



TATA TRUSTS

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State Partnership for Jal Jeevan Mission in Tribal Gujarat 2024

Securing Quality Drinking Water in Dahod

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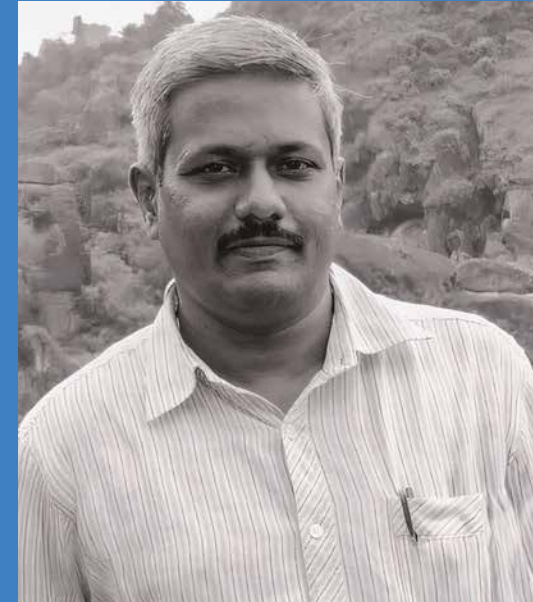
Preface

Water, the essence of life, has long been a scarce commodity for the tribal communities living in the hilly landscapes of Gujarat. For generations, these resilient people have embarked on arduous journeys through rugged terrains in search of this precious resource, a daily struggle that has perpetuated the cycle of hardship & deprivation in terms of social & economic growth.

This book bears witness to a transformative journey, one that has reshaped the narrative of water accessibility in Gujarat's tribal landscapes of Dahod. Through the unwavering efforts of the **Collectives for Integrated Livelihood Initiatives (CINI)** & the **Government of India's** flagship 'Jal Jeevan Mission,' a paradigm shift has taken place – a shift that has brought the dream of Functional Household Tap Connections (FHTC) & sustained access to safe, quality drinking water to fruition.

Within these pages, you'll discover a tapestry of images that capture the essence of this monumental undertaking, from the meticulous planning & execution of robust water supply systems to the empowerment of communities to take ownership of their water security. Each photograph **tells a story of perseverance, innovation, & the relentless pursuit of a future** where every household, no matter how remote, can enjoy the convenience & dignity of having clean water at their doorstep.

Leadership Reflection



Sujit Kumar Gopinathan
Team Lead, CInI (West)

The Jal Jeevan Mission, a transformative initiative by the Government of India, aims to provide safe and adequate drinking water through individual household tap connections. At CInI, we have tried to align our engagements with the tribal rural communities with this mission of “*Har Ghar Nal se Jal*”. In Gujarat, the focus of our engagement has been to ensure that every household has access to safe and clean drinking water thereby significantly improving the health and quality of life of the intervened households.

The national Jal Jeevan Mission program provided us with a platform to strive towards the above goal and the partnership between CInI, Tata Trent and Tata Water Mission has been instrumental in leveraging collective strengths to realize the community level outcomes. This coffee table book tries to capture the extensive work and engagements of the team with the community and showcases the innovative approaches and collaborative efforts that have made the interventions successful. We have worked hand-in-hand with local stakeholders, government bodies, and communities to create sustainable water solutions that are both impactful and enduring.

I extend my heartfelt gratitude to everyone who has contributed to this mission—our team members, partners, and most importantly, the community members whose cooperation and trust have been instrumental in achieving the outcomes. Together, let us continue to strive towards a future where every household enjoys the right to clean and safe drinking water.



Divyang Waghela
Head, Tata Water Mission

The Tata Water Mission (TWM) – an initiative of Tata Trusts is dedicated to bringing safe water, sanitation, and hygiene solutions to underserved communities, promoting a healthy and water-secure future for all through sustainable approaches. The TWM aligns perfectly with the vision of Jal Jeevan Mission, India’s flagship initiative aiming to provide tap water access to every rural household. In a large-scale partnership spanning 13 states, the Tata Trusts collaborated with governments to empower over 2,500 villages with a decentralized, community-led model, significantly improving access to safe drinking water.

The Collective for Integrated Livelihood Initiatives (CInI), one of the associate organisations of the Tata Trusts, has been at the forefront of implementing sustainable water management practices in Tribal Gujarat. The collaborative approach in Gujarat, partnering with Water and Sanitation Management Organization (WASMO), Government of Gujarat, local communities, and other stakeholders has yielded transformative results and more than 12000 households across 300 habitations have benefitted from water tap connections in their respective homes. Creative communication strategies promoting social and behavioural change have helped build strong community ownership of the new intra-village drinking water systems and strengthen local community institutions. Leveraging new, robust technologies has also been our focus area - creating sustainable water systems speaks for that. These systems go beyond simply providing water - they ensure long-term water quality, efficient management, and equitable access for all. In partnership with local communities, we will continue to build strong local institutions that can effectively operate and maintain water systems, ensuring their long-term success and sustainability in rural Gujarat.



Arshiya Mecklai
Lead-CSR & Employee Engagement
TRENT Limited – A TATA Enterprise

Water is the lifeline of any community, and ensuring its availability and sustainable management is a critical challenge. At Trent, we are deeply committed to supporting initiatives that bring about significant positive changes in the lives of people, particularly in the realm of water management. It is with great pride that we extend our support to the Jal Jeevan Mission in Gujarat, an initiative spearheaded by Collectives for Integrated Livelihood Initiatives (CInI). This intervention stands as a demonstration to the power of collaboration and community-driven efforts in addressing the pressing issue of water access. By leveraging the strengths of various stakeholders, including local communities, CInI, Tata water Mission & WASMO, we are collectively working towards a future where every household has access to safe and adequate drinking water. These initiatives not only ensure the availability of water but also empower communities with the knowledge and tools needed to manage their water resources effectively. This holistic approach is essential for creating long-term impact and fostering resilience among the communities we serve. As we look ahead, our commitment remains unwavering. We will continue to support and participate in initiatives that align with our core values of sustainability, inclusivity, and community empowerment.

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List of Abbreviations

CInI

Collectives for Integrated Livelihood Initiatives

WASMO

Water & Sanitation Management Organization

WaSH

Water, Sanitation & Hygiene

CSO

Civil Society Organization

CBO

Community Based Organization

SBCC

Social and Behavior Change Communication

FHTC

Functional Household Tap Connection

SDG

Sustainable Development Goals

WHO

World Health Organization

JJM

Jal Jeevan Mission

IEC

Information, Education & Communication

LPCD

Liter per Capita per Day

WRT

With respect to

TWM

Tata Water Mission

VWSC

Village Water & Sanitation Committee

DWSM

District Water & Sanitation Mission

TDS

Total Dissolved Solids

O&M

Operations & Maintenance

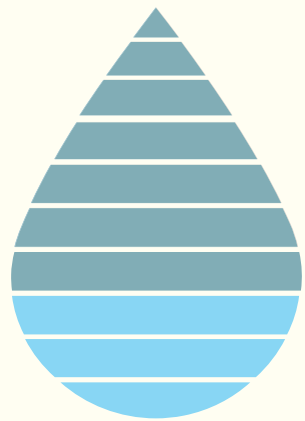
ISA

Implementation Support Agency



Background

01



About 2/3 - or
63%

of Indian districts
are threatened by
falling groundwater
levels, topped with
critical contaminants
like **fluoride**, debris,
among others.

Source: The World Bank



Introduction

As a rapidly developing nation, India has made significant progress in providing access to safe drinking water to its population, but critical challenges persist in the country. **“The NITI Aayog estimated nearly 16.3 crore Indians – about 11% of our population in 2019 - to have inadequate or no access to safe drinking water, & categorically highlighted the divide among the urban, accessible areas & the rural, remote regions of the nation.”**

Groundwater, which is the primary source of rural drinking water supply in India, is increasingly susceptible to contamination from various sources, including agricultural runoff, industrial effluents, & improper waste disposal. Additionally, lack of adequate water treatment & distribution infrastructure in rural areas poses an even bigger challenge - almost two-thirds of people living in rural India have access to water sources via a non-piped system, relying heavily on untreated water sources such as wells, ponds & rivers.

Easy, inexpensive accessibility is another major hurdle, as many remote & isolated communities face difficulties due to geographical barriers & the lack of proper transportation infrastructure. With such grave practical bottlenecks, inadequate access to safe drinking water poses socio-economic challenges for equitable growth of a nation, & climate change has only exacerbated these issues further. It is in this light that the Government of India, the private corporate sector, civil society organizations & the diverse communities of the country have come together to holistically work on resolving these development bottlenecks.

As per WHO estimates
in 2023, around

3.78 crore

Indians have to travel
more than

30 minutes

to access an improved
drinking water source



Collectives for Integrated Livelihood Initiatives (CInI)

An associate organization of the Tata Trusts, CInI is a non-government development organization set up in 2007 with the overarching vision of **'Making a Sustainable Difference in the Quality of Life of Rural & Tribal Communities in the Central Indian Belt'**, by **'Bringing >2,00,000 small & marginal households irreversibly out of poverty'**

CInI works with tribal communities for sustainable management of natural resources - predominantly the land, water & forest triad. It partners with various organizations for improving the well-being of rural & tribal communities across the states of

Gujarat, Madhya Pradesh, Maharashtra, Chhattisgarh, Jharkhand & Odisha. Currently, CInI is working & engaging with more than 1,00,000 households across this region.

The organization's operational model is based on a decentralized approach, where grassroot parties play a central role in implementing various initiatives. The organization works closely with these community-based institutions, providing them with hand-holding, advisory and capacity building support, while also ensuring their active participation in decision-making processes.

The organisation's work revolves around three core areas, cutting across domains



Economic security/prosperity

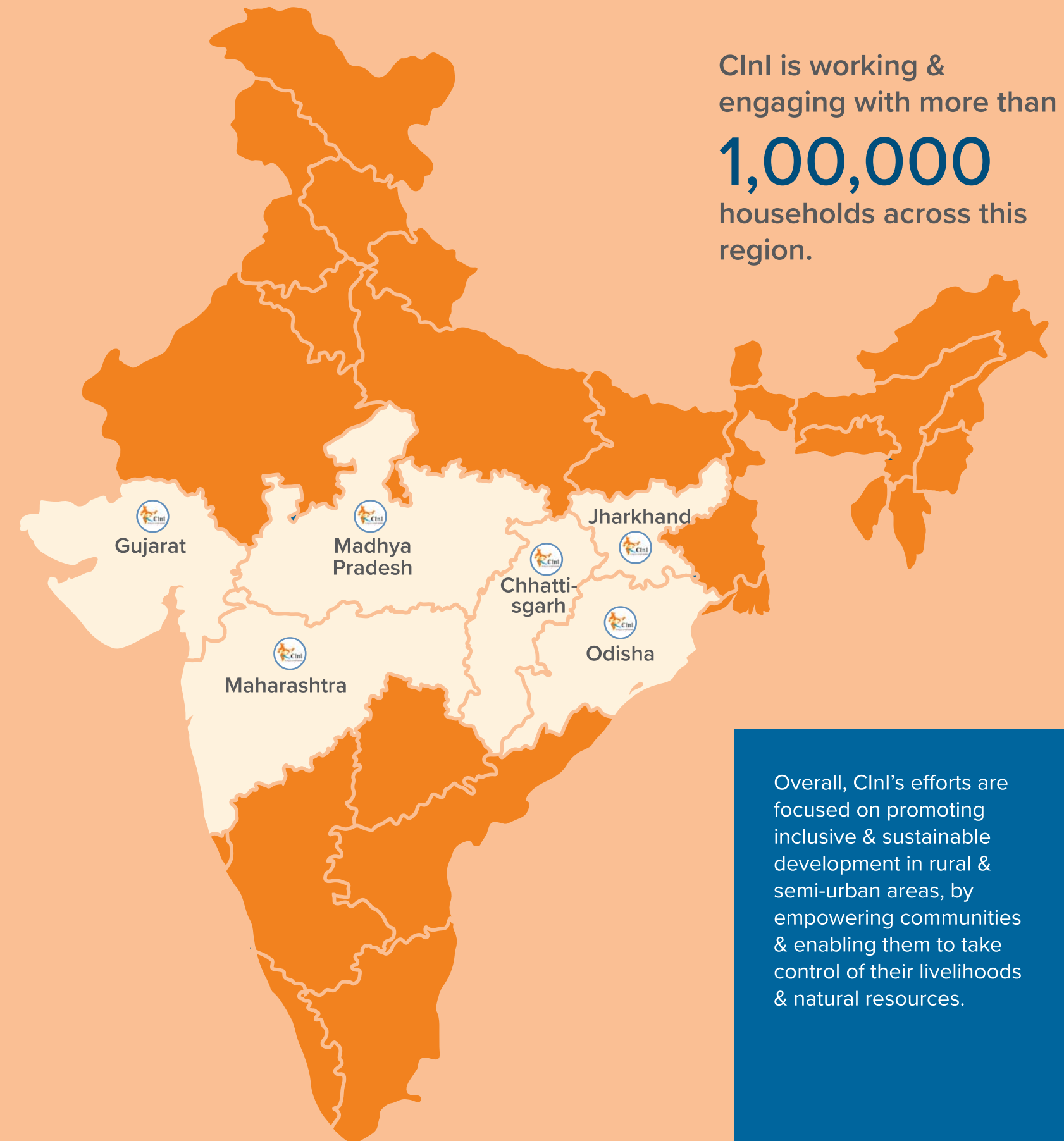


Social security



Environmental security

Renewable Energy | Sports | Healthcare
Education | WaSH | Livelihoods



CInI is working & engaging with more than **1,00,000** households across this region.

Overall, CInI's efforts are focused on promoting inclusive & sustainable development in rural & semi-urban areas, by empowering communities & enabling them to take control of their livelihoods & natural resources.

One of the core development pillars for both Tata Trusts & CInI as an independent development organization is Water, Sanitation & Hygiene (WaSH). The WaSH sector plays a crucial role in achieving several SDGs, particularly:



SDG 6
(Clean Water & Sanitation)



SDG 3
(Good Health & Well-being)



SDG 5
(Gender Equality)



SDG 17
(Partnerships for the Goals)

Launched in 2014, the Tata Water Mission (TWM) aims to improve the quality of life of rural underserved communities by providing them safe, assured & adequate drinking water, improving sanitation & hygiene services & ensuring year-round availability of water.

Access to safe drinking water, adequate sanitation facilities, & good hygiene practices are essential for improving public health, preventing waterborne diseases, & promoting overall well-being, especially in vulnerable communities.

Taking the 'Water for All' agenda of the Mission forward, CInI anchors the TWM initiatives in the tribal regions of Gujarat. Within their WaSH program, CInI has been working on improving access to clean & safe drinking water while also developing sanitation infrastructure for the community, in order to leave a lasting impact on these tribal livelihoods.

Jal Jeevan Mission in Gujarat

Jal Jeevan Mission (JJM) is a flagship Government of India initiative to provide **Functional Household Tap Connections (FHTCs) to over 140 million households in India**— an endeavor that will significantly enhance the quality of life for families in rural India. The Mission will also implement source sustainability measures as mandatory elements, such as recharge & reuse through greywater management, water conservation, rainwater harvesting.

The Mission is a decentralized, demand-driven, community-managed program with a bottom-up planning approach, to ensure sustained impact.



The program is conducted through **Pani Samitis (VWSCs)**, at the village level



50% of whose members are women



The community collectively contributes a miniscule portion of the in-village water supply infrastructure costs to instill a sense of **ownership & pride**

While infrastructure & technological advancements undoubtedly play crucial roles in narrowing the water accessibility gap, the success of JJM ultimately hinges on both individual & community behavior – Information, Education & Communication (IEC) is a key component of the Mission.

The Mission is being implemented by Water & Sanitation Management Organization (WASMO) in Gujarat, with crucial involvement of Village Water & Sanitation Committee (VWSC) or 'Pani Samitis' at the Gram Panchayat level.

Building Blocks of the Mission



States/UTs for creation of water supply infrastructure so that every rural household has an FHTC by 2024, & adequate quantity of prescribed quality is made available on a regular basis.

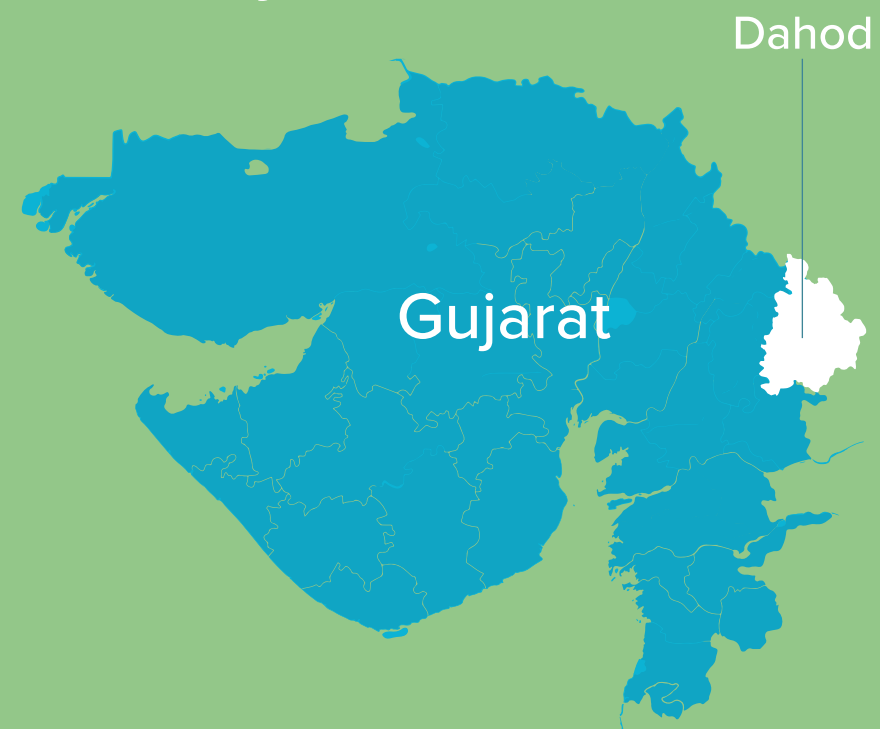




Project Overview

02

Dahod is primarily
a rural & tribal district
of Gujarat



Regional Landscape of Dahod

Located in the eastern part of the state, Dahod is primarily a rural & tribal district of Gujarat, largely characterized by hills & forests. It is located at the tripoint between Gujarat, Rajasthan & Madhya Pradesh, & it primarily houses the tribal communities of Bhils, Rathwas & Nayakas. With a total population of about 21 lacs & sex ratio of 986, the district is very densely but unevenly populated.

Geo-hydrologically, the entire district of Dahod falls under hard rock area, & it faces critical challenges regarding quality drinking water. **Dahod is an Aspirational District under the NITI Aayog's Champions of Change program**, & faces challenges regarding basic infrastructure, including water, shelter & road facilities.

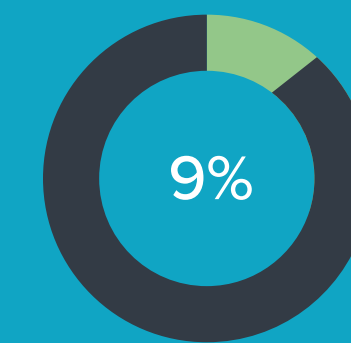
This project is being undertaken in the Limkheda block of district Dahod.

Need for an Intervention – Community's Challenges

Rainfall in Limkheda, Dahod is usually low & erratic. The region faces uneven water distribution & low ground water recharge due to high surface runoff & undulating terrain, thereby leading to an acute water shortage, especially in summers. During monsoon, drinking water sources get contaminated due to surface runoff containing pollutants. As a result, groundwater sources such as wells, handpumps, etc. were majorly being used to fetch water for domestic & drinking purposes, which more often than not had dangerously high levels of fluoride & nitrates. Additionally, there was a constant issue of hardness of water due to high mineral content. This situation was further aggravated by the depletion of groundwater levels due to overexploitation, lack of proper water management practices & disrupted water supply.



The problem disproportionately affected women & children, increasing their vulnerability, reducing their well-being, & reducing their participation in economically & socially productive activities. Education, especially education of girls, adversely suffers as a consequence.



Tap Water Connectivity in Limkheda stands at 9%, necessitating the intervention even further.

Source: Baseline Assessment of Sample Project Villages



Project Introduction & Objectives

Taking cognizance of this grave situation & the need for community involvement & behavior change for sustaining the intervention, CInI partnered with WASMO for a Social and Behavior Change Communication (SBCC) campaign within implementation of JJM in Limkheda. In effect, CInI is an Implementation Support Agency (ISA) for JJM in Limkheda.



Objective

To enhance the Government's Jal Jeevan Mission by embodying a commitment to sustainable water solutions, community empowerment, & innovative approaches for a water-secure future.

The project began in **September 2022** with the following goals:



To demonstrate & establish an effective & sustainable community-managed implementation model of drinking water supply schemes for 16,800 households across 47 villages, 500 hamlets/ habitations in Limkheda block of district Dahod in Gujarat.



To support & strengthen the implementation of the JJM in the selected geographies of Gujarat through evidence-based advocacy drawn from project lessons & results.

Scope of the Project

The project has been undertaken in the Limkheda block of district Dahod. The block consists of a total of

47 villages, with ~500 hamlets spanning across the selected area.

Gujarat

LIMKHEDA

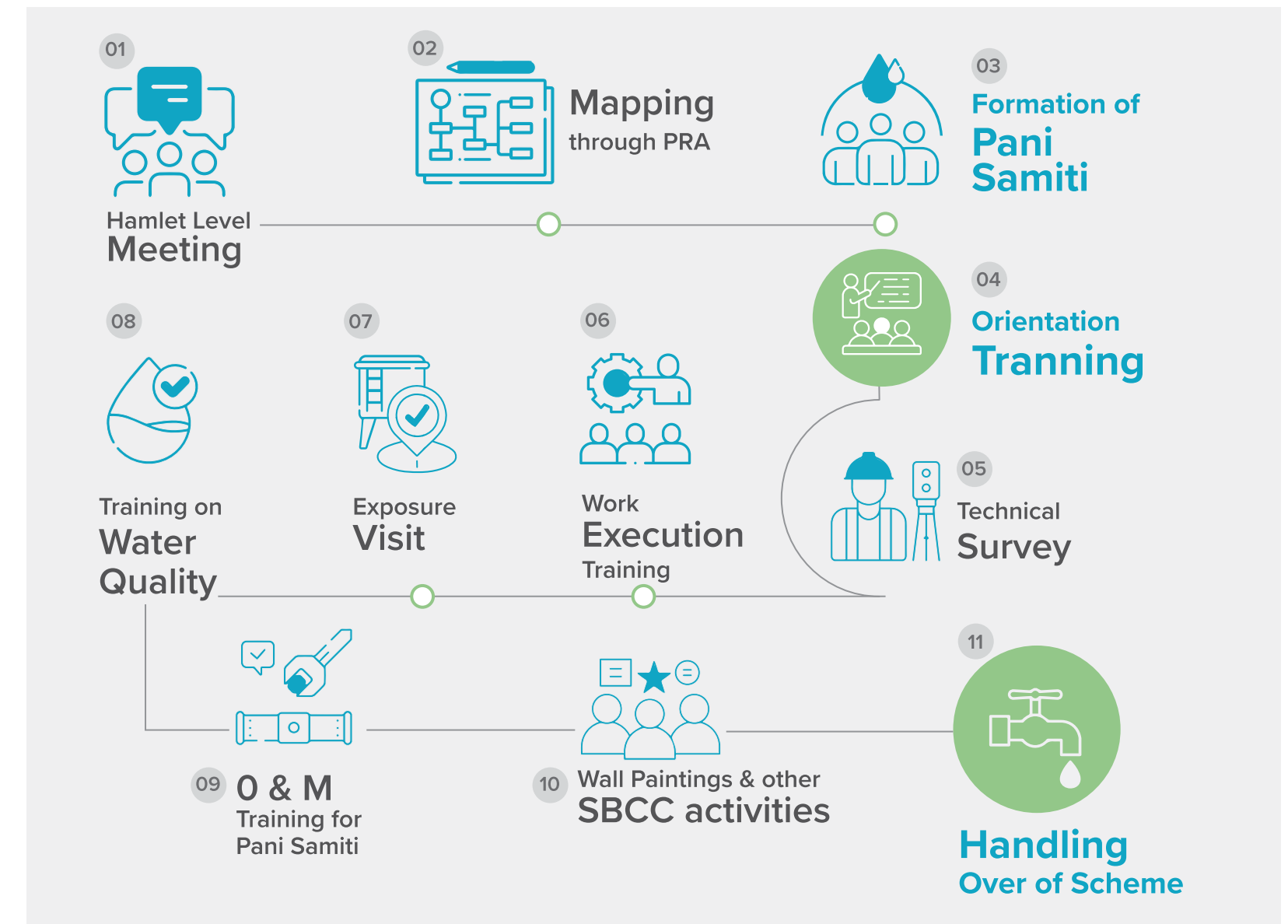
DAHOD District

Rajasthan

Madhya Pradesh

Key Activities Involved

The project follows a systematic approach to bringing about change in the community, and utilises a variety of capacity building and facilitation activities for promoting behavioural change towards water management and sustained operations:



Through this campaign, CInI implements the drinking water schemes and promotes behavioural changes at three levels



Individual



Household



Societal

Stakeholders in the Ecosystem

Three main stakeholders are



WASMO



CInI



Community



Overall Approach for the Project Implementation



Participatory Approach



Technology & Innovation



Sustainability & Self-Sufficiency

Participatory Approach: Keeping Community at the Heart of the Project

To ensure community empowerment & ownership & that the solutions developed are culturally appropriate & sustainable, CInI works with the locals during all stages of the project.



Planning

Support in formation & operationalization of Pani Samitis (VWSCS).

Mobilizing village residents, especially women to voice their challenges & needs wrt water & its management.

Preparation of Village Action Plans (VAPs) basis felt & identified needs of respective villages.



Implementation

Trainings & knowledge transfers conducted in locally relevant language & context to ensure active participation of the community in all activities.

Extensive hand-holding support for community-level capacity building to manage the water supply.



Operations & Maintenance

Trainings & knowledge transfers conducted in locally relevant language & context

Capacity building for efficiency running & maintaining the water supply infrastructure on their own.

Training of local cadre as Jal Yodhas for a smooth water tariff collection system.

Women are the most important members of the village community - the project categorically focusses on involving women residents at all stages.



Leveraging Technologies & Fostering Innovation

The project recognizes the need to adopt innovative & context-specific solutions to address the complex water challenges in Dahod:

Solarization

Using solar panels for water pumping systems, reducing reliance on traditional energy sources & making water distribution more sustainable & cost-effective.



Integration of Traditional Knowledge

CInI worked with the village residents to integrate traditional water management practices into the VAPs.



In-line Chlorination (ILC)

To ensure a uniform quality of water supply, CSPC's low-cost prototype for ILC is installed as part of the village water infrastructure that saves the Jal Yodha from manually chlorinating the water.





Ensuring Sustainability & Self-sufficiency

The sustainability of the project is largely dependent on the capacities of VWSCs to manage the scheme post commissioning & sustainability of the drinking water source to provide adequate water @55 lpcd to the targeted population. To ensure this, CInI keeps self-sufficiency as the central principle of the project.

Training & Capacity Building

CInI conducted comprehensive, specially curated training programs for VWSC members & all other residents of the region. Regular training programs conducted on technical & societal aspects of water management.

Development of Jal Yodhas for sustained O&M

An informed, conscious village society becomes a well-equipped community to run & sustain their water channels & sources. Hence, the project focusses on developing a cadre of trained community resource persons who then serve as local champions for water, responsible for operating & maintaining the water supply infrastructure as well as running the community water tariff system in their respective villages. Additionally, CInI capacitates the community to establish their water tariff system that ensures long-term financial sustainability of the water supply systems & related infrastructure.





Outcomes Achieved & Impact Realized

03

Quantitative figures



47

Pani Samitis Formed & Strengthened



Handholding support to

~500 hamlets



146

Community Trainings Organized (1,800+ at the Hamlet level)



3,800

Village Residents Trained



300

Hamlets Supported for Drinking Water Schemes



Anchored Safe Drinking Water Access to

12,609 Households



112

Hamlets Supported in Setting up Tariff Collecting Systems

Qualitative Impact & Ripple Effects

Environmentally sustainable intervention implemented

Quality of life enhanced

Diminished vulnerability & increased independence

Equitable access to water ensured to all village residents

Economic growth catalyzed

Sustainable development anchored

Decreased susceptibility to dropping out of school, especially girls

Health outcomes improved

Development of village-level cadre as Jal Yodha for planned, sustained operations

Enhanced productivity of women at work & home



Stories of Hope



Water
Access



Water
Quality



Water
Security

04



Water Access



Enhancing Water Access through Solar Energy & an All-Women Pani Samiti

Suthar is a small hamlet in Manli village with only 17 households working primarily in agriculture. The residents had been facing water access challenges for over two years. The water supply infrastructure installed in the hamlet lay defunct due to the lack of a stable electricity connection.

However, the unique all-women Pani Samiti of Suthar took proactive steps, reaching out to WASMO & eventually working with CInI to completely solarize the water supply system. This intervention has ensured an uninterrupted supply of clean & safe water for the hamlet's residents. The strong, independent & highly motivated women of the Pani Samiti have taken ownership of operating & maintaining the solar-powered water infrastructure. Their leadership has been instrumental in sustainably addressing the community's water needs.

Menaben Rameshbhai Suthar, the Pani Samiti President, shares how this game-changing project has eased the drudgery of water collection that previously consumed almost 4 hours per day, significantly reducing one's productive hours. "With reliable water access at the doorstep, we no longer have to travel long distances and wait in lines," she says gratefully.

Empowered by CInI's quality training, the Pani Samiti is now keen to incorporate an in-line chlorination system to further enhance water safety. Thus, by raising mass awareness & equipping them with the right resources & tools, CInI has ensured ever-lasting sustainability of the water supply infrastructure.



Ensuring Water Safety through Behavioral Change

Palla Faliya, a hamlet in Palli village, has a population of around 60 families, primarily engaged in agricultural activities. Their main source of water was an open well in the area, which was being contaminated due to unhygienic practices like open defecation in the vicinity.

Recognizing the urgent need to address this critical issue, CInI conducted an extensive awareness campaign in the region centered around maintaining cleanliness around open water sources. Through innovative activities like the 'Samman Rath' (Dignity Chariot) with jingles & video screenings, collective visits to existing water sources, & other immersive programs, CInI aimed to educate the residents about the hazards of poor sanitation practices near drinking water sources.

These efforts successfully raised mass awareness & fostered a sense of ownership among the households towards preserving their vital common water resource. The community was motivated to collectively adopt hygienic behaviors & take proactive measures to maintain a clean environment around the open well.

Parvatbhai Sankarbai Bariya, the Jal Yodha of the hamlet, recalls how the area surrounding the well they relied on was extremely unsanitary prior to the campaign. "After CInI's intervention, the people of Palla Faliya realized the importance of cleanliness and came together to ensure the well and its surroundings remained free of contamination," he affirms.





Powering Progress: Solar Solutions & Community Engagement Transform Water Supply in Bajipura

In the hamlet of Bajipura in village Kundha, the community faced significant challenges with their water supply system. Initially designed as part of a larger village scheme, this hamlet required a separate solution due to its location across a river. The primary issues included unreliable water supply, poor water quality, & frequent disruptions caused by electricity problems.

This is when CInI & WASMO stepped in. Recognizing the persistent electricity-related issues, CInI proposed solarization of the water supply infrastructure. This solution was implemented to combat the frequent voltage fluctuations that resulted in motor burnouts & supply interruptions. Thus, a multi-faceted approach was devised wherein on one hand, the water supply was being solarized & on the other, CInI started conducting community orientations & training sessions to lay a strong foundation for local ownership & participation.

The community's enthusiasm was evident, particularly in their proactive approach to resolving issues. They actively participated, contributing a total of Rs. 25,000 towards the project. When faced with water quality concerns, local leader Menaben Rameshbhai Rawat took the initiative to clean the well & ensure proper chlorination. The community also displayed resilience in dealing with frequent motor burnouts due to voltage fluctuations, collectively contributing funds for repairs.

CInI's capacity-building efforts bore fruit as the community established a robust water management system. They initiated a monthly water tariff of Rs. 50 per household, ensuring financial sustainability. An operator was appointed with a monthly honorarium, & detailed financial records were maintained.

The success of this intervention is evident in the consistent water supply & the community's ability to manage the system independently. The hybrid setup, allowing operation through both solar & electrical power, showcases the project's innovative approach, thereby demonstrating how CInI's targeted interventions, combined with community engagement, can lead to sustainable & resilient water supply solutions in challenging rural contexts.

Reaching the Unreached

Ninama Faliya, a hilltop hamlet in Fulpari village of Dahod district with just 7 households, has long been deprived of even basic facilities due to its remote geographical location. Exclusion from most development initiatives in the area has only reinforced the marginalization faced by this community. However, one of their most critical challenges was lack of access to safe drinking water. Their sole source was a hole dug in a rivulet that would run dry during the summer months.

When CInI first approached Ninama Faliya to work on water security solutions, the residents were understandably skeptical, having been let down by 'false hopes' in the past. It took considerable effort over time - patiently engaging with every household, understanding their concerns, & assuring them of our commitment to provide quality water facilities contingent on their cooperation & support.

Gradually, the CInI team was able to win their trust. A Pani Samiti was formed with community members to drive the project in a participatory manner. The project still hit roadblocks - there was no pucca road connecting the hamlet to the rest of the region & hence there was no way for the truck to come in & do borehole drilling. To this end, both CInI & the hamlet community together pursued the state government to get a proper road made.

Today, this once water-stressed hamlet receives a steady water supply from a solar-powered borewell managed by the hamlet's Jal Yodha, Kantaben.

This intervention exemplifies CInI's focus on reaching the last mile & bringing long-awaited development to underserved

pockets like Ninama Faliya. More than just providing infrastructure, it has been about giving the community a voice, fostering ownership, & embedding sustainable water management practices through capacity building.





Participatory Approach for Successful Implementation in Bara

Bara, a hilly village in Limkheda, Dahod, comprises of around 325 households spread across 4 hamlets. Lacking proper roads & other basic infrastructure, the community here has long grappled with issues of marginalization. Their primary water sources had been open wells, borewells & handpumps, with only one hamlet having access to an efficient supply under the Jal Jeevan Mission while the others depended on common local sources.

When CInI initiated work to address the water insecurity in Bara, the biggest challenge was building rapport with the residents & instilling a sense of hope regarding the long-term benefits of this intervention. Initial construction efforts faced roadblocks due to the community's lack of faith & confidence in the project's ability to impact their lives positively. Ensuring quality & timely progress on the water supply infrastructure became extremely difficult.

To overcome these hurdles, CInI made concerted efforts to engage & connect with the community through personalized awareness campaigns & extensive handholding support. Mobilizing the residents through formation of Pani Samitis, developing Village Action Plans, & providing construction management guidance were critical aspects of this process.

Today, thanks to the relentless leadership of the Jal Yodhas & the seeds sown by CInI, all 4 hamlets of Bara are successfully operating & maintaining their own water systems autonomously.

Awareness & Capacity Building for Ensuring Sense of Ownership & Collective Action

In the Jetpur village of Dahod, the tribal community have long relied on open wells & hand pumps for drinking water. This often led to water scarcity during summer & quality issues during the monsoon. Additionally, water supply was often interrupted for long periods of time due to electricity faults & repairing downtime. To address these challenges, CInI launched a comprehensive initiative of setting up a solar plant for electrifying the water infrastructure as well mobilising the local community for enhanced water quality, management & sustained operations.

CInI started with mass awareness campaigns, meetings, & training sessions at both village & hamlet levels. These efforts aimed at educating residents about water sustainability, emphasizing on the importance of their involvement. A key part of this initiative was organizing exposure visits for 42 community leaders to showcase successful water sustainability practices, inspiring them to implement similar strategies in Jetpur. Simultaneously, the solar plant was set up to reduce the village's reliance on the often interrupted & faulty transmitted electricity.

The village Sarpanch played a pivotal role in this transformation. By motivating & enlightening the community, the Sarpanch helped residents understand the importance of taking charge of their water supply.

Hamlet-specific Pani Samitis were formed to oversee the project. Members received training to ensure the correct laying of pipelines & to ensure that all households get a tap connection without fail. Karnikaben, a resident, reflected on the process: "Initially, we thought our involvement was just a formality, but we soon realized that this intervention's success is dependent on our ownership."

Thanks to CInI's proactive approach & the dedicated involvement of the village Sarpanch & Pani Samitis, Jetpur has seen significant improvements in its water supply. Additionally, of the 9 hamlets of the village, only 6 had direct access to the solarised water source. To support the rest 3 hamlets, the community took an initiative to lay a pipeline further. Thus, the community-driven model ensured that going forward, the community has sufficient capabilities to handle & maintain their water supply operations.





Water Quality



Ensuring Water Safety in Uchwas Faliya

The hamlet Uchwas Faliya sits within the village of Manli. For years, the 58 agricultural families living in the hamlet have relied on borewells as their primary source of drinking water. This practice continued unchanged until CInI stepped in to conduct multiple water quality training sessions.

CInI, through its exhaustive capacity building sessions on water quality, testing, water infrastructure management, awakened the residents about the grave consequences of low quality water. It highlighted the potential hazards lurking in borewell water, especially during the monsoon season when surface runoff can lead to contamination. The villagers learned about the invisible threats—such as fluoride, nitrates & other harmful contaminants—that could severely impact their health.

Among the attendees was Vasntaben Mukeshbhai Patel, a 37-year-old resident who had been using borewell water for years without a second thought. “I couldn’t have imagined that my borewell water could be this contaminated,” she said. Armed with the knowledge & tools provided by CInI, Vasntaben discovered alarmingly high levels of nitrate in her family’s drinking water using a field testing kit (FTK).

The realization hit hard. The training sessions not only educated the tribal community about the dangers of untreated water but also empowered them with practical skills to test & ensure the safety of their water. CInI’s participative demonstrations made a significant impact, fostering a new awareness & prompting immediate action within the community.

Residents of Uchwas Faliya now understand the grave repercussions of consuming contaminated water. They are taking proactive steps to safeguard their health, ensuring that their drinking water is tested & treated appropriately. CInI’s initiative has sparked a transformation in this small hamlet, turning knowledge into action & paving the way for a healthier future for its inhabitants.

Driving Innovations for Water Safety & Sufficiency in Roz Haveli

For years, the 47 households in the small hamlet of Roz Haveli within Bavka village had been grappling with poor water quality. The issue had been a constant challenge for overall development of the hamlet, despite the residents' repeated efforts. So much so that a resident ASHA worker had been manually adding bleaching powder to the contaminated water source in an effort to make it safer for consumption.

This is when CInI stepped in. When CInI informed the residents about the low-cost in-line chlorination (ILC) prototype developed by CInI that can reliably treat water with a controlled chlorine dose, they were overjoyed at the prospect of a more effective solution. The hamlet's Pani Samiti enthusiastically collaborated with CInI to implement the ILC system using their own funds. In parallel, the CInI team installed a Smart Bulk Flow Meter to continuously monitor water supply levels & ensure adequate availability for the region. This integrated approach became a game changer for the hamlet.

Chhatrasinh Bharatsinh Solanki, the hamlet's Jal Yodha, expressed immense relief at being able to reduce his arduous manual efforts around chlorination & water tracking. Moreover, he now earns an honorarium for overseeing these critical tasks through the new, improved water supply infrastructure.

Thus, driven by community participation & context appropriate technology solutions, CInI effectively resolved Roz Haveli's long-standing water quality issues.





Fostering Use of Technology for Water Safety in Kali Pahani

Kali Pahani, a small hamlet in Chilakota with around 22 households, is predominantly inhabited by households engaged in agriculture. They had been facing a serious water quality issue - the community was somewhat aware of the compromised water quality, but couldn't make out what it was. Thereafter, CInI stepped in to check the water quality, & the water testing revealed alarmingly high concentrations of fluoride in the water used by residents for domestic & agricultural purposes - well beyond permissible limits for safe drinking.

Recognizing this as a potential health hazard, CInI swiftly implemented a comprehensive fluoride treatment plan for the area. This involved deploying defluoridation techniques such as the Nalgonda technique, activated alumina filtration, & distillation methods. Pre & post-treatment tests confirmed a significant reduction in fluoride concentration, bringing it within acceptable limits for consumption & use. This intervention has effectively mitigated the long-term risks posed by excessive fluoride exposure.

A key component of CInI's work in the hamlet was to capacitate the hamlet residents to run & maintain the quality of the water supply on their own. Sangeetaben Praveenbhai Bhuriya, the hamlet's Jal Yodha, received in-depth training to independently operate & maintain the new water infrastructure for ensuring sustainable access to safe water.



Water Security



Water Security through Source Sustainability

Vadela, a hamlet in Kundha village with 43 households primarily engaged in agricultural activities, has been relying on local open wells & borewells as the main sources of water. While this supply may currently suffice for the area's needs, CInI recognized the looming threat of groundwater depletion that could soon render these wells dry.

To proactively address this unsustainable situation, CInI initiated interventions focused on augmenting the region's water reserves through check dam construction as well as repairing & desilting existing check dams. This comprehensive approach has remarkably increased the reservoir capacity, consequently recharging groundwater levels.

The transformative impact was evident within just three days of completing check dam work in the area. As Rajubhai Balubhai Parma, a resident of Vadel Faliya, attests, "We witnessed a significant water level rise of 4-5 feet in 8 open wells located near the newly constructed check dam." He adds that this intervention is bound to have a resounding positive impact on sustaining water sources across neighboring hamlets as well.

By implementing strategic water conservation structures, CInI effectively secured the long-term sustainability of Vadela's critical water resources. This helped support the community's predominant agricultural livelihood while mitigating the risks of imminent water scarcity.



Road Ahead

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Road Ahead

This book is an elaborate exhibit of the power of community-driven initiatives and the transformative potential of sustainable water management. As the pages of this book have showcased, the true impact of this intervention lies in the transformation of mindsets, the fostering of ownership, and the cultivation of a harmonious relationship between communities and their natural environment – a legacy that will continue to inspire and guide future generations on the path to a water-secure and sustainable future. The stories of the tribes of Dahod shared here are not just narratives of individual triumphs, rather they are testaments to the resilience, ingenuity, and spirit of rural communities.

Going forward, as CInI, we aim to focus on supporting the community in strengthening their tariff collection mechanisms and overall O&M activities. 3. The goal is to develop water security & safety plans for hamlets & villages, with special emphasis on source strengthening, to ensure safe and adequately-chlorinated water distribution to 20,000 tribal households.

For in the end, it is the collective efforts of communities, organizations, and individuals that will pave the way towards a water-secure future for all.





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