

UNITED BREWERIES LIMITED

CSR Annual Report FY 21-22

Brew a Better World

Message from the Managing Director

Rishi Pardal

At United Breweries, we are passionate about brewing a better world. With a strong legacy of being one of India's most loved social beverages companies, we recognise that inclusive growth is the key to long-term progress for all stakeholders. That is why we are making conscious efforts to put sustainability and responsibility at the front and center of everything we brew at UBL. This is reflected in our CSR approach where we identify the needs of the communities living in the vicinity of our breweries and work towards implementing innovative projects that benefit both people and planet. Through our CSR commitments we are raising the bar on water conservation, women empowerment, responsible consumption of alcohol and accelerating efforts to support the development of our co-communities.

Water is a major focus area for UBL, and we are taking conscious decisions towards creating a balance in the groundwater table between what we use and what we give back. Through sustainable manufacturing practices we look inward to reduce our water footprint and through our CSR initiatives we look beyond the walls of our breweries to improve water availability, quality, and accessibility in our co-communities.

In FY 21-22, we implemented seven large water conservation projects in Rajasthan, Punjab, Haryana, Karnataka, Kerala, Telangana, and Tamil Nadu. We collaborated with multiple reputed NGOs to implement meaningful interventions in water stewardship, especially in water stressed areas. The projects included rejuvenation of water bodies, installation of rainwater harvesting structures, construction of ponds and borewells, providing access to safe drinking water, and creating awareness around water management. The report explains these interventions in greater detail. At UBL, our aim is to continue driving such ambitious projects to support and sustain water resources and continue our journey towards water efficiency.

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Inclusion is at the heart of everything we do at United Breweries. In our bid to ensure a more equal world we revised our CSR strategy and added women empowerment as a focus area to support rural, marginalised women and improve their socio-economic status. We launched two projects- Pragati and Tarang. Pragati is our scholarship programme through which we have successfully supported meritorious girl students and will continue to support many more over the next year to realize their dreams of a fulfilling career and through Tarang we have partnered with women farmers to enable a sustainable source of livelihood through agroforestry.

Our community development initiatives focused majorly on responding to the COVID crisis in our co-communities. With the support of our NGO partners, we conducted a rapid need assessment and initiated discussions with the Gram Panchayats and local government authorities to explore ways of fulfilling the requirements of the communities. With the help of our NGO partners, we made provisions for ambulances, oxygen cylinders, ICU beds, oxygen plants and ventilators at various locations. We also partnered with NRAI (National Restaurant Association of India) to implement H.E.A.L-a country-wide vaccination programme for essential workers of the restaurant industry. Besides this, we also continued supporting our other key community development project of developing an urban forest at Aurangabad.

As a responsible corporate citizen, we realise that since our operations span across the country, we have an opportunity and a responsibility to use our business as a positive force of change. We are therefore committed to making a meaningful difference to the communities where we source, live, work and sell our products to drive impactful and sustainable change.

Regards, **Rishi Pardal**

Focus Areas



Water

Women Empowerment

Community Development

Budget & Beneficiaries













Water

Water is necessary for life, livelihood, food security and sustainable development. Recognising the severity of water crisis in India, we are committed to alleviate all water woes in our co-communities. Water is our most important CSR focus area and we have therefore, undertaken projects to create sustainable access to water and citizen-led governance for water resources within communities living in the vicinity of our breweries.





Project Water Conservation

Location: Behror, Alwar, Rajasthan Implementation Partner: S M Sehgal Foundation



Project Brief

Behror is a drought prone area with an average rainfall of 582 mm. Agriculture is a major occupation for the people in Behror block where most farmers are small landholders making marginal profits. They mostly use flood irrigation for cultivating their crops, which is inefficient because it wastes water, is time consuming, and adversely affects the crops. This in turn reduces the crop yield thereby reducing the income of the farmers.

When we took up this project in 2020, we knew that since Behror is surrounded by the Aravalli hills it has potential to store water and enable groundwater recharge. So, we decided to rejuvenate traditional water bodies and enhance water use efficiency among farmers by demonstrating better agricultural practices like farm bunding, laser levelling and installation of sprinkler irrigation system.

After our on-ground scoping exercise we identified 4 villages in Behror block viz. Dhodhakari, Jonaycha Kalan, Chaubara and Shriyani for pond rejuvenation. The location of each pond was strategically chosen so that the rainwater runoff is



Pond rejuvenation at Jonaycha Kalan village



Pond rejuvenation at Shriyani village



naturally directed to the ponds. In the last two years we have desilted, deepend and completely rejuvenated all the ponds.

In our initial scoping exercise, we came across another problem that the farmers of Behror were facing. The farmlands in the block are extremely uneven, which becomes a major issue when it comes to irrigation. Crops at higher height don't get enough water and often end up drying out whereas those in lower levels mostly get spoilt because of water logging. To address this issue, we introduced the farmers to the concept of laser levelling which evens their farmland, saves irrigation water and promotes better crop yield. Initially farmers were reluctant to embrace this solution, but after the demonstrations were done, 30 farmers from the villages of Belni, Pratapur and Roadwal came forward and have taken advantage of this solution.

Besides this, we also engaged with local farmers to promote the use of drip and mini sprinkler irrigation. 48 farmers joined hands with us and switched over to mini sprinkler irrigation system irrigating 48 acres of land. The beneficiaries have all been taking advantage of the new irrigation system specially during the summer season and the farmers have reported savings of 35-45% water as compared to their previous system. They are also saving both time and effort because of the increased efficiency of the new system.

We also set up Gram Sangathans in each village, and the members were trained to work together towards the development of their village. This group comprises of social leaders, panchayat members, progressive farmers and has representatives from all sections of the community. A primary responsibility of the Gram Sangathan is to ensure the sustainability of structures created during the projects, and ensure their maintenance and repairs using the corpus funds generated through community contribution which is collected before the construction of the structures. Gram Sangathan members are trained on their role and responsibilities, water management, sustainability, government schemes and other topics. Over the course of this project, we have conducted 62 training sessions for the members of the Gram Sangathans.



Pond rejuvenation at Chaubara village



Nityanand Yadav from Jonaycha Kalan village switched over from large sprinklers to mini sprinklers. He says, "I got four benefits through the installation of mini-sprinklers, in addition to good crop productivity, I am saving time, water, electricity and labour. Earlier, I was using 12 large sprinklers for watering 0.3 acres and now I use 53 minisprinklers for watering 0.93 acres – which takes the same amount of time and water."

Project **Haritha Samruddhi**

Location: Pudussery Gram Panchayat, Palakkad, Kerala Implementation Partner: United Way Bengaluru



Project Brief

According to the Central Ground Water Board's (CGWB) "Ground Water Information Booklet", the Malampuzha block has been categorized as critical for future ground water development. Pudussery falls under the water catchment area of Malampuzha valley and despite high rainfall, the topography doesn't allow for water storage and rainwater runoff is high. Although the Gram Panchayat supplies water to its hamlets through the Malampuzha dam water supply scheme, the amount of water is inadequate to serve the domestic and drinking needs of the community. As a result, the communities have had to struggle to meet their drinking water and irrigation requirements during the summer season. Additionally, in recent years due to erratic rainfall, deforestation, excessive mining and over exploitation of groundwater the water table has drastically decreased resulting in drought like situation.



Check dam



The groundwater crisis has given rise to multiple socio-economic issues like low agricultural yield, unemployment and ultimately migration. To address these issues, we joined hands with United Way of Bengaluru in 2019 to implement a comprehensive project spanning over the next three years. The aim was to introduce a Water Commons initiative and improve the end-to-end management, governance, and sustainability of water resources in 17 hamlets of the Pudussery Gram Panchayat. We named the project 'Haritha Samruddhi' which literally translates to 'Green Prosperity'.

The major initiatives under the project included water and soil conservation measures including rejuvenation of water bodies/structures that already exist in the villages, constructing new water conservation structures following the ridge to valley approach, training farmers to promote sustainable livelihood through organic and other climate resilient farming practices and strengthening village institutions for local stewardship.

We started our project by forming Water Management Committees who were sensitized and trained to take the ownership of the project activities and the assets created during the project duration. This was an important step to ensure the sustainability of the project and ensure citizen participation.



CBO meeting



"We were dependent on the Malampuzha pipeline for water, but since we are living in a hilly area the supply is not stable. When people living in the lower parts of the Gram Panchayat start storing water, the supply to our area reduces and eventually stops. UBL helped me install a rainwater harvesting system in my home. Now, even if we don't get the pipeline water for a week, we have our own water tanks which help us sustain. I am a daily wage worker and earlier I had to miss work trying to arrange water for my family but because of this project we have enough water throughout the year."

Yeshudas, Daily wage worker, Pudussery Village

Over the last 3 years, we restored 350 borewells, 10 open wells, installed 72 rooftop rainwater harvesting units, rejuvenated 19 ponds, constructed 2 check dams, 5000 water absorption trenches, 123 gully plugs, 4 sub-surface barriers, farm bunds in 100 acres of land and planted 7000 trees. We also worked closely with farmers and trained them in climate resilient farming practices along with setting up 200 composting units, 500 nutrition gardens and forming 2 Farmer Producer Organisations (FPOs).

Amongst these activities, our collaboration with the farmers of Pudussery has been specifically impactful. Palakkad is known as the rice bowl of Kerala and rice cultivation has been practised over generations with excessive use of water, chemical fertilizers, and pesticides. Though these techniques initially increase the crop yield; overtime it depletes the soil's structure and its nutritional content resulting in low crop productivity. Having understood this large-scale problem in the district, we launched a System of Rice Intensification (SRI) pilot. SRI is essentially a climate resilient farming technique to increase the yield of paddy. It saves about 40% of irrigation water and uses organic manure and pest repellents instead of chemical fertilizers or pesticides. Through this intervention we have touched the lives of 3151 farmers and successfully developed over 20 acres of land under SRI.

Over the project duration of 3 years, we have touched the lives of 41696 people through this project and ushered a positive change in Pudussery Gram Panchayat. We have witnessed a significant increase in availability of surface and groundwater, reduction in soil erosion, an improvement in green cover and biodiversity, growth in household income of the families and an overall development of social wellbeing in the region.







Organic growth promoters



Open well restoration



Rainwater harvesting structure





Sensitization Session



Pond rejuvenation

Project Water Conservation

Location: Nelamangala, Karnataka and Kondapur, Telangana Implementation Partner: Action for Food Production



Project Brief

Sangareddy district is located in the northern region of Telangana. Agriculture is the predominant sector of the district's economy with major crops being rice, jowar, bajra, sugarcane and cotton. These crops are water intensive in nature and famers majorly use groundwater for irrigating their fields because of unavailability of surface water. Most common groundwater abstraction structures in Sangareddy are dug wells, dug-cum-borewells and borewells. An indiscriminate drilling of borewells and excessive pumping of groundwater for irrigation has depleted groundwater levels in the recent years.

The villages in Nelamangala also face acute water scarcity because of the rampant digging of borewells in the area. There are no surface water reservoirs in the villages, and the community is dependent on public borewells. The decreasing groundwater levels create no aquifer recharge leading to more defunct borewells. Through this project our goal is to address the groundwater issues in both these locations and enable access to reliable water sources.



Check dam at Terpole village



Check dam at Guddegowdanachanchalli village



In FY 21-22 we implemented the following interventions:

At Sangareddy:

- · Construction of 3 check dams; 1 in Gollaplly and 2 in Terpole village
- Construction of 3 percolation tanks at Anantasagar, Mandhapur and Dobbakunta villages
- Construction of 3 recharge shafts; 1 in Gollapally village and 2 structures in Kothlapur village
- Capacity building sessions on improved agricultural practices and water conservation were organised in 8 villages viz. Mallepally, Gopularam, Haridaspur Gollapally, Mandapur, Munidevunipally, Dobbakunta and Machepally

At Nelamangala:

- Construction of 5 check dams; 1 in Guddegowdanachanohalli and 2 each in and Hasiruvalli villages
- Construction of 15 recharge shafts; 3 each in Kalalaghatta, Chikkanahalli and Jakkanahalli villages, 2 in Guddegowdanachanohalli and 1 each in Minnapura, Byranayakanahalli, Vadakunte and Gundenahalli villages
- 20 Capacity building sessions on improved agricultural practices and water conservation and management were organised across10 villages
- 3 farmer user groups were formed in Vadakunte, Hasiruvalli and Byranayakanahalli



Check Dam at Gollapally village



Injection borewell at Terpole village



Recharge Pit at Jakkanahalli village



"Earlier, while digging for borewells we had to dig deeper to reach the underlying aquifers. However, the recent installation of percolation tanks in prominent locations of the village has promptly restored and recharged the groundwater leading to the rejuvenation of borewells. Now, both crops and cattle are flourishing because of the abundance of water."

Ramalu Nayak - Sarpanch, Machepally village

Project Water Conservation

Location: Dharuhera, Haryana

Implementation Partner: Akhil Bhartiya Gramin Uthan Samiti



Project Brief

The Dharuhera tehsil of Rewari district Haryana has been categorized as over-exploited for groundwater and therefore faces severe challenges when it comes to water, sanitation and hygiene. With the groundwater table declining significantly in the recent years the region has witnessed a rise malnutrition and incidence of communicable diseases. We found that the best way to address these issues is through a water conservation project. The idea was to increase the availability of water resources in the village while creating potential for groundwater recharge. We chose 4 villages in the tehsil that were water stressed viz. Rajpura, Akera, Ghatal and Masani to implement this project. During our baseline survey we found that the villages have water resources like ponds but they are either contaminated or have no access to water inlets making them completely defunct for recharge. The reason for this is the lack of awareness around water management practices and proper maintenance of the ponds in the villages because of which they have dried up over the years and have been converted into waste and sewage dumping sites.



Pond rejuvenation



We joined hands with the Gram Panchayats to rejuvenate village ponds. Over the last two years, we faced challenges with multiple lockdowns and restrictions but were able to complete the rejuvenation of two ponds in Ghatal village and one pond each at Rajpura, Akera and Masani villages. The rejuvenation included activities like:

- dewatering and desilting of ponds
- deepening of ponds to increase their storage and recharge capacity
- pitching of ponds, notching their base and land levelling to increase potential catchment area
- constructing ponds' walls, water inlets/input points, contour bunds and field bunds to strengthen the pond structure
- putting bio-sand-filters and low-cost sewerage treatment structures to prevent water contamination
- constructing drains to enable rainwater runoff to the ponds
- constructing waste weirs to remove excess water and drain the ponds for future repairs
- fencing, fixing stay guards and installing safety bards around ponds to ensure safety
- plantation around the ponds' boundaries



Pond rejuvenation



"I am happy that the rejuvenated pond has not only helped in increasing the groundwater level by 2-3 feet in the last one year, but it has also helped marginal farmers like me to cultivate both rabi and kharif crops thereby increasing my annual income. I am very grateful to UBL for choosing our village for this project."

Prem - Sarpanch, Akera village

Project Water Conservation

Location: Ludhiana, Punjab

Implementation Partner: Action for Food Production



Project Brief

As per CGWB, out of 138 blocks in the state of Punjab, 109 are overexploited, 2 are critical, and 5 are semi-critical. In the 1990s, about 40% of land was irrigated by the canals in the state but now, nearly 72 % of the area is irrigated by tube wells. According to CGWB officials, the major reasons behind excessive extraction of groundwater is a lack of proper planning of systematic groundwater extraction, cropping pattern – extensive paddy cultivation, irrigation through tube well, etc.

Through our initial water budgeting exercise in a 20km radius of Ludhiana, we found that groundwater is drafted in this region mainly to fulfill the agricultural and industrial requirements which in turn has severely depleted groundwater levels. The area required an immediate intervention for groundwater recharge, and we decided to do so by installing rooftop rainwater structures and rejuvenating ponds. In FY 20-21 we installed 14 rooftop rainwater harvesting units across 10 villages and in FY 21-22 we completed pond rejuvenation at Panglian and Budhewal villages near Ludhiana.



Pond rejuvenation at Panglian village



Major activities under pond rejuvenation included:

- dewatering and desilting of ponds
- excavating the basin and embankment to strengthen the structure of the ponds
- installing durable geomembrane around the ponds to control soil erosion and avoid water loss through seepage
- constructing 2 recharge bores in the centre of the ponds
- \cdot constructing drains to enable rainwater runoff to the ponds
- constructing ponds' walls, water inlets/input points, contour bunds and field bunds to strengthen the pond structure
- constructing two siltation chambers to enable siltation of heavy particles and to control the flow of water to the ponds
- fencing, fixing stay guards and installing safety boards around ponds to ensure safety



• plantation around the ponds' boundaries

Pond rejuvenation at Budhewal village



"This is a welcome change. The whole village is very happy about the rejuvenated pond especially the farmers as they don't have to worry about digging deep for setting up pumps. On behalf of the village, I would like to thank UBL, for their dedication and patience during this process. A noble initiative indeed."

Almajeet Singh - Sarpanch, Panglian village

Project Water Conservation Phase-II

Location: Thiruvallur, Tamil Nadu

Implementation Partner: Dilasa Janvikas Pratishthan



Project Brief

Thiruvallur district near Chennai, Tamil Nadu is a semitropical region. Agriculture is a major occupation and farmers are reliant on rain to irrigate their crops. During the non-monsoon months, they use wells and borewells to irrigate their crops. This region's groundwater potential is considered semi-critical, and the increasing instance of lift irrigation from wells and agricultural pump-sets is worsening the condition. Farmers have insufficient water for irrigation and wells have dried up due to heavy siltation in the existing water resources in the villages. In December 2020, we conducted a rapid rural need assessment exercise in Thiruvallur and Poonamallee block, Thiruvallur, Tamil Nadu in consultation with the community and Gram Panchayat.

From the study we found that the community faces water shortage specially between the months of March and July.



Lake rejuvenation



Rainwater is the only source of irrigation and the existing water sources in the villages are heavily silted with no water storage potential or groundwater recharge capacity. We also observed the existence of an invasive shrub species Prosopis Juliflora which is very water intensive adding to the water stress in the area. The community had no awareness on water conservation or efficient use of water resources.

To address these issues, we decided to implement a project in this area. The first phase of this project was successfully implemented in FY 20-21 where we rejuvenated 7 lakes in 4 villages of Thiruvallur district. After witnessing the immense impact of the project on the groundwater level in this region the District authorities and Gram Panchayat approached UBL and our implementation partner Dilasa to rejuvenate more water bodies in the nearby villages. So, in March 2022 we decided to launch phase II and expand the project to 8 villages viz. Vengathur, Aranvoyal, Koppur, Murukancherry, Gudapakkam, Palanjur, Kuthambakkam and Tiruvarur. We plan to rejuvenate 6 more lakes and continue working with the community towards water efficiency.





Tirur Lake



Excavation work in Tirur Village

Vengathur Lake



Awareness programme on water conservation in Aranvoyal



Awareness programme on water conservation in Aranvoyal Meeting with GP president of Tirur Gram Panchayat





Women Empowerment

Inclusion is at the heart of our corporate agenda both within and beyond the walls of our breweries. In the beginning of FY 21-22 we revised our CSR policy and introduced women empowerment as a CSR focus area. We knew that our approach needs to be equity oriented and not welfare oriented to actualize empowerment of women within our co-communities. Our aim is to directly engage with women and implement meaningful projects that enable their socio-economic empowerment.



Project Tarang Agroforestry

Location: Aurangabad, Maharashtra

Implementation Partner: Prayas Youth Foundation



Project Brief

According to the Food and Agricultural Organization, empowering women through land and ownership rights has the potential of raising total agricultural output in developing countries by 2.5 to 4 percent and can reduce hunger across the world by 12-17 percent.

Women farmers in India perform most of the big farming jobs, from sowing to harvesting, yet their access to resources is less than their male counterparts. The dream of socioeconomic empowerment of women will not be complete without empowering our farmers. This can be done through training/education of the farmers to expand their agricultural knowledge and skills, as well as guiding them on how to market and sell their produce.

Agroforestry includes planting fruit bearing trees that are planted and managed in agricultural landscapes as they interact with annual crops, livestock, wildlife and humans. It is an efficient solution to train the farmers on agri-allied business, while increasing green cover, enabling carbon sequestration, reducing pollution and improving biodiversity of the project





area.

This is why in March 2022 we launched project Tarang in 8 villages viz. Ghanegaon, Kasoda, Ambegaon, Ambelohal, Khojewadi, Eklahra, Nandeda and Shahpur Banjar (Wadachi Waadi). Tarang focuses on partnering with 30 women farmers to create fruit forests with more than 15000 fruit bearing trees. This project will promote livelihood, environmental sustainability and also boost rural economy with climate resilient agricultural practices.







Farmer training

Project **Pragati**

Location: Pan India

Implementation Partner: Shiksha Seva Foundation



Project Brief

India holds an important place in the global education industry. We have more than 1.5 million schools with over 260 million students enrolled and more than 42,000 higher education institutes. As per the AISHE (All India Survey on Higher Education Report) the gross enrolment ratio in higher education is only 27.1 percent and experts have observed a huge dropout in the enrolment at the higher education level which stands at a whopping rate of more than 73 percent. The dropout is majorly prominent among the female population specially in the rural areas of the country where families with limited financial resources do not prioritise educating the girls in their family. To address this issue, we partnered with Shiksha Seva Foundation and Protean eGov Technologies Ltd. to implement Pragati scholarship programme.

We launched Pragati in March 2022, with the aim to help meritorious girl students to pursue academic excellence and career opportunities.







We kept the following conditions to screen the scholarship applications:

- The scholarship is only open to girls studying in secondary, higher secondary, undergraduate and ITI
- Applicants must have secured at least 60 percent in aggregate in the previous year
- The total annual family income of the parents/guardians (in case parents are not alive) in the preceding financial year should be INR 5 lakhs and below





"Currently I am studying at MGM new Bombay College of Nursing, Kamothe. I received a scholarship INR 30,000 from UBL's Pragati scholarship programme. I thank UBL for selecting me and helping me in my education."

Ankita Anant Bhatade - Navi Mumbai, Maharashtra



"I am currently pursuing my Bachelor of Engineering from Pillai Hoc college of engineering and technology in Civil Engineering. My father is the only earning member in my family and paying my college fees is challenging as he has the responsibility of educating my younger siblings. With the help of Pragati scholarship, I was able to pay my college fees and lower the financial burden on my parents. It helped me to focus on my studies and achieve my dreams. Thank you UBL"

Ashwini Ratan Patil - Navi Mumbai, Maharashtra





Community Development

Being a responsible corporate citizen, we are concerned about our co-communities. To ensure their socio-economic progress we have identified Community Development as one of our CSR focus areas. Under this, we implement various community-level projects to address any specific needs or requirements of communities living in the vicinity of our breweries.



Project Community Development

Location: Waluj, MIDC, Aurangabad, Maharashtra Implementation Partner: Prayas Youth Foundation



Project Brief

MIDC Waluj is one of the major industrial hubs of Aurangabad, Maharashtra. As per the list of 100 highly polluted areas (2017– 18) in the country, Aurangabad falls in the "severely polluted" category, with a Comprehensive Environmental Pollution Index (CEPI) score of 69.85. There was an urgent need to improve the air quality, restore ecological balance and improve biodiversity in the area. To address these issues, we collaborated with CanPack India and Prayas Youth Foundation to implement Project Oxygen Hub- a unique initiative to develop an urban native forest using the Miyawaki technique of plantation.

Developed by Dr Akira Miyawaki, a Japanese botanist and plant ecology expert, the Miyawaki technique has a multilayer plantation approach proven to work worldwide, irrespective of soil and climatic conditions. The entire process is 100 percent natural and free of any chemicals. Compared to conventional landscapes and tree plantations, forests developed using the Miyawaki method grow 10 times faster have 30 times more green surface area and are full of biodiversity.





When we launched the project back in 2020, soil productivity was one of the major challenges we faced at the project site. The land had been heavily mined and had limited to no potential of sustaining plants. There were parts of land that were being used for unauthorised waste dumping where industries had been dumping their solid and chemical waste. Our first step was to level the land and treat the soil to enhance productivity. Once the soil was fit for plantation, we planted a staggering 75,000 saplings of more than 50 native species of shrubs and trees in the 5-acre land. We even constructed a pond with a capacity to hold over 1 lakh+ litres of water. The pond harvests rainwater and through a 500ft long- 5ft wide trench the rainwater is channelized to all corners of the forest. The pond and the forest together have also effectively recharge groundwater and prevent soil erosion.

The transformation journey



May, 2020 Site when project was initiated

Jul, 2020 Site after Ground Preparation

Dec, 2020 Site after plantation

Sept, 2021 Site after project completion



Before Dec 2020



After Sept 2021

Over the last two years, we have witnessed the marvellous transformation from a dump yard to a blooming forest. We have continued to maintain a biodiversity register which is essentially a document containing comprehensive information on the availability and knowledge of bio-resources like plants, animals, birds, insects and other organisms in our forest. As we have used a modern afforestation technique and ensured timely maintenance, the project will become self- sustainable by 2023. In the long run the forest will not only be home to a varied range of biodiversity but will act as a carbon sink by giving out approximately 9750 tons of oxygen every year.

Seeing the success of Project Oxygen Hub (Phase 1), we launched Project Oxygen Zone (Phase 2) in March 2022; to continue our commitment towards environmental sustainability.

Flora – Medicinal Trees



Bombax ceiba (Katesavar, Indian Cottonwood)



Ficus Virens (Pakad, Pilkhan, Ram Anjeer)

Terminalia Arjuna (Arjuna)

Manilkara hexandra

(Khirni)

Fruit Bearing Trees



Syzygium cumini (Jamun)



Phyllanthus emblica (Aamla)



Syzygium cumini (Monkey Fruit)



Limonia acidissima (Kauth)



Lantana Camara (HaldiKunku)



Pterospermum acerifolium (White Kanchan)

Fauna



Bauhinia acuminata (White Kanchan)



Lagerstroemia speciose (Pride of India)











Project Covid Relief

Location: Pan India

PROJECT DURATION

2021-2022

TOTAL VALUE

3.05 cr. (INR)



 H.E.A.L.: Collaboration with NRAI (National Restaurant Association of India) to launch a country wide vaccination programme to support our institution and trade partners.
 1280 essential workers from the restaurant industry were vaccinated under this initiative.



Monetary contribution to the Chamber of Marathwada Industries and Agriculture for installation of an Oxygen generation plant at Ghati Hospital, Aurangabad



Donated 35 ICU Beds to District Government Wenlock Hospital, Mangalore. The new ICU wing was inaugurated by the Chief Minister of Karnataka



 Installation and set-up of oxygen plant near Govt Hospital in Alwar Rajasthan



 Donated a basic life support ambulance to Panvel Municipal Corporation, Navi Mumbai





 Donated 20 oxygen cylinders to BBMP, Mahalaxmi Layout, Bangalore



 Donated 200 beds and mattresses to Covid Care Hospital, Nanjangud, Mysore



 Donated 2 ventilators and 8 multi-utility monitors to the District Administration, Palakkad, Kerala



 Donated 200 hospital beds and mattresses to the District Administration, South Goa



Happiness Kits distribution at Mangalore



Happiness Kits distribution at Mysore

 Distributed 4170 happiness kits to marginalized families in Bangalore Rural, Mysore and Mangalore districts in collaboration with Akshaya Patra Foundation

- Monetary contribution to ASSOCHAM
- Monetary contribution to the Chamber of Marathwada Industries and Agriculture for installation of an Oxygen generation plant at Ghati Hospital, Aurangabad
- Monetary contribution to the District Collector's Office, Thiruvallur, Tamil Nadu



Our Partners

At United Breweries, our key goal is to help the communities around us. To ensure this, we collaborate with multiple reputed NGOs across the country who help us implement meaningful CSR interventions and create shared value in that process. Our partners play a significant role in helping us realise our vision to brew a better world.

















Award

CSR Times awarded UBL for 'Exemplary Contribution in CSR Activities' in recognition of our safe drinking water project in Rajasthan. Under this project we have installed 2 community drinking water hubs having a capacity of 1000 LPH each. The project is currently providing potable water to 75000 people in 20 villages near our Chopanki brewery in Rajasthan.





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Annexure: Impact Assessment Report

Impact Assessment Study

Safe drinking water & improvement of sanitation & hygiene project - United Breweries Limited

August 2022



Price Waterhouse Chartered Accountants LLP

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 opinion. United Breweries Limited shall be fully and solely responsible for applying independent judgment,
 with respect to the findings included in this report, to make appropriate decisions in relation to future course
 of action, if any. We shall not take responsibility for the consequences resulting from decisions based on
 information included in the report.
- While information obtained from the public domain or external sources has not been verified for authenticity, accuracy or completeness, we have obtained information, as far as possible, from sources generally considered to be reliable. However, it must be noted that some of these websites may not be updated regularly. We assume no responsibility for the reliability and credibility of such information.
- Our work was limited to the specific procedures described in this report and were based only on the information and analysis of the data obtained through interviews of beneficiaries supported under the project, selected as sample respondents. Accordingly, changes in circumstances or information available after the review could affect the findings outlined in this report.
- In no circumstances shall we be liable, for any loss or damage, of whatsoever nature, arising from information material to our work being withheld or concealed from us or misrepresented to us by any person to whom we make information requests.
- Our observations represent our understanding and interpretation of the facts based on reporting of beneficiaries and stakeholders.
- PW performed and prepared the Information at client's direction and exclusively for client's sole benefit and use pursuant to its client agreement. Our report is based on the completeness and accuracy of the above stated facts and assumptions, which if not entirely complete or accurate, should be communicated to us immediately, as the inaccuracy or incompleteness could have a material impact on our conclusions.
- We have not performed an audit and do not express an opinion or any other form of assurance. Further, comments in our report are not intended, nor should they be interpreted to be legal advice or opinion. United Breweries Limited shall be fully and solely responsible for applying independent judgment, with respect to the findings included in this report, to make appropriate decisions in relation to future course of action, if any. We shall not take responsibility for the consequences resulting from decisions based on information included in the report.

- We assume no responsibility for any user of the report, other than United Breweries Limited management. Any person who chooses to rely on the report shall do so at their own risk.
- Should any unauthorized person or any entity other than United Breweries Limited obtain access to and read this report, by reading this report such person/entity accepts and agrees to the following terms:
 - The reader of this report understands that the work performed by PW was performed in accordance with instructions provided by United Breweries Limited and was performed exclusively for United Breweries Limited sole benefit and use.
 - The reader of this report acknowledges that this report was prepared at the direction of United Breweries Limited and may not include all procedures deemed necessary for the purposes of the reader.
 - The reader agrees that PW its partners, directors, principals, employees and agents neither owe nor accept any duty or responsibility to it, whether in contract or in tort (including without limitation, negligence and breach of statutory duty), and shall not be liable in respect of any loss, damage or expense of whatsoever nature which is caused by any use the reader may choose to make of this report, or which is otherwise consequent upon the gaining of access to the report by the reader. Further, the reader agrees that this report is not to be referred to or quoted, in whole or in part, in any prospectus, registration statement, offering circular, public filing, loan, other agreement or document and not to distribute the report without PW's prior written consent.

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1. Executive Summary



Executive Summary

The summary of key findings of this report are as follows:

Impact of water infrastructure support:

- 95% beneficiaries interacted with were aware of the RO¹ support, while 70% respondents interacted with were aware of the borewell support provided by UBL.
- 87.9% of the respondents spend less than 15 mins to fetch water in the RO plant beneficial villages.
- 91.5% of the beneficiaries use RO plant water for drinking and cooking in the locations where RO plant is working.
- 99% beneficiaries agree that there is reduction in incidence of water borne diseases after installation of RO plant.
- Rising mains were beneficial connecting the borewell to the village OHTs. The distribution pipelines have helped to replace the damaged pipelines as well as lay pipelines for the future extension areas
- 77.5% respondents made use of the borewells installed by UBL. Out of these, 89% respondents agreed that the borewells had been beneficial for them. 53.4% respondents used the borewell water for drinking & cooking, 58.3% respondents used it for non drinking purposes & 6% respondents used the borewell water for washing clothes & utensils. The borewell water was able to cater to the additional demand of the water apart from addressing issue of water scarcity.
- 85.2% respondents who agreed that they saved money on health expenditure, had an average monthly health expense of INR 361/- earlier which had reduced to an average of INR 293/- post installation of RO plants. Beneficiaries now can drink water without fear of falling sick. The number of patients visiting the hospital with water borne diseases has decreased due to a reduction in cases of water borne diseases.
- Beneficiaries now have access to drinking water at any time and are not dependent on the intermittent piped water supply. The RO plant has provided them with ease of access to drinking water of good quality at a reasonable price.
- **38.9% of the respondents made use of the farm pond**. The farm pond water was used mainly in the monsoon season for irrigation, as drinking water for cattle & it also helped to recharge the ground water table.
- 99% respondents were satisfied with the water infrastructure support provided by UBL. On a scale of 1-5, where 1 being the lowest and 5 being the highest the satisfaction level for **RO plant and borewell was** stated 4.5 and 3.9 respectively by the beneficiaries.
- Detailed findings can be referred to from the section in this report titled "<u>Status of Water Infrastructure</u> provided"

Impact of community & individual household dustbins:

Out of the total respondents interacted with, 76% respondents agreed that they had community & individual household dustbins in their villages. Out of these, 96% respondents effectively used the dustbins provided by UBL on a regular basis. Through the programme separate dustbins at the community & the household level with the purpose of ensuring wet waste and dry waste segregation were provided.

¹ Out of 8 Reverse Osmosis (RO) plants provided, 4 were non-functional, due to which water sample could not be collected for those plants. Therefore, the study provides analysis of the 4 functional RO plants.

- Before the distribution of dustbins, 76% of the respondents used to bury the waste in the open, 41% of the respondents used to throw it in the open & 51% of the respondents used to burn the waste causing environmental degradation & spread of diseases.
- 94% of the total respondents felt that the provision of community & individual household dustbins had been beneficial for them. Out of these, benefits of the dustbins for 90% of the respondents included provision of a proper facility to dispose off the waste as opposed to the earlier practice of throwing the waste in an open field. For 61% of the respondents, this made the village surroundings cleaner & for 25% of the respondents, cleaner surroundings in turn reduced diseases & instances of falling sick caused due to flies & other insects that used to sit on unattended waste.
- Detailed findings can be referred to from the section in this report titled "Community and Individual household dustbins"

Impact of toilet infrastructure support provided:

- UBL provided financial assistance of INR 5,000 in two instalments for the construction of toilets to select households in the villages. Out of the total respondents interacted with, 18% had received this assistance for construction of toilets. All these respondents used to defecate in the open earlier.
- Post the construction of toilets, **91% of the respondents agreed that they no longer go out in the open to defecate**. 28% & 22% of the respondents agreed that the women of the household have experienced greater privacy & security respectively by provision of toilets, especially during the night. Frequency of falling ill has reduced for 8% of the respondents.
- Availability of toilets has also helped in saving time for the villagers as they no longer had to walk to nearby fields to defecate.
- Despite these benefits, during the field visit it was observed that in few of the households the toilets had been converted into storage rooms & were being used for other purposes. Despite efforts from ASSIST & UBL, there is a need to conduct awareness sessions on a more frequent basis to reaffirm the importance of toilets for the villagers.
- Detailed findings can be referred to from the section in this report titled "Impact of Construction of Toilets"

Impact of awareness sessions conducted:

- 72% of the respondents agreed that ASSIST had conducted awareness sessions and street plays on importance of water & sanitation. 88% of the respondents stated that topics covered in the sessions included importance of clean drinking water, awareness education on dangers of animal & human fecal matter was covered as stated by 53% of the respondents. Importance of toilets and dustbins was covered with regards to open defecation & waste segregation as stated by 12% of the respondents.
- 92% of the respondents agreed that the awareness sessions had been beneficial for them. Out of these, for 87% of the respondents it had led to an increase in awareness regarding safe drinking water & sanitation. For 70% of the respondents, it had led to positive behavioural changes like practicing waste disposal & segregation, reduction in open defecation etc. 17% of the respondents stated that this positive behavioural change helped to reduce water borne diseases.
- Due to the awareness sessions, a change in the knowledge, attitude, behaviour & practices of the villagers was noted. 93% of the respondents agreed that good hygiene habits were essential for good health. Post the awareness sessions, 73% of the respondents actively encouraged their family & community members to use dustbins for waste disposal & not to defecate in the open.
- Detailed findings can be referred to from the section in this report titled "Awareness sessions "
- Detailed recommendations are available in the section titled "Recommendations" in this report

2. Introduction and Background



Introduction and Background

2.1. Background: WASH in India and Karnataka

There has been an urban and rural divide in access to safe drinking water, sanitation and hygiene. The Government of India has been continuously making efforts to enhance access to clean drinking water, sanitation and hygiene through various policies, interventions, and flagship programmes like Swachh Bharat Mission, Jal Jeevan Mission, etc.²

About three-fourth of the households in the country do not have drinking water at their premise. India is placed at 120th amongst 122 countries in the Water Quality Index, with nearly 70% of water being contaminated.³



Figure 1 - Indian Household WASH Access in FY 2020⁴

Improved drinking water: Piped water into dwelling/yard/plot, piped to neighbour, public tap/standpipe, tube well or borehole, protected dug well, protected spring, rainwater, tanker truck, cart with small tank, bottled water, community RO plant

Improved sanitation: Flush to piped sewer system, flush to septic tank, flush to pit latrine, flush to don't know where, vent ilated improved pit (VIP)/biogas latrine, pit latrine with slab, twin pit/composting toilet, which is not shared with any other household.

In recent years, the most prominent effort of the Government in terms of improving access to clean drinking water is the Ministry of Jal Shakti, which has provided tap water connections to 6 Crore rural households (as of 16th May 2022) under Jal Jeevan Mission launched since August 2019.

Karnataka scored 56.5 in Composite Water Management Index (CWMI) performed by Niti Aayog.⁵ India has been declared ODF by the Government in October 2019.

The Government is now targeting sustaining ODF by a vision of ODF plus villages. Karnataka has been able to achieve coverage of 15.18% which is quite low when compared to top-performing and nearby states. Within Karnataka, Mysore has achieved only 1.56% ODF plus villages making it one of the lowest performing districts in Karnataka.⁶

Improved Sanitation
Improved Drinking Water

² Source: <u>https://jaljeevanmission.gov.in/</u>

³ Source: https://www.tatatrusts.org/our-work/water-sanitation-and-hygiene

Source: http://rchiips.org/nb/s/districtfactsheet NFHS-5.shtml

Source: http://social.niti.gov.in/uploads/sample/water_index_report.pdf (pg 159)

⁶ Source: https://sbm.gov.in/phase2dashboard/PhaseII/NationDashboard.aspx

2.2. About UBL and ASSIST

United Breweries Limited (UBL) is an Indian conglomerate company headquartered in UB City Bangalore Karnataka. Its core business includes social beverages (alcoholic and non-alcoholic). It promotes responsible consumption of Alcohol. Through its CSR interventions, UBL intends to contribute to the preservation of environment & create social capital. UBL has integrated CSR in its corporate strategy and intends to drive it with a vision to bring about sustainable social development for its co-communities. UBL has the following focus areas for CSR::

- Water (including water conservation and safe drinking water)
- Women Empowerment
- Responsible Consumption of Alcohol
- Community Development

As part of its CSR initiative, United Breweries Limited has worked towards the provision of safe drinking water and improvement of sanitation and hygiene around 14 villages of Nanjangud Taluk, Mysore district in Karnataka in association with its implementing partner, ASSIST.

ASSIST is a registered non-governmental organisation working for the development of poor and marginalised communities in rural areas. Founded in 1985, for more than three decades, ASSIST has transformed thousands of lives by committing itself to the poorest of the poor, in areas where no other NGO has gone before. ASSIST helps the most underprivileged members of society, but it does so with a difference. The organisation's proven and sustainable approach focuses on the comprehensive development of its target communities.⁷

2.3. About the Project

The CSR project support included provision of construction of water treatment plants, borewell construction & pipeline extension. Additional support was provided through provision of financial assistance for construction of toilets & distribution of community & individual household dustbins for waste management. 1 community farm pond has also been constructed under the project.

The overall goal of the project was to provide safe drinking water, improved water supply for domestic and agricultural purpose and sanitation facilities to the underserved populations, especially to the poor and remote areas and to improve health and hygiene practices related to water and sanitation. Infrastructure support was also provided to 4 schools in the area (Refer below for snapshot of project):

Source: Assist Website: https://www.assist-india.org/ as retrieved on 6 July 2022



2.3.1. Infrastructure Support in the Intervention Villages

Below table illustrates the infrastructure support provided by the UBL in the listed villages.

Figure	2 -	Vil	lage	wise	Infrastructure	Support
i igure /	~ -	V 11	laye	WISC	init astructure	Support

S.no.	Name of Village	Water treatment plants and wastewater management through pipelines constructed including fixing of motors and pump sets	Bore - well sets installed	Pipe-line extension and pumping main works	Financial assistance for toilet construction (No. of toilets)	Individual/Co mmunity Dustbins for families (dry and wet)	School infrastructur e support
1	Basavanapura						
2	Immavu Hundi						
3	Immavu						
4	Hulimavu						
5	New Bokkahalli						
6	Old Bokkahalli*						

S.no.	Name of Village	Water treatment plants and wastewater management through pipelines constructed including fixing of motors and pump sets	Bore - well sets installed	Pipe-line extension and pumping main works	Financial assistance for toilet construction (No. of toilets)	Individual/Co mmunity Dustbins for families (dry and wet)	School infrastructur e support
7	Chikkaiahnachatra						
8	Bachahallihundi						
9	Adakanahalli						
10	Hebya						
11	Tandavapura						
12	Kempasiddana Hundi						
13	Hejjege						
14	Toremavu						

Infrastructure Provided

Denotes villages provided with water infrastructure support Denotes villages provided with school infrastructure support

*Old Bokkahalli was common for both water and school infrastructure support (Source: Data Shared by the Implementing Partner)

2.4. Project Scope of Work & Study Limitations

2.4.1. Scope of Work

PW has been engaged to conduct an independent Impact Assessment study of safe drinking water and improvement of sanitation and hygiene project of United Breweries Limited (UBL) Mysore, Karnataka. The scope of work includes:

- Understanding the Project implementation plan and process followed, reviewing the Key Performance Indicators (KPIs) as defined by the Management under the framework for implementing the Project for the outputs, outcomes and impact of the Project. Framework would be Inclusiveness, Relevance, Efficiency, Convergence framework (the 'IRECS') and provide recommendation on the project performance for Management's evaluation.
- As part of the scope of work, PW has assessed the following for providing recommendations for managements consideration:
 - Community awareness around safe drinking water, sanitation and hygiene among the villagers & the school children,
 - Effectiveness of water and sanitation committees
 - Hygiene and health impact on residents & students
 - The quality of the infrastructure created through the project
 - The status and usage of the safe drinking water plants, community dustbins, pipelines, borewells, household toilets

2.4.2. Study Limitations

- Due to schools being closed because of the ongoing summer vacation, the PW team could not see the school infrastructure support provided and was unable to interact with the school officials, students and teachers.
- Out of 8 RO plants provided, there were 4 non-functional RO plants in Hulimavu, New Bokkahalli, Old Bokkahalli and Chikkaiahnachatra, due to which water sample could not be collected for those RO plants.
- Due to the recent Panchayat elections, new WASH committees had not been formed, hence, the team could interact with only 2 WASH committees. Due to the non-availability of SHG members, interaction with them could not be conducted at the time of field visit.

2.5. Additional Assumptions and Limitations

- We have not been engaged to, nor have we, provided any management functions or made management decisions.
- PW has not acted in the capacity of UBL management; UBL identified qualified personnel responsible for overseeing the project. We have not assigned responsibilities to client personnel. It was responsibility of the client to identify the core member team who assisted us in this assignment. We did act in a supervisory capacity over members of client.
- We did not chair any internal meeting of client or represent the client / client management in meetings with the implementation partners and/or beneficiaries.
- This engagement does not relate to design of financial information systems or accounting or preparation of financial statements. We did not make or present recommendations in a way that our work amounts to designing a new financial system.
- We have not provided any solution/recommendation for dispute resolution, for UBL, with the NGO.

- We should not be held responsible for slippage of schedule due to non availability of personnel from client side and delay in providing information or obtaining feedback or facilitating local consultations
- A data collection agency was deployed for the collection of quantitative data on the field.
- We have not finalized Company's CSR Policy, project implementation plan and monitoring & evaluation (M&E) framework relating to CSR. PW has only provided recommendations for improvements in the select CSR project assessed.
- We have not prepared any policy and procedures manuals and were not responsible for the implementation of our recommendations and management remediation plan.
- We were responsible only for providing options for consideration of client and not make any management decision for selection, prioritization and implementation of the same.
- PW has not provided any quality certification or attestation post review & analyses of quality of water infrastructure to the client. PW was only responsible for providing recommendations basis the analyses for client's consideration.

3. Approach and Methodology



Approach and Methodology

3.1. IRECS Framework

The impact of the programme was assessed using the IRECS framework. IRECS is geared to provide an overall feedback on the efficacy of implementation as well, as its efficiency in terms of achievement of the desired project outputs with reference to inputs. IRECS framework measured the performance of programme on five parameters – Inclusiveness, Relevance, Effectiveness, Convergence and Sustainability.



Overview of areas assessed under each of these five parameters is provided below:

Inclusiveness - Ability of different stakeholders, particularly poorest and most marginalised - to access the benefits of activities, be part of institutions (healthcare / education committees) and derive equitable benefits from assets created.

Relevance - Are the services /inputs /institutions facilitated in the project able to meet community priorities? How was the planning done? Was it participatory? How were the success indicators developed? Was the community involved in development of project indicators?

Effectiveness (& Efficiency) - Have the activities been able to effectively address community expectations? How efficiently have the resources been deployed, monitored and utilized?

Convergence - Degree of convergence with government/other partnerships; relationship between individuals, community, institutions and other stakeholders.

Sustainability - Do communities feel ownership over the assets created by the activities and/or will the Project initiated community interventions sustain even after the exit of the funding agency. Are the institutions strengthened adequately to effectively manage and sustain the activities after the completion of project? Has an exit strategy been drafted?

3.2. Approach and Methodology

For the purpose of smooth and efficient conduct, the entire exercise was divided into 5 phases, as depicted below:

Plan

As part of the planning phase, the PW and the UBL teams agreed and finalized the scope of impact assessment as per specific requirements for each intervention. Thereafter, a careful desk review of the project relevant documents, as shared by UBL and ASSIST was carried out by the team. This was done to gauge the current situation on ground before starting the actual process.

Process

After the planning phase, the next step was the identification of the key stakeholders for data collection, such as beneficiaries, Gram Panchayat members, WASH committee members, amongst others. This was followed by a detailed secondary data collection and research on the locational spread which would help in preparing a sampling plan and field visits.

Prepare

The data collection plan was prepared and finalized in consultation with UBL and ASSIST teams. This was followed by development of stakeholder specific data collection tools such as FGD/IDI guides and the household survey. Samples were also finalized for the identification of respondents in the 11 villages for water infrastructure support and for conducting the FGDs/IDIs in 2 villages where school support was provided.

Perform

The field team was trained on the tools to collect data through household surveys, post which the team was deployed on ground for data collection. This included the household surveys, along with the interactions with Gram Panchayat members, RO plant operators, beneficiaries, and WASH committee members. As part of the study, water samples at the inlet and outlet of the RO water plants were also collected for testing purposes.

The data thus collected was further collated, cleaned and analysed.

Publish

Post the data collection, cleaning, and analysis, a draft report on the findings of the study has been prepared for UBL's consideration and feedback.

Apart from this, the team had specific methodology to assess the impact of each intervention carried out by UBL on ground.

The below graph depicts the steps undertaken for each of the water infrastructure assessment.

RO Water plant	Borewell	Farm pond	Pipeline
Visited 8 RO plant sites Geo tagged locations Discussion with RO operator on understanding how they operate and maintain the RO plant RO plant functionality status Gained understanding on Backwash, chemical dosing, cartridge, activated carbon, Total Dissolved Solids (TDS) monitoring, pressure monitoring RO inlet and outlet water sample collection for test	Visited Borewell locations Geo tagged locations Visual inspection on functional status of the borewell Identified the defunct, functional and non- utilized borewells Water quality tests of random borewell samples	Visited the Farm Pond location Geo tagged location Discussion with Gram Panchayat members on the benefits and impact of the farm pond	Visit to roads where the rising main pipeline is laid Geo tagged location Site visit to the area where the distribution line is provided Understanding the pipeline network from borewell to OHT and RO plants

3.3. Coverage of the Study

Selection of Villages

- 11 intervention villages where maximum water infrastructure support was provided were selected and visited for the study.
- Two (2) villages namely Old Bokkahalli and Kempasiddana Hundi were visited for conducting FGDs & IDIs to assess the school infrastructure support provided. Out of these Old Bokkahalli was common for both school and water infrastructure.
- Simple random sampling was deployed for selection of sample households keeping in mind distribution across the villages. Sample is drawn in consultation with UBL at 95% Confidence interval & 5% margin of error. Out of total 4,050 households across 11 villages, 365 households were covered for the household survey.

S.no.	Village name	No. of households (HHs)	Number of samples covered
1	Basavanapura	161	15
2	Immavu Hundi	283	25
3	Immavu	264	24

Table 1 - Village wise number of households and sample size

S.no.	Village name	No. of households (HHs)	Number of samples covered
4	Hulimavu	386	35
5	New Bokkahalli	211	19
6	Old Bokkahalli	354	32
7	Chikkaiahnachatra	231	21
8	Bachahallihundi	360	32
9	Adakanahalli	211	19
10	Hebya	214	19
11	Tandavapura	1375	124
Total		4,050	365 ⁸

Interaction with stakeholders (Qualitative)

The interaction with the stakeholder comprised of In-depth interviews and FGD's. The stakeholders involved were the beneficiaries, WASH committee officials, Gram Panchayat officials, and RO plant operators/caretakers.

- 64 IDIs & 2 FGDs were conducted with the beneficiaries covering 81 beneficiaries
- One (1) FGD was conducted with the ASSIST team.
- Two (2) IDIs each were conducted with WASH committee members & Gram Panchayat officials, respectively.
- Eight (8) IDIs were conducted with RO plant operators/ caretakers covering 11 villages (out of 8 RO plants available in the intervention villages).

8

Sample size as agreed with UBL

4. Findings of the study



Findings of the study

4.1. Profile of the Respondents

The majority (79%) of respondents were males, and 38% of them belonged to the scheduled caste category. Refer below a snapshot of the distribution of respondents based on gender, social category, and economic profile.



Figure 4 - Social category wise distribution of Respondents (n=365)



Others: General

Respondents were asked about their economic status, wherein, most respondents reported to belong to Below Poverty Line (BPL) category.





The respondents reported to be in the following occupations as presented in the table below.

Occupation	Percentage
Cultivator	56.20%
Unskilled worker	12.60%
Sharecropper/Agricultural laborer	11.00%
Shop/Business/Trade	7.90%
Animal husbandry	5.50%
Salaried (Pvt.)	2.70%
Salaried (Govt.)	1.40%
Domestic help	0.50%
Currently unemployed	1.90%
Others ⁹	0.30%

Table 2 - % distribution of respondents as per their occupation (n=365)

The data reflects that the respondents in the intervention villages primarily depend on an agrarian economy, 56% of the respondents were cultivators on the field. The average monthly income of the respondents was in the range of INR 5,000 – INR 10,000 while the average monthly expenditure of the respondents was in the range of INR 2,000 – INR 5,000 as was reported by the respondents.

9

Others – 1 Housewife

4.2. Water Infrastructure

The below table summarizes the status of the water infrastructure provided in the villages.

Village	RO Plant	Borewell	Pipeline Extension Work
Hulimavu	It was operational only for 6 months after installation. Card system is damaged, and plant is non- functional from last 2.5 years	There is 1 borewell set installed Borewell was connected to RO plant inlet. As RO plant is non-functional, bore well is connected to existing Over Head Tank (OHT) and water is supplied to Households (HH) of the village	Not applicable
Old Bokkahalli	Plant is non-functional from last 3 years Machine suddenly switches off while working	There are 2 borewell sets installed Borewell -1 was connected to RO plant. As RO plant is non- functional, bore well is connected to existing OHT and water is supplied to HH of the village Borewell-2 is converted to Hand pump and effectively utilized by villagers for drinking and other domestic purpose	Pumping main of 240 m – From bore well to RO plant
New Bokkahalli	Plant is non-functional from 1.2 years Card system is damaged	There is 1 borewell set installed Borewell was connected to RO plant inlet. As RO plant is non-functional, bore well is connected to existing OHT and water is supplied to HH of the village	Pumping main of 200 m – From bore well to RO plant

Table 3 - Status of water infrastructure provided in the villages

Village	RO Plant	Borewell	Pipeline Extension Work
Immavu	RO plant is functional. It's partially utilized with consumption of about 600 ltr/day Card system is not functioning; hence the control panel has been bypassed to avoid recharging the filter process	There is 1 borewell set installed Borewell is located near the RO plant and is connected to the RO inlet	Total pipeline length of 365 m Pumping main – From bore well to RO plant Distribution Main – Extension lines from the existing pipelines and replacement of damaged distribution pipelines
Immavu Hundi	RO plant is functional only from last 3 months. It's partially utilised as raw water availability is very low due to insufficient pressure at the RO inlet point It was under repair due to damage of filter system	There is 1 borewell set installed which is converted to hand pump due to low pressure. Currently it's defunct	Not applicable
Tandavapura	Not applicable	There are 3 borewell sets installed Bore wells are connected to existing OHT and water is supplied to HH of the village 2 borewell are functional and 1 is defunct	Total pipeline length of 792 m Pumping main from borewell to OHTs. Distribution Main – Extension lines from the existing pipelines and replacement of damaged distribution pipelines
Hebya	RO Plant is functional, but the control panel is not working It is partially utilized with consumption of about 100-200 liters/day	There is 1 borewell set installed Borewell is located near the RO plant and is connected to the RO inlet The Borewell has two outlets- one for the RO and other is not utilized	Total pipeline length of 550 m Pumping main – From bore well to RO plant Distribution Main – Extension lines from the existing pipelines and replacement of damaged distribution pipelines

Village	RO Plant	Borewell	Pipeline Extension Work
Chikkaiahnachatra	Plant is non-functional from past 1 month Card system is not working	There is 1 borewell set installed Borewell is located near the RO plant and is connected to the RO inlet	Pumping main – pipeline extension of 273 m length of 2- inch diameter distribution pipeline
Bachallihundi	RO plant is functional It is utilized for its full capacity with consumption of about 3,000 liters/day Card system is modified to card cum coin system by the operator	There is 1 borewell set installed Borewell is located near the RO plant and OHT and is connected to the RO inlet	Total pipeline length of 365 m Pumping main – From bore well to RO plant Distribution Main – extension lines from the existing pipelines and replacement of damaged distribution pipelines
Adakanahalli	Not applicable	There are 2 borewell sets installed Borewells are connected to existing OHT and water is supplied to HH of the village	Total pipeline length of 975 m Pumping main – From bore well to OHT Replacement pipeline for damaged pipe
Kempesiddanahundi	Not applicable	Four sets of Borewell have been installed 1 was defunct due to non-availability of water 1 was functional but was not utilized 1 was connected to the village OHT 1 was reserved for future planning	Not applicable
Basavanapura	Not applicable	One borewell set has been installed and is connected to the village OHT and is operational for 3 hours per day	Pumping main – From bore well to existing raising main of 152 m length of 2.5-inch PVC

Village	RO Plant	Borewell	Pipeline Extension Work
Summary	Out of the 8 RO plants visited, 4 were not functional at the time of the field visit by the PW team namely Hulimavu, New Bokkahalli, Old Bokkahalli and Chikkaiahnachatra	Out of the 19 borewells visited, 3 were not functional at the time of the field visit by the PW team namely Tandavapura, Immavu Hundi & Kempesiddanahundi	All the pipeline extension were functional as stated by the beneficiaries. The PW team visited the pipelines and geo-tagged the same.

Additionally, 1 Farm pond is constructed at Hulimavu village. The farm pond had dried out due to summer. It is utilized by villagers for cattle feeding, picnic spots and irrigation during rainy season.

4.2.1. RO Plants

4.2.1.1. Comparative Analysis of Functional Aspects

A comparative analysis¹⁰ of each of the functional aspects, namely, Operation and Maintenance, Financial, Beneficiary Impact, and Repair and Maintenance was conducted based on various parameters (Refer Annexure – 1: Evaluation Criteria for Comparative Analysis of RO Plants) along with an overall summary as depicted in the table below.

Table 4 - Comparative Analysis of the functional aspects of RO Plants

Parameters	Hulimavu	New Bokkahalli	Old Bokkahalli	Immavu	lmmavu hundi	Hebya	Chikkaiahnachatra	Bachallihundi	Evaluation parameters
Operation and Ma	intenance								
Operational Responsibility	×	×	×	•	•	•	×	•	The operational responsibility is taken up by dedicated operator and is available most of the time
Operator Awareness	×	×	×	•	•	•	×	•	The operator is aware of the overall functioning of the system and how to monitor and read the sensors
Regular Cartridge replacement	×	x	×		•	•	×	•	Operator cleans the cartridge every month and replaces it every 6 months
Activated carbon replacement	×	x	×	•		\bigcirc	×	•	The operator should be aware of activated carbon filter media and the procedure for replacing

¹⁰ Note: Hulimavu, New Bokkahalli, Old Bokkahalli and Chikkaiahnachatra RO plants were not functional during the visit - Detailed evaluation criteria for each colour coding given in Annexure 1

Parameters	Hulimavu	New Bokkahalli	Old Bokkahalli	Immavu	lmmavu hundi	Hebya	Chikkaiahnachatra	Bachallihundi	Evaluation parameters
									which is decided based on free Chlorine in test samples.
									Was replaced only in Immavu Hundi RO plant
Backwash of Filters	×	×	×	•	•	•	×	•	Backwash to be done on a regular basis for every 6 hrs of filtration cycle
Chemical dosing	x	×	x	•	•	•	x	•	The operator is aware of chemical dosing and does it as per the norms prescribed.
Water tank maintenance	×	×	×	•	•	•	×	•	The storage, filter storage and outlet tank to be cleaned regularly
Handheld pH and TDS meter	×	×	×	•	•	•	×	•	Operators to know how to operate the meters and record regularly
Financial									
Financial Responsibility	×	×	×			•	x	•	Operator takes responsibility to handle minor repair works as well as spends on upgrading the system as required. Gram Panchavat should provide

Parameters	Hulimavu	New Bokkahalli	Old Bokkahalli	Immavu	lmmavu hundi	Hebya	Chikkaiahnachatra	Bachallihundi	Evaluation parameters
									funds for maintenance from the corpus fund
Funding for Maintenance	x	×	×	•	•	•	×	•	Funding for maintenance is provided by UBL fund, Gram Panchayat, or is self- funded by operator
Earnings from RO Plant	x	x	x	•	•	•	×	•	The grading is made on the increasing order of earnings per month from the RO plant usage
Salary for the operator	×	×	×	\bigcirc	•		×	•	Whether fixed salary is paid to the RO plant operator.
Impact on Benefic	iaries								
Daily Footfall	×	×	×	•	•	•	x	•	The number of people using RO plant on a daily basis
Daily Consumption	x	×	×	•	•	•	×	•	The number of people using RO plant on a daily basis based on Discussion with operator
Dependency on RO Plant	x	×	×	•	•	•	x	•	The number of people using RO plant on a daily basis based on the survey and RO operator FGD

Parameters	Hulimavu	New Bokkahalli	Old Bokkahalli	Immavu	lmmavu hundi	Hebya	Chikkaiahnachatra	Bachallihundi	Evaluation parameters		
Impact on health	x	×	×	•	•		x	•	Improvement in health conditions based on FGD with RO operator, beneficiaries, Health officials and Survey		
Repair and Maintenance											
Current Functionality Status	x	x	x		•	<u> </u>	×	•	The current status of the RO plant as whether working or not		
Frequency of repair	×	x	×	•	•	<u> </u>	x	•	The amount spent on the repair and maintenance and the incidence of repairs		
Funding for repair	x	x	×	•	•		×	•	Funding for maintenance is provided by UBL fund, Gram Panchayat, or is self- funded by operator		
Status of card system	x	×	×	•	•	•	x	•	Based on the physical and functional condition of the card system (RFID, Signal strength, Buttons, Master card)		
Control panel and sensors	×	×	×	•	•	•	x	•	The controlpanel may be non-functional, modified or is maintained as provided		

Parameters	Hulimavu	New Bokkahalli	Old Bokkahalli	lmmavu	lmmavu hundi	Hebya	Chikkaiahnachatra	Bachallihundi	Evaluation parameters		
Record keeping	×	x	×	•	•	•	×	•	Any bookkeeping practices on recording the consumption per day		
Summary – Consolidated Analysis											
Operation and Maintenance	×	×	×	•	•	<u> </u>	×	•	Operator responsibility, awareness, aware of maintenance procedures		
Financial	×	×	×	•	•	•	×	•	Gram panchayaths role in financing, funding for maintenance and salary and earnings from RO plant		
Impact on beneficiary	×	x	x	•		•	×	•	Daily footfall, consumption, Dependency on RO plant and impact on health conditions of beneficiaries		
Repair and Maintenance	×	×	×	•	•	•	×	•	Status and functioning of the internal systems –card, control panel; record keeping; frequency of repairs		
Legend	Good	Average	Low	× Not app	plicable for RO pla	ants which w	vere not functional dur	ing site visit	1		

4.2.1.2. Water Quality Test Results

The team conducted water quality tests in the different Gram Panchayats. RO water samples were collected at the inlet and outlet of the functional RO plants and two non-functional plants at New Bokkahalli and Chikkaiahnachatra.

Below table depicts the analysis of RO water test of villages at Hulimavu Gram Panchayat

Parameters	Acceptable Limits	Permissible Limits	Imma	vu	Immavu	Hundi	New Bok	kkahalli	
			RO Inlet	RO Outlet	RO Inlet	RO Outlet	RO Inlet	RO Outlet	
Sulphates SO4, mg/l	200	400	63.4	~	42.4	V	43.7	✓	
Iron Fe, mg/l	0.3	No relaxation	0.1	~	0.1	~	0.1	~	
Total arsenic As, mg/l	0.01	No relaxation	<0.001	~	<0.001	~	<0.001	~	
Fluorides F, mg/l	1	1.5	0.5	~	0.5	~	0.5	√	
Nitrates NO3, mg/l	45	No relaxation	6.1	~	4.3	√	5.1	~	
Residual free chlorine, mg/l	0.2	1	<0.1	~	<0.1	~	<0.1	✓	
Total Coliforms MPN/100ml	Not detectable		Not detected	~	Not detected	~	<1	~	
E Coli MPN/100ml	Not detectable		Not detected	~	Not detected	√	<1	~	
Colour, Hazen units	5	15	<5	~	<5	~	<5	√	
Taste	Agreeable	Agreeable	Agreeable	~	Agreeable	~	Agreeable	✓	
Odour	Agreeable	Agreeable	Agreeable	~	Agreeable	~	Agreeable	~	

Table 5 - Analysis of RO water test at Hulimavu Gram Panchayat

Parameters	Acceptable Limits	Permissible Limits	Immavu		Immavu Hundi		New Bokkahalli	
			RO Inlet	RO Outlet	RO Inlet	RO Outlet	RO Inlet	RO Outlet
рН	6.5- 8.5	No Relaxation	7.24	~	7.38	~	8.02	✓
Turbidity NTU	1	5	1.8	~	1	~	1.9	√
TDS mg/l	500	2000	841	✓	301	✓	602	√
Total Hardness CaCO3 mg/l	200	600	480	~	180	~	350	✓
Chlorides Cl, mg/l	250	1000	180	~	70	~	130	√
Total alkalinity CaCO3 mg/l	200	600	390	~	186	~	320	✓

Below table depicts the analysis of RO water test of villages at Tandavapura Gram Panchayat

Table 6 - Analysis of RO water test at Tandavapura Gram Panchayat

Parameters	Acceptable Limits	Permissible Limits	Bachallihundi		Chikkaia chatr	ahna- 'a	Hebya		
			RO Inlet	RO Outlet	RO Inlet	RO Outlet	RO Inlet	RO Outlet	
Colour, Hazen units	5	15	<5	~	<5	~	<5	✓	
Taste	Agreeable	Agreeable	Agreeable	✓	Agreeable	√	Agreeable	\checkmark	
Odour	Agreeable	Agreeable	Agreeable	✓	Agreeable	✓	Agreeable	\checkmark	
рН	6.5-8.5	No Relaxation	7.24	~	7.38	✓	8.02	√	
Turbidity NTU	1	5	1.8	~	1	✓	1.9	✓	
Parameters	Acceptable Limits	Permissible Limits	Bachallihundi		Chikkaiahna- chatra		Hebya		
---------------------------------------	----------------------	-----------------------	-----------------	--------------	------------------------	--------------	-----------------	--------------	
			RO Inlet	RO Outlet	RO Inlet	RO Outlet	RO Inlet	RO Outlet	
TDS mg/l	500	2000	841	~	301		602	✓	
Total Hardness CaCO3 mg/l	200	600	480	~	180	~	350	✓	
Chlorides Cl, mg/l	250	1000	180	•	70	~	130	✓	
Total alkalinity CaCO3 mg/l	200	600	390	~	186	~	320	~	
Sulphates SO4, mg/l	200	400	48.6	•	17.2	~	37.5	✓	
Iron Fe, mg/l	0.3	No relaxation	0.1	•	<0.1	1	0.1	✓	
Total arsenic As, mg/I	0.01	No relaxation	<0.001	~	<0.001	~	<0.001	✓	
Fluorides F, mg/l	1	1.5	0.5	~	0.2	✓	0.3	~	
Nitrates NO3, mg/l	45	No relaxation	4.7	~	1.9	~	3.7	✓	
Residual free chlorine, mg/l	0.2	1	<0.1	~	<0.1	~	<0.1	~	
Total Coliforms MPN/100ml	Not detectab	le	Not detected	~	Not detected	~	Not detected	~	
E Coli MPN/100ml	Not detectab	le	Not detected	~	Not detected	~	Not detected	~	

 \checkmark - denotes the sample meets the maximum permissible limits as per IS 10500:2012

*- Denotes the sample does not meet the limits as per IS 10500:2012

Out of the 6 RO plants for which water quality testing was conducted, it was noted that all RO plants were successful in meeting the maximum acceptable limit for drinking water specifications as per IS 10500:2012 as depicted in the table below.

Table 7 - Inferences from Water Quality Tests

Sample	Result
Immavu RO outlet	Meets maximum acceptable limits
Immavuhundi RO outlet	Meets maximum acceptable limits
New Bokkahalli RO outlet	Meets maximum acceptable limits
Hebya RO outlet	Meets maximum acceptable limits
Chikkaiahnachatra RO outlet	Meets maximum acceptable limits
Bachallihundi RO outlet	Meets maximum acceptable limits

4.2.1.3. Understanding the Impact of RO Plant

Pre-Intervention Scenario:

- 66% of the respondents who earlier did not have drinking water facility inside the house and later used the RO plant water post intervention, (n=183) used to fetch water within 15 mins of travel time.
- In villages where the RO plants provided by UBL are currently functional, earlier 79% of the people (n=58) used to spend less than 15 mins to fetch water
- Average time to fetch water was 13.8 mins in villages where UBL funded RO plants are functional and where respondents did not have facility to get water inside the house (n=58)

Post-Intervention Scenario:

- 70.5% of the respondents who earlier did not have drinking water facility inside the house and currently use the RO plant water, (n=183) now fetch water within 15 mins of travel time.
- In villages where the RO plants provided by UBL are currently functional, 87.9% of the people (n=58) spend less than 15 mins to fetch water
- Average time to fetch water is now 12.9 min (decreased by 6.5%) in villages where UBL funded RO plants are functional and where respondents did not have facility to get water inside the house (n=58)

The implementation of the RO water plants has not influenced the travel distance (average of ~ 175m in both scenarios) for the beneficiaries to fetch water but has reduced the travel time as the water availability at the borewell or public taps was intermittent and had to fetch water at specific time period while RO plants has helped to avoid these by making water available any time which reduces the dependency on source at a specific time slot.

94% of the villagers (n=100) reported to use the RO plant water. 91.5%¹¹ of the beneficiaries (n=94) reported to use RO plant water for drinking and cooking in the locations where RO plant is working. 72% RO users fetch more than 200 liters of water/ week and 71% RO users fetch RO water daily. 48% respondents pay more than INR 100/month to fetch water (100% of Bachahallihundi beneficiaries pay more than INR 100/month)

The graph below illustrates the frequency at which the respondents draw water from the RO plants.



Figure 6 - Frequency of water drawn per week from the RO plants (n=94)

It was observed that on an average a household consumes 219 liters of RO water/ week which shows that more than a 20-litre can is used by a household per day. 84.7% of the beneficiaries completely agreed that the provision of RO Plants has been beneficial for them. Detailed discussion with beneficiaries revealed that men of the household usually went to fetch water on their cycles/bikes/scooters as the RO plant was situated at some distance from the house.

Below is an illustration of the prominent water-borne disease that were prevalent in the area before the interventions.

Figure 7 - % of Households with prominent water borne diseases (Pre-intervention scenario) (n=365)



Before the installation of RO Plants, Cholera was the most prominent water borne disease prevalent in the villages as stated by 85% respondents. Other diseases included stomach related ailments like diarrhoea & dysentery which spread due to contaminated water.

99% beneficiaries agree that there has been a reduction in incidence of water borne diseases after installation of RO plant. The number of patients visiting the local PHC & CHC for such health issues have also reduced.

¹¹ 4 Villages where UBL funded RO plants are functional & for beneficiaries who use RO Plants (n=94)

81.9 % respondents (n=94) stated that the subsidized water from RO Plants had a positive financial impact for them.

81 villagers have responded for the benefits of RO plant and has been represented in the dumbbell chart below. The average percentage of positive responses for each query varied across the villages (for example – the average percentage of positive response for saving money on health expenditure ranged from 62% to 100% across the villages with an average of 85.2%)



Figure 8 - Benefits of the RO plant (n=81)

85.2% respondents¹² (n=81) who agreed that they save money on health expenditure, had an average monthly health expense of INR 361/- earlier which has reduced to an average of INR 293/- post installation of RO plants.

4.2.2. Borewell

4.2.2.1. Understanding the impact of Borewells

77.5 % (n=365) respondents reported to use borewell. Out of the beneficiaries who use borewells (n=283), 89% respondents agree that borewells have been beneficial for the households.

253 villagers have responded on the benefits of Borewell and has been represented in the dumbbell chart below. The average percentage of positive responses for each query varied across the villages (for example – the average percentage of positive response for Borewell being convenient ranged from 54% to 100% across the villages with an average of 70%).

¹² Villages where UBL funded RO plants are functional (n=81) and opined on the impact of RO



Figure 9 - Benefits of the Borewell (n=253)

Out of the beneficiaries who use borewells (n=283), it was reported that:

- 53.4% use it for drinking/cooking-purpose
- 58.3% use it for non-drinking/cooking purpose
- 6% use it for washing purposes

It can be inferred that earlier the ~92% (n=283) respondents who used to depend on piped water supply sourced from borewell for drinking purpose had now reduced to 53.4% (n=283) post installation of the RO plants. This shows that people are now depending on better quality water, i.e., the RO plant water.

4.2.3. Farm Pond

38.9 % villagers (n=365) reported to use farm pond with majority villagers (more than 70%) being from Basavanapura, Immavu, Immavu hundi villages, as is illustrated below.





The farm pond is used by the villagers mostly in the monsoon season when it is filled with water. It has helped to recharge the ground water level also as stated by some beneficiaries. Additionally, it was reported by respondents that:

- 21% use the farm pond as picnic spot
- 88% use as source of water for livestock
- 22.5% for non-drinking purposes

4.2.4. Overall Impact of Water Infrastructure Support

Pre intervention¹³:

51% of households surveyed in the 11 villages used less than 15 Litres Per Capita Per Day (LPCD). Over 42% of water sources (bore wells, creeks and canals etc.,) observed in the villages were likely contaminated by human or animal feces. 64% of the canals and tanks observed in these villages had a high potential for fecal coliform contamination. 30% to 70% of the 11 villages surveyed were observed to have open defecation. Villages had higher occurrence of diarrhoea (during the assessment period) for children <6 years old. Poor hygiene knowledge and implementation among 82% of the households surveyed in the target area unfamiliar with diarrhoea prevention which was highlighted in the need assessment study of ASSIST.

Before the installation of the RO Plants, villagers majorly depended on public piped water supply as stated by almost 92% respondents. The water sources were unprotected & were contaminated with fecal matter. The supply of water was also sporadic & the villagers used to get water once a day for 1-2 hours only.

Illustrated below is the general preference pertaining to drinking water sources amongst the beneficiaries before the intervention.

¹³ Data taken from need assessment conducted by ASSIST in 2017



Figure 11 - General preference for drinking water before installation of RO Plant (n=365)

The general preference for drinking water before installing RO plant was Public piped water supply (92%), private shallow hand pump (87%), private deep bore hand pump (77%) and public shallow hand pump (57%) (N=365).

Post Intervention:

The average service level of all the villages is more than 35 Litres Per Capita Per Day (LPCD) post intervention. 99% beneficiaries agreed that there is reduction in incidence of water borne diseases after installation of RO plant. They also reported access to clean water free from coliform contamination.

The subsidized RO water has had financial impact by saving money on health expenditure and Spending less money on buying water. The dependency on Borewell for drinking and cooking has reduced to around 50%. The awareness sessions have helped to increase awareness regarding safe drinking water.

The beneficiaries have rated the different water infrastructure support measures on a scale of 1-5 (with 1 being the lowest and 5 being the highest) as follows:

- RO Water Plant 4.53/5
- Borewell 3.94/5
- Farm Pond 4.07/5

4.3. Community and Individual Household Dustbins

4.3.1. Provision of community & individual household dustbins

Illustrated below are the percentage of respondents who have received community and individual household dustbins along with the percentage of respondents who are using it regularly.









*1% respondents were not sure if they have received the dustbins

Out of the total respondents interacted with, 76% respondents agreed that they had community & individual household dustbins. Out of these, 96% respondents effectively used the dustbins provided by UBL on a regular basis. ASSIST have provided separate dustbins at the community & the household level with the purpose of ensuring wet waste and dry waste segregation. Before the distribution of dustbins, 76% of the respondents used to bury the waste in the open, 41% of the respondents used to throw it in the open & 51% of the respondents used to burn the waste causing environmental degradation & spread of diseases.

The villagers were made aware of the importance of proper waste disposal with focus on waste collection and segregation. This enabled the villagers to ensure proper recycling of the waste & detailed discussion with the beneficiaries revealed that majority of them were using wet waste as compost for their agricultural fields. 4% respondents who reported not using the dustbins regularly, it was observed that they had converted the dustbin containers into storage containers for other purposes as the dustbins did not come with a top lid and were small in size.

4.3.2. Impact of effective use of dustbins

Approximately 96% respondents highlighted that the provision of having a dustbin has benefitted them as illustrated in figure below.

Figure 14 - % respondents who felt provision of having dustbins benefitted them (n=279)



The beneficiaries rated 4.25/5 on a scale of 1-5 (with 1 being the lowest and 5 being the highest) their satisfaction level for dustbin support. Illustrated below are the benefits of using dustbins, as per the responses from the respondents who felt that the provision of dustbins have benefitted them.

Figure 15 - Benefits of using dustbins (n=261)



94% of the total respondents felt that the provision of community & individual household dustbins had been beneficial for them. Out of these, benefits of the dustbins for 90% of the respondents included provision of a proper facility to dispose off waste as opposed to the earlier practice of throwing the waste in an open field. 61% of the respondents stated that using dustbins made the village surroundings cleaner, 25% stated reduced diseases & instances of falling sick caused due to flies & other insects that used to sit on unattended waste.

Despite these overall benefits of the dustbins, in some villages like Old Bokkahalli & Immavu, the beneficiaries stated that the dustbins had not been distributed to all households. Further, some villagers had cemented the opening of the community dustbin as the community van did not come regularly to collect the waste, which was leading to accumulation of the waste, hence causing foul odour & unhygienic environment. Greater involvement of the Gram Panchayat was suggested in this regard by the villagers.

4.4. Construction of Toilets

18% respondents interacted with received financial support for construction of toilets (N=365). 100% respondents who received financial support used to defecate in the open before construction of toilets (N=65). The below graphical representation demonstrates the benefits of toilet construction, as reported by the respondents who received the support.



Figure 16 - Benefits of toilet construction (n=65)

The average rating provided by the beneficiaries based on the satisfaction level for individual toilet infrastructure support stands at 4.05/5 on a scale of 1-5 (with 1 being the lowest and 5 being the highest).

According to a need assessment survey conducted by ASSIST in 2017 in the intervention villages, it was found that open defecation was prevalent in these villages. There was unavailability of proper infrastructure for defecation as well as lack of awareness with regards to harmful effects of open defecation. Open defecation near sources of water was further leading to water contamination & spread of water borne diseases.

UBL provided financial assistance of INR 5,000 in two instalments for the construction of toilets to select households in the villages. Out of the total respondents interacted with, 18% had received this assistance for construction of toilets. All these respondents used to defecate in the open earlier. Post the construction of toilets, 91% of the respondents agreed that they no longer go out in the open to defecate. 28% & 22% of the respondents agreed that the women of the household have experienced greater privacy & security respectively by provision of toilets, especially during the night. Frequency of falling ill has also reported to have reduced for 8% of the respondents. Availability of toilets has also helped in saving time for the villagers as they no longer had to walk to nearby fields to defecate.

Despite these benefits, in some of the households it was observed that the toilets had been converted into storage rooms & were being used for other purposes. Despite efforts from ASSIST, there is a need to conduct awareness sessions on a more frequent basis to reaffirm the importance of toilets for the villagers.

4.5. Awareness Sessions

4.5.1. Nature of Awareness Sessions conducted

The below table shows the level of awareness on the various UBL infrastructure interventions amongst the beneficiaries.

Table 8 - Awareness of UBL infrastructure interventions (n=365)

95%	77%	70%	38%	32%
RO plant	Individual dustbins	Borewell	Pipeline	Community dustbins

Majority of the beneficiaries interacted with were aware of the WASH infrastructure support provided by UBL ASSIST had approached the Gram Panchayats of the villages as part of the project & conducted a survey on the WASH related situation in the area. The Gram Panchayat members also gave their suggestions post which the intervention was planned.

The below graph summarizes the nature of awareness sessions and the topics covered as part of those awareness sessions conducted by ASSIST.



Figure 17 - Topics covered during awareness sessions (n=264)



72% of the respondents agreed that ASSIST had conducted awareness sessions and street plays on importance of water & sanitation. 88% of the respondents stated that topics covered in the sessions included importance of clean drinking water, awareness education on dangers of animal & human fecal matter was covered as stated by 53% of the respondents. Importance of toilets and dustbins was covered with regards to open defecation & waste segregation as stated by 12% of the respondents.

Detailed discussion with the beneficiaries revealed that ASSIST had conducted multiple street plays on usage of water, cleanliness, waste segregation & open defecation as part of the awareness sessions. These were conducted to introduce a behaviour change in the villagers. Several wall paintings were also observed across all the intervention villages in Kannada, highlighting the importance of WASH practices.

ASSIST also formulated village level water & sanitation committees consisting of Gram Panchayat members as well as Asha & Anganwadi members, who in turn provided further awareness to the villagers. 75% beneficiaries were aware of the existence of WASH committees. Currently, there were only two water & sanitation committees operational at the Gram Panchayat level in Hulimavu & Tandavpura. Due to recent Panchayat elections, new water & sanitation committees have not been formed in the last one year in the remaining villages.

4.5.2. Impact of the awareness sessions conducted

Majority of the respondents found the awareness sessions beneficial. The average rating provided by beneficiaries based on the satisfaction level for awareness and capacity building stands at 4.18/5 on a scale of 1-5 (with 1 being the lowest and 5 being the highest).



Yes

92%

No 8%





92% of the respondents agreed that the awareness sessions had been beneficial for them. Out of these, 87% of the respondents reported that these sessions had led to an increase in awareness regarding safe drinking water & sanitation and 70% of the respondents reported positive behavioural changes like practicing waste disposal & segregation, reduction in open defecation etc. 17% of the respondents stated that this positive behavioural change helped to reduce water borne diseases.

Prior to the intervention, 82% of the households had poor hygiene knowledge as observed during the baseline study. As part of these awareness sessions, ASSIST conducted discussions with women, community leaders & local Panchayat members to get their opinion on need for better WASH practices. IEC material was also distributed on WASH in the households & door to door campaign was conducted to make the villages open defecation free. Due to the awareness sessions, a change in the knowledge, attitude, behaviour & practices of the villagers were noted. 93% of the respondents agreed that good hygiene habits were essential for good health. Post the awareness sessions, 73% of the respondents actively encouraged their family & community members to use dustbins for waste disposal & not to defecate in the open.

4.6. Knowledge, Attitude, Behaviour, Practice (KABP) Analysis

4.6.1. Knowledge

The below graph depicts the knowledge level of the respondents related to the water and sanitation practices.





Responses to the statements reflect the beneficiaries' level of knowledge related to water & sanitation practices.

- For the statement, "Water from a filter is safer to drink than water from a tap", 95% beneficiaries showed their agreement.
- Similarly, for the statement, "It is not necessary to flush the toilet after every use", more than half the beneficiaries (53%) disagreed
- An understanding of the knowledge levels of the villagers highlighted that due to the awareness sessions, their knowledge & understanding with regards to the Dos & Don'ts of WASH related practices was present which in turn had a positive impact on their behaviour practices

4.6.2. Attitude

The below graph depicts the current attitude of the respondents related to the water and sanitation practices.



Figure 22 - KABP Analysis - Attitude (n=365)

- 88% of the respondents agreed to the statement "Every household should have a toilet".
- For the statement, "I drink water from RO treatment plant as it is safer," an average of 91% of the respondents responded affirmatively.
- Despite the positive attitude responses, 85% beneficiaries stated that "Only female members need to use household toilets" & 88% respondents agreed that they "Only washed hands on touching something dirty".

Therefore, responses for statements under attitude reveal that although beneficiaries are aware of the good practices, a reinforcement of the learnings is essential to enable its internalization by the villagers as some of the respondents were unsure on the correct attitude required with regards to WASH practices.

4.6.3. Behaviour

The below graph reflects the behaviour trends of the respondents related to the water and sanitation practices.



Figure 23 - KABP Analysis - Behaviour (n=365)

Responses to the statements reflect the beneficiaries' behaviour trends with respect to personal hygiene and sanitation measures.

- For the statement, "I teach my family members about the importance of good hygiene", 7% of the respondents responded as 'sometimes' against 69% of the respondents who responded 'always'.
- Based on the responses, a positive behavioural change was observed in the beneficiaries as they had inculcated good practices through enhanced knowledge & improved attitude with regards to WASH practices. The awareness sessions helped to bring about a change not only at a household level but also in the overall community.

4.6.4. Practice

The below graph reflects the beneficiaries' practice related trends towards water & sanitation practices.



Figure 24 - KABP Analysis - Practice (n=365)

Responses to the statements reflect the beneficiaries' practice related trends towards water & sanitation practices:

- For the statement, "I wash my hands before having meal and after using toilet, 76% of the beneficiaries responded as 'always'.
- For the statement, "I keep my surroundings clean", 81% of the responded as 'always'.
- Positive change in the knowledge, attitude & behaviour of beneficiaries was reflected in the practices
 followed by them with regards to WASH related activities. Their understanding on the harmful effects of
 open defecation, importance of proper disposal of waste etc. has increased. This has benefited the
 community as whole.

4.7. IRECS Analysis

Following is an assessment of the project implemented by UBL as per the IRECS framework.

Table 9 - IRECS Analysis

	Inclusiveness		Relevance
The supp the interv the hous received in terms of pipeline of Additiona dustbins irrespect class or s The bene being uti the villag commun	ort provided by United Breweries Limited to ention villages is inclusive in nature as all eholds of the intervention villages support with regards to water infrastructure of installation of RO Plants, borewells & extension. Illy, the community & individual household were provided for use to all the villagers ive of any discrimination basis caste, social category of the villagers. Its of the support provided by UBL are lized without any discrimination by all gers irrespective of their social ity or gender.	As per the 2017, 519 used less Over 42% canals) of contamina canals an high poter of the 11 v open defe Plants wa as there v availabili earlier fro spread of Additiona as earlier open or b waste dis provisior open defe	 a baseline study conducted by ASSIST in 6 of households surveyed in the 11 villages than 15 L of water per day per person. b of water sources (bore wells, creeks and observed in the villages were likely ated by human or animal feces. 64% of the d tanks observed in these villages had a nitial for fecal coliform contamination. 70% villages surveyed were observed to have ecation. ct support with regards to provision of RO is relevant for the intervention villages was a scarcity of safe drinking water ty in these villages. Water available m the taps was not treated leading to water borne diseases in the villages. lly, the dustbins were useful for the villagers they used to throw the garbage out in the urn it. Provision of dustbins led to proper posal practices in the villages. The n of toilets has reduced instances of ecation in the villages.



Effectiveness



Convergence

A moderate degree of effectiveness has been observed in the support provided as most of the respondents have benefited from the support provided.

- 94% of the respondents agreed that provision of dustbins had been beneficial for them.
- 91% of the respondents who had received toilet construction support did not defecate in the open any longer.
- 91.5% respondents used the RO plants for drinking & cooking purposes.
- 99% beneficiaries agreed that installation of RO plants had helped to reduce water borne diseases in the intervention villages. The farm pond was being by the villagers for irrigation & as drinking water for cattle.

However, it was observed that there was a lack of proper operation & maintenance of the RO plants due to which several plants were not functioning at the time of site visit. There was a lack of regular testing of the water quality of the RO Plants due to non – availability of a local vendor. Despite the awareness sessions, some households were using the dustbins for storage of grains & other items & toilets were being as storage spaces which called for a need to spread greater awareness among the beneficiaries on regular intervals.



Sustainability

The service model under the initiative restricts longterm sustainability on its own. The maintenance and operation of the RO Plants requires a constant inflow of funds & the Panchayat should ensure proper collection of the user charges in order to ensure that the same are being used for operation & maintenance of the RO Plants.

Greater community ownership & accountability of the Gram Panchayat is **required to leverage more funds/support from other alternative sources**, be it Government or other corporates is required to ensure long term sustainability of the project. The project has collaborated and taken support from Gram Panchayat members for convergence at the ground level. The provision of toilets was done as part of the Swachh Bharat Abhiyan.

However, there is limited convergence of this initiative with WASH related Government schemes like Jal Jeevan Mission where the main aim is to provide safe drinking supply to every rural household by 2024 or tie up with the Department of Rural Development & Panchayat Raj, Karnataka which has launched a scheme to provide 1,000 water purification plants in villages of Karnataka.

UBL can also **coordinate with the local PHCs to spread awareness on benefits of drinking clean water and sanitation**. Doctors from the local PHC can visit the villages on a periodic basis and conduct camps and awareness sessions with the villagers on importance of WASH practices.

Detailed discussion on the field revealed that the current role of the Gram Panchayat was limited with regards to O&M of the water infrastructure. The **WASH committees that were formulated during the project period were no longer functional in majority of the villages**. The Gram Panchayat may appoint new WASH committee members who can take up ownership & accountability of the infrastructure provided.

5. Recommendations



Recommendations

1. Change in method of procuring water from RO Plant (Dispensing method to be changed)

- Detailed discussion with the beneficiaries revealed that the RO Plants installed in the programme required one time purchase of a recharge card and using the same card every time to get water from the RO plant. The card required a recharge of INR 100- 150/- on a regular basis upon zero balance to be able to access water from the RO Plants. The beneficiaries found the method to be non-user friendly as the recharge card is bound to be lost and villagers found it difficult to operate.
- Hence for such projects, installing coin based dispensing machine at the outlet of RO plant for effective usage of RO plant by the villagers could be considered. For example, the RO Plant in Bachahallihundi had both coin & card system due to which the RO Plant was being used on a regular basis by the villagers.

2. Involvement of a local vendor/agency for regular O&M of RO Plants

- For the RO infrastructure support, Piramal, a Gujarat based organization provided support in the installation
 process. Currently, there was no tie up seen of a local Karnataka based vendor or agency who could
 support in ensuring monthly operation & maintenance of the RO Plants & the villagers were dependent on
 Piramal for support. Due to the same, several RO Plants were observed to be not functioning (4) or in need
 of repair.
- UBL may approach Rural Drinking Water & Sanitation Department (RDWSD) of GoK (Government of Karnataka) under Rural Development & Panchayat Raj Department. As RDWSD is running and maintaining 17,000 RO plants in Karnataka, UBL may initiate discussions with RDWSD and handover the RO plants supported by UBL as part of the CSR project to be operated and maintained by their registered vendors.

3. Regular testing of quality of water of RO Plants

- Detailed discussion with the beneficiaries & RO Plant operators revealed that in majority of the villages, the cartridge filters/ pressure sand filters/ activated carbon filters of the RO Plants had not been changed since the time of installation of the plant leading to certain parameters coming under non-conformance.
- There is a need to ensure testing of the quality of water of the RO Plants on a monthly basis to by a local vendor in order to check if there is a requirement to change the water filters and changes in the quality of water. Alternatively, there are Field Test Kit (FTKs) available at the gram panchayat office under the ownership of VWSC and it is recommended to use the test kits to test the major water quality parameters which will help in maintaining the water quality in the long run.

4. Greater ownership & accountability of the Gram Panchayat

- It was observed that currently the involvement of the Gram Panchayat was limited with regards to ensuring the operation & maintenance of the RO Plant infrastructure in the villages. In some of the villages, the RO Plant operator was collecting the amount & recharging the cards of the villagers. No fixed remuneration was also being provided to the RO Plant operators. Additionally, the initial funding of INR 1 Lakh provided by UBL to the Gram Panchayat to be used over 5 years was felt to be limited & had already been utilized in some of the villages. The role of the Gram Panchayat in mobilizing the WASH Committees was also observed to be limited.
- There is a need to ensure greater ownership & accountability of the Gram Panchayat members. The Gram
 Panchayat members can provide assistance to the villagers in recharging the cards. The amount collected
 from the villagers can then be used in the O&M of the RO Plants & giving a fixed salary to the RO Plant
 operators. This will ensure long term sustainability of the infrastructure provided & the villagers will be able
 to use the RO Plant on a regular basis.

5. Effective functioning of the WASH Committees

• During the current site visit it was observed that the Water & Sanitation Committees that were earlier formulated as part of the project were not operational in most of the villages for the past 1 year due to the

Panchayat elections. As the Panchayat members had changed, there had not been any reselection of the WASH Committee members.

• There is a need to ensure proper functioning of the village level WASH committees who will be responsible for spreading awareness among the villagers from time to time & also ensuring proper functioning of the water infrastructure provided by UBL. In the absence of the same, currently there is limited accountability & feeling of ownership among the villagers regarding the water infrastructure provided by UBL.

6. Greater awareness on usage of toilets & dustbins

- During the current site visit it was observed that some of the households that had received toilet construction support from UBL were not using the toilets effectively & had converted the toilets into storerooms. Similarly, some of the villagers were not making use of the individual household & community dustbins. The household dustbins were being used for storing grains or other goods. The household dustbins also lacked UBL branding.
- There is a need to ensure periodic sensitization or awareness generation sessions with the villagers either by the Gram Panchayat or the WASH Committee members highlighting the importance of proper waste disposal & harmful effects of open defecation so that all the villagers who were supported by the UBL intervention can make use of the resources they have received.

7. Awareness on the use of Borewells

 As per the mandate of the project the UBL has not promoted borewells as sources for drinking water. However, villagers should be made aware so that they understand that the borewells are not to be used for drinking water purposes. To this end, regular IEC activities and awareness drives could be explored when such projects are planned in the villages to ensure that all aspects are covered in the awareness sessions from the Panchayat level to the household levels





Annexures

6.1. Annexure – 1: Evaluation Criteria for Comparative Analysis of RO Plants

Parameters	Evaluation criteria	Red	Yellow	Green	
Operation and	Operation and maintenance				
Operational Responsibility	The operational responsibility taken up by dedicated operator and is available most of the time	The RO plant has a RO plant operator but works parttime and has other duties. They have not taken necessary actions to repair the RO plant and has led to intermediate non-functionality	The Water man of the village has been assigned the responsibility of the RO plant as well and is not dedicated for the upkeep of RO plant exclusively as he also looks after the borewells and other Water inf rastructure of the village.	Dedicated personnel is available all time for operating the RO plant. He has taken necessary actions to repair and maintain the RO plant	
Operator awareness	The operator is aware of the overall functioning of the system and to monitor and read the sensors. They were aware of the basic functioning of the system.; Replacement of cartridges; Card recharge; Sensors on Backwash and multivalve control; recharging system; Aware of Chemical dosing; Aware of Activated carbon; Aware of reading TDS; Aware of RO membrane replacement; Aware of the pressure gauges	Has basic awareness on manual operations	Partially aware	Completely aware	

Table 10 - Evaluation criteria for Comparative Analysis of RO Plants

Parameters	Evaluation criteria	Red	Yellow	Green
Regular Cartridge replacement	Operator cleans the cartridge every month and replaces it every 6 months	Does not replace	Operator cleans the cartridge every month and replaces it yearly	Operator cleans the cartridge every month and replaces it every 6 months
Activated carbon replacement	The operator should be aware of Activated carbon filter media and the procedure for replacing. Decided based on free Chlorine in test samples	ls not aware	Is aware of Activated carbon filter	Is aware of Activated carbon filter and has replaced it
Backwash of filters	Backwash to be done on a regular basis for every 6 hours of filtration cycle	Does not backwash	ls done but not practiced regularly (weekly)	Backwash to be done on a regular basis for every 6 hours of filtration cycle
Chemical dosing	The operator is aware of chemical dosing and does it as per the norms prescribed.	Operator is not aware	Operator is aware of chemical dosing and is not doing it	The operator is aware of chemical dosing and does it as per the norms prescribed.
Water tank maintenance	The Storage, Filter storage and outlet tank to be cleaned regularly	Does not clean any of the tanks	Any of the tanks is left uncleaned	The storage, filter storage and outlet tank to be cleaned regularly
Handheld pH & TDS meter	Operators to know how to operate the meters and record regularly	Operator does not have the handheld meters	Operators know how to operate the meters but does not use it	Operators know how to operate the meters and record regularly
Financial				
Financial Responsibility	Operator takes responsibility to handle minor repair works as well as spends on upgrading the system as required. GP should provide funds for maintenance from the maintenance corpus fund	Gram Panchayat (GP) and operator does not take responsibility	The RO operator takes the responsibility for repair and maintenance	The RO operator takes responsibility to handle minor repair works as well as spends on upgrading the system as required. Gram Panchayat should provide funds for maintenance from the maintenance corpus fund

Parameters	Evaluation criteria	Red	Yellow	Green
Funding for maintenance	Funding for maintenance is provided by UBL fund, Gram Panchayat, or is self-funded by operator	No funding	Funded by operator	Funded by GP or by both operator and GP
Earnings from RO plant	The grading is made on the increasing order of earnings per month from the RO plant usage	<500 /month	500 to 3000 /month	>3000 /month
Salary for the operator	A fixed salary is paid by the gram panchayath to the RO operator	No salary is paid to the operator by the GP	-	Salary paid by GP to the operator
Impact on ben	eficiary			
Daily footfall	The number of people using RO plant on a daily basis	<10 people per day	10 to 20 people per day	> 20 people per day
Daily consumption	Daily water consumption at the RO plant	<200 lts per day	200 to 500 lts per day	>500 Its per day
Dependency on RO plant	The number of people using RO plant on a daily basis based on the survey and RO operator FGD	Low	Medium	High
Impact on health	Improvement in health conditions based on FGD with RO operator, beneficiaries, Health officials and Survey	No significant health improvement	They do not see any significant changes, but the incidence of fever has reduced	The water borne diseases have decreased
Repair and Maintenance				
Current functionality status	Operational	Not functional	Functional but few components are not working	Fully functional
Frequency of repair	The amount spent on the repair and maintenance and the incidence of repairs	No amount spend on repair and maintenance	Amount spent but on minor repairs	Amount spent on replacing and modifications as per requirement

Parameters	Evaluation criteria	Red	Yellow	Green
Funding for repair	Funding for maintenance is provided by UBL fund, Gram panchayath, or is self-funded by operator	No funding	Funded by operator	Funded by both operator and GP
Status of Card system	Based on the physical and functional condition of the card system (RFID, Signal strength, Buttons, Master card)	Card system is not working	-	Card system is working
Control panel and sensors	Status of functionality of Control panel	Control panel is not working	Issues with Control panel (signal error)	Control panel is working
Record keeping	Based on the record keeping on water consumption, daily collection and O&M cost	Not practised	Any sort of bookkeeping (documentation) is followed	Book-keeping on daily consumption, money collected, and cost incurred for repair and maintenance

6.2. Annexure – 2: Case Studies from the Field

6.2.1. RO Plant

The RO plant with a capacity of 250 litres per hour installed in Bachallihundi village of Tandavapura Panchayat is a blessing for all the villagers.

The beneficiaries Marigowda, Kempamma, Ratnamma, Deepu and others believed that even though they have piped water supply they depended on RO water for drinking purposes and the quality of the water from the RO is much better as compared to the piped water.





Ratnamma, one of the beneficiaries, is now of the opinion that her health conditions had improved, and joint swelling, joint pain and water borne diseases had reduced in the village post usage of drinking water from the RO plant.

Overall, the beneficiaries were highly satisfied with the support provided by UBL and ASSIST.

The RO plant operator, Mahendra stated that the RO plant has been a blessing to the village and all the villagers drink RO water exclusively. He revealed that the numbers of villagers falling sick and having joint pain have reduced due to the good quality water of the plant. The ownership and accountability are shared by the villagers. The villagers give funds for the RO plants for any repair & maintenance.

6.2.2. Benefits of toilet construction

Villagers of Hulimavu village were provided financial assistance for construction of 28 toilets by funding INR 5,000 each. Detailed discussion with the beneficiaries revealed that the incidence of people falling sick has reduced over the years from around 100 -150 patients to 35-50 per month after the intervention of provision of toilets.

Mahesh is one of the beneficiaries who got assistance from UBL to construct the toilet. Earlier, the women of his house used household toilets of neighbors which were constructed by Government support or used to go in the open field. UBL assisted Mahesh with a fund of INR 5,000 and remaining amount was contributed by him to construct the toilet. The toilet has ensured the privacy & safety of the women of his household. It is more hygienic than defecating in the open. Awareness sessions conducted by UBL on effective use of toilets was also beneficial for Mahesh.



Beneficiaries Rajamma and Jaynathi of New Bokkahalli village have received toilet support as part of the project from UBL. Rajamma opined that the toilet assistance has been very useful for her family of 4. Earlier she and her daughter faced problem as they were forced to practice open defecation. Their daughter used to struggle during her menstruation cycle. Sometimes it was so difficult that her mother arranged temporary arrangement in the neigbour's house. The challenges are now no more as she has a toilet in her home now and they can use the toilet anytime as per their convenience which was not possible earlier.

Jayanthi revealed that the toilet support has been a valuable asset added to their joint family. Earlier the female members of the family had safety and privacy concerns when going out to defecate in the open. The challenges increased during rainy seasons and when people of the house had ill health. The construction of a toilet has made their lives easy and as now they don't have to defecate in the open at any time.



Beneficiary (Rajamma) with toilet support



Beneficiary (Jayanthi) with toilet support

6.2.3. Benefits of using dustbins

Hebya village was provided with 2 dustbins for each household for segregation of wet and dry waste. Vignesh's family also received 2 dustbins (for dry and wet waste segregation) as part of the support provided by UBL.



Community Dustbin

Individual Dustbin

Earlier Vignesh and his family used to throw the waste out in the open field adjacent to their home as they found it to be convenient & time saving. The same empty plot was being used by other villagers for throwing waste as well. This led to spread of stench and diseases amongst the family members.

Post the provision of community & individual household dustbins by UBL, it has helped Vignesh & his family to get rid of the stench and the incidence of falling sick has also reduced over the time. The villagers are using community dustbins for throwing waste which has prevented littering. A van has been arranged by the Gram Panchayat to collect the garbage from the community dustbins. Awareness provided on segregation of wet & dry waste by the project has also been beneficial for Vignesh.

6.3. Annexure – 3: Snapshots from the Field



		Biolinario Come materiario da 271222 mais
Wall painting for awareness	Toilet Assistance	Toilet being used as storeroom in New Bokkahalli
HEbbeya, Karnatz ka, India Eventuer Eventuer	Kakhali Dokkhelit, Karnataka, India	
Community dustbin at Hebya	RO plant visit in Old Bokkahalli	Beneficiaries during interaction, Old Bokkahalli
banchallihundhi, Karnataka 671302 Lat 12:160972* Log 78:682795* L22(04/22 TI:04 AM	Indevenues, Karnaticky, Indi Rade-uits, Thances industris avan Rit, Thancemagan	Kempisidanahundi, Karnataka, India Aktive 604, Kampisidanahundi, Karnataka 57130 Lat 12.142998 ^a Long 7.66.949.44 ^a 23/04/22.11:00 AM
Borewell being used as dump site in Bachallihundi	Borewell at Tandavapura	School in Kempisidanahundi



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