on water conservation practices in the village, need for project implementation)	
3	How did you engage the community member and Gram Panchayat of the village in the project, and what was their response? (Probe: mobilisation and sensitisation participation levels, roles and responsibilities, training and capacity building)	
4	How do you measure the effectiveness and impact of pond rejuvenation efforts? (Probe: water quality improvement, clean water availability, ground water recharge levels, environmental impact)	
5	What provisions are made to ensure the long-term sustainability of the pond rejuvenation efforts? (Probe: community involvement, training, and capacity building)	
6	Can you provide details about the awareness sessions and workshops conducted for the community? (Probe: Frequency and duration, participation level, mobilisation of target audience, content of the trainings sessions, details on the trainers)	
7	Are there any plans to expand or replicate this project in other areas? If so, what are the next steps?	
8	**Rate the following (1-5, 1: not satisfactory 5: very satisfactory)**	
	Project procedures / processes	
	Involvement of community	
	Effectiveness of awareness sessions	
	Support from PRI members in project implementation	
	Effectiveness of infrastructures in ground water recharge	
	Availability of ground water post project completion	
	Impact of project on over-all wellbeing of the community	
9	Feedback and suggestion	

Perception Index for Key Opinion Formers (KOF)

S.No.	Statement	Responses
1.	I am aware of the objectives and activities that were undertaken for the water conservation project	
2.	I am aware of the benefits of the water conservation project	
3.	I understand the importance of water conservation	
4.	I believe that the interventions have been to the benefit of my community	
5.	I believe that the interventions have led to an increase in the groundwater levels in my village	
6.	I believe that the interventions have reduced the vulnerability of my community to water shortages	
7.	I believe that the intervention was carried out in a fair and satisfactory manner	
8.	I am satisfied with my level of involvement in the project	
9.	I believe that my community was well represented in the decision-making process throughout the intervention	
10.	I believe that the intervention has increased access to water in my community	
11.	I am satisfied with the support provided by ABGUS throughout the project	
12.	I believe that the project was carried out smoothly and there was good collaboration among different stakeholders involved in the project	
13.	I believe the intervention has improved public infrastructure within the community	
14.	I believe that the intervention has had a positive impact on the environment which has led to an improvement in our quality of life	
15.	I believe that the intervention will benefit my community for a very long time	
16.	I believe the intervention has improved the community's awareness on water related issues	

Possible responses	Weightage
Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

Photos from the field

Figure 5- Interaction with beneficiaries at Dharuhera

Figure 6- Pond structure at Ghatal Mahniyawas village

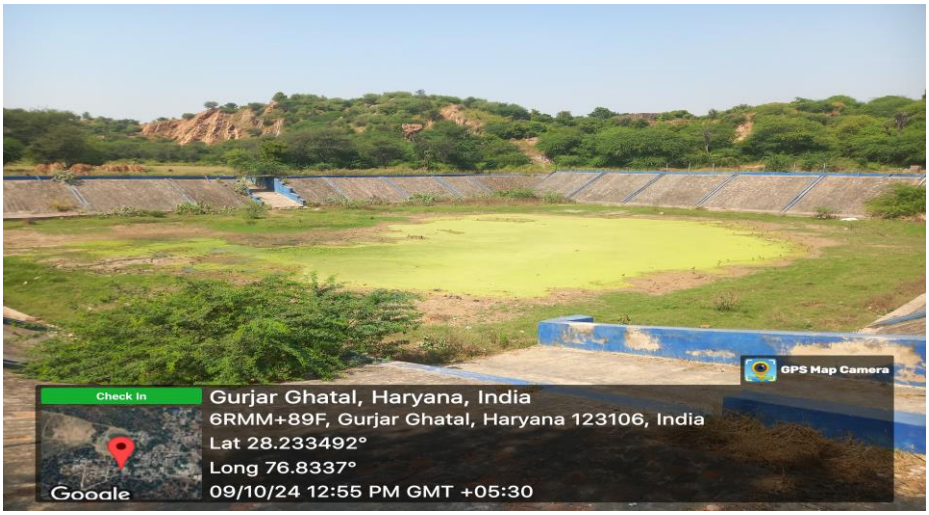


Figure 7- Pond structure at Rajpura Alamgirpur village

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