Sustainable Access of Water Stricken Communities to Clean Water and Adoption of Safer WASH Practices

Rural Aid
PAKISTAN

Water Crisis in Pakistan!

The country faces serious challenges with access to safe water, especially in rural areas; more than 80 per cent of the country's population face “severe water scarcity”. The country ranks 14 out of 17 designated as “Extremely High-Water risk” nations.

Ensured Sustainable Access of Water Stricken Communities to Clean Water & Knowledge of Safer WASH Practices

by

Installation of shallow hand pumps in vulnerable communities of district Multan and Khanewal

PROJECT FINAL REPORT

04 September 2023

This report describes the activities carried out during the project implementation, their results, impacts and the lessons learned observed by Rural Aid Pakistan.

CONTENTS

ACRONYMS

BCC	Behavior change communication
CB	Capacity building
CBO	Community-based organization
CBSD	Community-Based Sales and Distribution
CDC	Center for Disease Control and Prevention
CDWA	Clean Drinking Water for All
CDWI	Clean Drinking Water Initiative
CH	Community Hygiene
CLTS	Community Led Total Sanitation
CSO	Civil society organization
DHS	Demographic Health Survey
HIF	Hygiene Improvement Framework
GOP	Government of Pakistan
KAP	Knowledge, attitudes and practices
M&E	Monitoring and evaluation
SDG	Sustainable Development Goal
MOU	Memorandum of understanding
NGO	Non-governmental organization
O&M	Operation and maintenance
PHED	Public Health Engineering Departments
PMP	Performance Management Plan
PWD	Persons with disabilities
UK	United Kingdom
WASH	Water, sanitation and hygiene

EXECUTIVE SUMMARY

The project completion report presents the successful completion of the following projects:

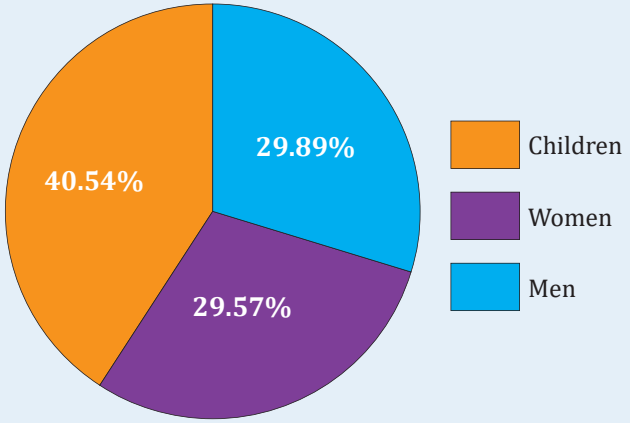
1. Installation of 500 shallow hand pumps for vulnerable communities in district Multan over the course of 11 months, from 1st August 2021 to 30 June 2022 with total budget PKR 35.3 million.

2. Installation of 467 hallow hand pumps for vulnerable communities in district Khanewal over the course of 17 months, from 1st August 2021 to 31 January 2023 with total budget PKR 33.4 million.

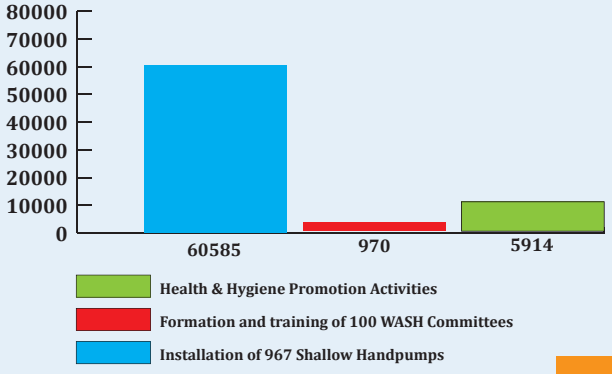
These projects were implemented by Rural Aid Pakistan with partnership of Penny Appeal UK & the rural communities. The ultimate direct beneficiaries of the project were 67,469 most vulnerable individuals (20169 men, 19868 women and 27358 children) including 242 PWDs who have been identified and connected to safe water facilities.

The principal objective of the actions is to ensure that water-stricken populations have adequate and sustainable access to clean water and knowledge of best hygienic practices.

Gender wise Beneficiaries



Activity wise Beneficiaries



Keeping in view the water scarcity situation and rising health challenges of the target areas, the project aimed at alleviating the immediate suffering of the women, girls, and boys involved in water drudgery and ultimately reducing the impact of waterborne diseases. Project execution adopted participatory approach, established and strengthened community support mechanisms for maintaining and managing shallow wells and promoting a healthy and hygienic environment.

Communities have remained the heart of the intervention and were engaged at each phase and step of the project. The project has three basic concepts & achievements that were adopted to ensure effectiveness and sustainability. The project has three basic concepts and achievements that were adopted to ensure effectiveness and sustainability:

Concept 1: This included establishing safe water access points for marginalized communities who lack access to clean drinking water.

Achievement Concept 1: Achieved targets as per plan promptly, which included the identification &installation of 967 handpumps that resulted to improve the water access of 60585 community members including 17451 Men, 17352 Women and 25782 Children amongst them 175 persons with disability in both men, women & children segments included.

Concept 2: This aims to establish sustainable water facility maintenance and management systems by forming &strengthening community based organizations.

Achievement Concept 2: Achieved as per the timeline by forming and strengthening 100 village-level WASH Committees with 970 members including 514 men & 456 women.

Concept 3: Included household and community-level awareness & education activities to improve awareness and behavior concerning water, sanitation, and hygiene.

Achievement Concept 3: By applying community sensitization and interactive awareness-raising activities, the messages reached approximately 5000 households by sensitization and education of 5914 community members (2204 men, 2134 women, and 1576 young children) by conducting 107 with partner rural communities and school going young children.

CHAPTER 1: INTRODUCTION

1. About the Report

This report presents the findings of the “installation of shallow hand pumps for the vulnerable communities of district Multan and Khanewal” project, a collaborative endeavour between Penny Appeal UK and Rural Aid Pakistan. The project, which commenced in 2021, aimed to address the water scarcity related challenges faced by vulnerable communities in district Multan and Khanewal. The primary goals of the project were to provide access to safe drinking water and improve the health and hygiene conditions of the targeted communities, benefiting a total of 67,469 individuals. The project focused primarily on addressing severe water shortages in remote rural areas with limited access to clean water.

Objectives: The project had a clear and focused objective “vulnerable people have easy and sustainable access to safe and clean drinking water according to SPHERE standards and promoting safer health and hygiene practices. This was achieved by facilitating their access to safe drinking water and promoting awareness about crucial hygiene practices to mitigate the risk of waterborne diseases, such as diarrhoea, hepatitis A and hepatitis E. Furthermore, the project aimed to strengthen and sustain the ongoing safe drinking water initiative in district Multan & Khanewal by implementing a range of complementary activities. These activities encompassed hygiene and sanitation promotion interactive sessions with communities and school going children, community mobilization efforts and capacity building initiatives.

Report Structure: This report provides a comprehensive overview of the project's activities, their outcomes, impacts, and the valuable lessons learnt during the implementation phase by Rural Aid Pakistan. The report is structured into the following sections:

1. **Project Background:** This section provides an overview of the project, including its purpose, partners involved, and the targeted communities in district Multan and Khanewal.
2. **Project Objectives:** This section outlines the specific objectives of the project, emphasizing the improvement of health and hygiene practices, and the enhancement of safe drinking water access.
3. **Implementation Activities:** Here, the report describes the various activities implemented as part of the project, including the installation of shallow hand pumps, hygiene and sanitation promotion, community mobilization efforts, and capacity building activities.
4. **Results and Impacts:** This section presents the outcomes and impacts of the project, highlighting the improvements in safe drinking water access, health, and hygiene practices among the targeted communities.
5. **Lessons Learned:** The report concludes with an analysis of the lessons learned throughout the project's implementation, providing valuable insights for future endeavours in similar contexts.

By examining the activities, results, and lessons learned, this report aims to provide a comprehensive overview of the successful implementation of the Installation of shallow hand pumps project, shedding light on the positive impact it has had on the lives of the vulnerable communities in district Multan and Khanewal.

The report consisting on the following sections:
Chapter 1 – Introduction, Chapter 2 – Implementation, Chapter 3 – Key components Execution, Chapter 4 - The Success, Chapter 5 – Lesson Learnt.

Activities implemented under the shallow hand pumps projects supported three areas of WASH improvement to prevent water-borne diseases: 1) access to safe water, 2) hygiene promotion, and 3) community organization.

This report provides an overview of the shallow hand pumps project, which aimed to ensure community access to clean water in vulnerable and water-scarce areas. The project involved the installation of shallow hand pumps, community mobilization efforts, technical training, and hygiene promotion activities. This report highlights the project's key initiatives, partnerships with stakeholders, and its broader objective of improving health and livelihoods in target communities.

1. Installation of Shallow Handpumps: The project identified vulnerable communities and households with limited access to water and installed shallow hand pumps at these locations. This intervention aimed to provide a sustainable source of clean water to the communities in need.

2. Community Mobilization and Technical Training: To ensure the successful operation and management of shallow hand pumps, the project engaged in community mobilization efforts and provided technical training. This approach empowered the community members to take ownership of the shallow hand pumps and equipped them with the necessary skills & tool kits to operate and maintain the infrastructure.

3. Hygiene Promotion: The project prioritized hygiene promotion to foster good hygiene practices within the communities. This included advocating for proper handwashing techniques, safe waste disposal, &appropriate storage of water for drinking and food preparation. Behaviour change communication interventions were implemented, with a particular focus on youth and community volunteers, women volunteers, and individuals with influence over family hygiene practices.

4. Community Involvement and Ownership: The project emphasized community participation by involving the targeted communities in the design and implementation cycles. This approach aimed to enhance community ownership & foster a sense of responsibility in monitoring various project activities.

1.1 Background of Water Scarcity and accessibility

Water scarcity in Pakistan is one of the most frightening challenges of all. Multiple global and national surveys indicate an alarming situation ranking Pakistan among the 14th extremely high-water risk countries worldwide. The estimate shows that above 80 percent of the country's population has been facing severe water shortages at least once a month for years.

Rapid population growth and climatic changes marked by prolonged dry spells severely deplete groundwater resources, as these are the country's last resort for water supply.

Regarding water accessibility, recent estimates revealed that about 21 million people in the country do not have clean drinking water. This situation is more common in the country's rural areas, where people walk miles to get even contaminated water every day.

District Multan and Khanewal falls in the hottest climatic zone of the country, with average temperate fluctuating between 40 – 50 degrees Celsius in summer. Jalalpur Pirwala Tehsil of Multan is spread over a 978.0 km^2 area. The Tehsil holds 5.5 million people. The estimates show that the area is facing severe safe drinking water shortages, especially in rural areas where 87% of the population lives.

This shortage worsens during the summer and dry seasons, resulting in the consumption of contaminated water by humans and animals and, at times, in the creation of drought-like situations.

The recent droughts and recurring floods have further weakened the already weaker water systems, particularly in rural areas. Communities in rural settings are less privileged and need access to basic life amenities. Water access has become one of the most pressing needs of the communities. It has been observed that most people in these areas are forced to drink contaminated water, causing repeated episodes of diarrhea & hepatitis among children. The rise of aliments in children is a causation of long school absentees or drop out altogether. Furthermore, it is also a significant cause of stunting that currently affects a significant child population in the areas.

The areas' vulnerability to extreme climatic eruptions, e.g., droughts and floods, has threatened people's livelihoods, and a large population is on the verge of emergency water-related risks. Sustainable access to clean water at the household level in the target villages is a challenge, especially for girls who devote more time to water fetching than education and play. It also creates insecurities and protection issues for girls during long travels. In many areas, households having disabilities or women-headed households become more vulnerable and marginalized if they are not connected to water access at their doorstep.

1.2 Project description

In 2021, Rural Aid Pakistan entered into an agreement with Penny Appeal UK to execute the "Installation of shallow handpump project" in the District Multan and Khanewal, with the main objective of improving access to reliable, safe drinking water supply and hygiene promotion through community-led and participatory approaches. Under this partnership, Rural Aid installed 500 shallow handpumps in the five union councils of Tehsil Jalalpur Pirwala, District Multan and 467 handpumps in in tehsil Kabir Wala district Khanewal aiming to benefit 67,469 most vulnerable individuals.

The project's general objective was to ensure that the water-stricken populations have adequate access to clean water and knowledge of best hygienic practices.

The secondary impacts anticipated at the design stage covered the livelihood, reduction in water-borne diseases and school dropouts because of the girls' and boys' engagement in water fetching.

The project increases the effectiveness and sustainability of the existing Safe Drinking water initiative by conducting complementary hygiene and sanitation promotion sessions in the target areas, including community mobilization and capacity-building activities.

To reduce the water deficiency of over 60 percent of Multan's and Khanewal population, Rural Aid partnered with Penny Appeal, UK, to provide safe drinking water to over 60585 beneficiaries living in most water-deprived areas of these districts. A total number of 967 shallow hand pumps were installed to benefit the target communities.

The community-led approach of Rural Aid ensured that the benefit of hand pumps reaches the most deserving population. For this purpose, a thorough need assessment and beneficiary selection process was adopted. Rural Aid took on board all the major stakeholders, including the community, government, and like-minded organizations, to ensure the project is used in the best possible way to fill the gaps in the WASH sector.

The shallow handpump project has installed low-cost, localized, and sustainable shallow hand pumps in 967 locations selected by the local WASH committees. These sites were identified using the secondary data of the Public Health and Engineering Department and assessment of Rural Aid. A further thorough screening of the sites was conducted during the project in order to identify the most suitable and deserving places. The project directly complements SDGs 3, 6, and 13.

1.3 Partnerships & Collaboration

The shallow hand pumps safe water project developed partnerships with various stakeholders, including local civil society organizations, public health and engineering departments, district administrations, and other relevant entities. These collaborations ensured a coordinated and holistic approach to addressing water-related challenges in the target communities.

Health, PHED, and local authorities were all consulted on the project. Due to the close coordination, the government PHED department conducted a one-day training workshop for Rural Aid field team on “water simple collection” in Multan and trained 06 project staff.

Mr. Syed Yawar Abbas Bukhari Provincial Minister of Social Welfare and Bait-ul-Mal Government of Punjab, Research Officer Government PHED department, Director Social Welfare & Bait ul Maal Department, member Government District Facilitation Cell and government officials and stakeholders visited the project sites and actively participated in project activities.

2. Broader Objective and Impact

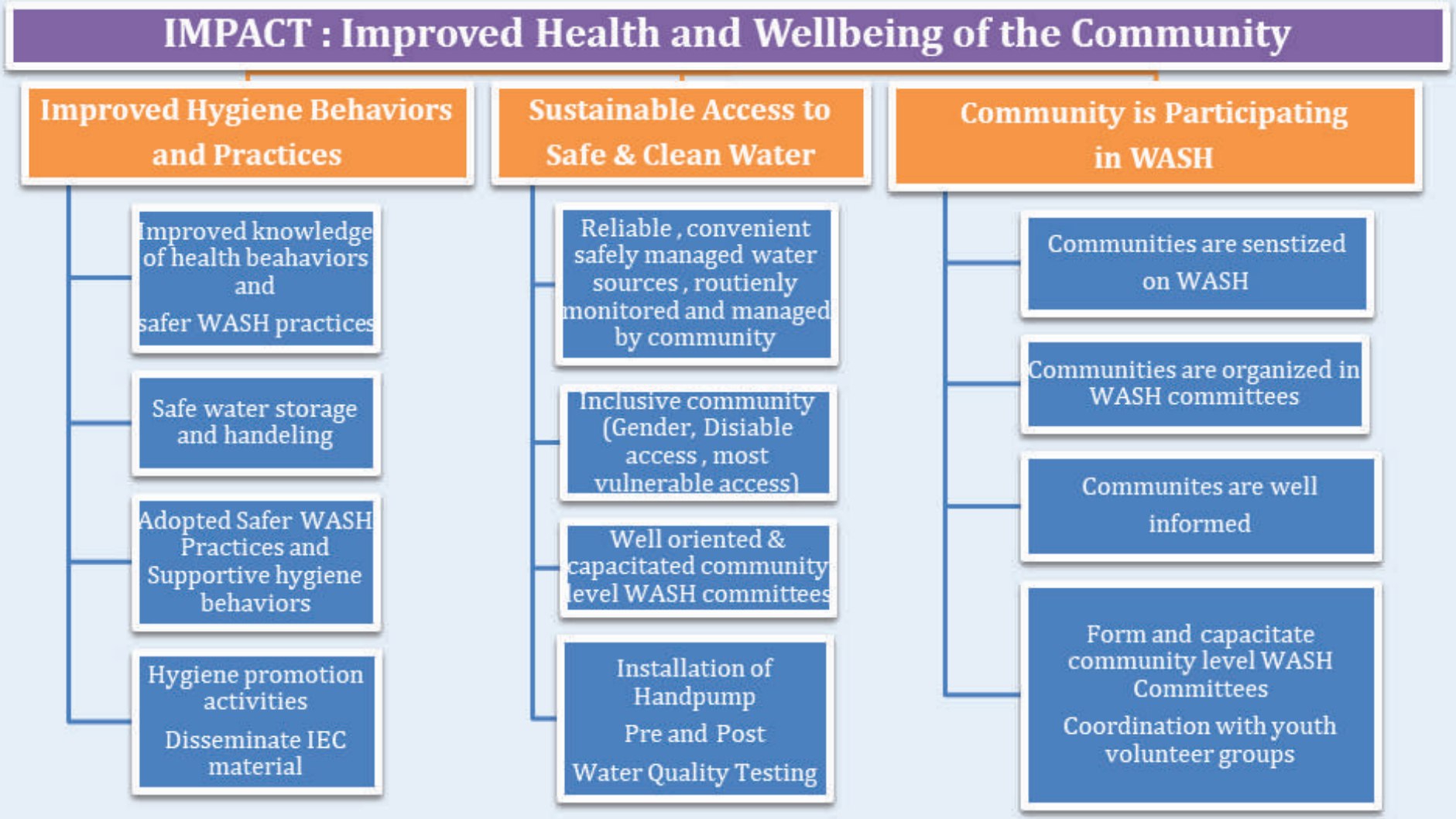
The overarching objective of the shallow handpump project was to improve the health and livelihoods of the target communities by reducing their vulnerability to waterborne diseases such as diarrhoea and hepatitis. Additionally, the project aimed to enhance water availability for animal care and homestead kitchen gardening & plantation of fruit trees, thereby contributing to improved livelihoods. This objective was achieved through a combination of critical impact factors, including improved access to water, behaviour change through hygiene promotion activities, and social mobilization efforts. The project's multifaceted approach addressed both the immediate and underlying causes of water-related issues.

By implementing shallow handpump installations, promoting hygiene practices, and fostering community involvement, the project successfully advanced its objective of providing safe drinking water and improving health & livelihoods of vulnerable communities.

The project's collaborative partnerships and comprehensive approach have contributed to sustainable outcomes and positive impacts in the target areas. The project was owned by the community, which could lead to the interventions' long-term viability. They will be protected from waterborne diseases and their health costs will be reduced if they have safe drinking water. The community will live a healthy lifestyle free of disease, and their economy will flourish.

2.1 Snapshot of Project's Impacts on Other Sectors in Context of SDGs

The Sustainable Development Goals (SDGs) recognize the critical role of water in various aspects of people's lives, including health, environment, livelihoods, education, and economic development. The absence of safe drinking water has particularly profound implications for individuals living in poverty, marginalized communities, and vulnerable populations. Globally, the lack of access to safe water and sanitation represents a significant threat to the health and well-being of communities, with children and people with disabilities being particularly vulnerable. However, the consequences of inadequate access to water, sanitation, and hygiene (WASH) extend beyond health outcomes. In regions with hilly or mountainous terrain, the arduous journeys required to collect water expose women and girls to the risk of sexual violence, harassment, and psychological stress. Moreover, women's valuable time is consumed by fetching water and caring for sick children, preventing them from engaging in livelihood activities, parenting, or other essential household responsibilities. Insufficient WASH facilities also have a detrimental impact on educational access and achievements. Frequent illnesses and the time spent fetching water disrupt the regularity and continuity of schooling. Both girls and boys dedicate additional time to water collection. Access to safe water within close proximity to homes, along with improved domestic hygiene and sanitation, are indispensable for the health, safety, and well-being of vulnerable women and children. The project has made significant contributions across various domains, including health, nutrition, livelihoods, education, and the protection of children and women, among other areas.


IMPACT : Improved Health and Wellbeing of the Community
Improved Hygiene Behaviors and Practices
Improved knowledge of health beahaviors and safer WASH practices
Safe water storage and handeling
Adopted Safer WASH Practices and Supportive hygiene behaviors
Hygiene promotion activities
Disseminate IEC material
Sustainable Access to Safe & Clean Water
Reliable , convenient safely managed water sources , routienly monitored and managed by community
Inclusive community (Gender, Disiable access , most vulnerable access)
Well oriented & capacitated community level WASH committees
Installation of Handpump
Pre and Post
Water Quality Testing
Community is Participating in WASH
Communities are senstized on WASH
Communities are organized in WASH committees
Communites are well informed
Form and capacitate community level WASH Committees
Coordination with youth volunteer groups


Implement By:
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2.2 Secondary Project Impacts

Water, a source of life on the planet, has many dimensions and is considered one of the most fundamental needs of living beings. Water is connected to almost all life dimensions, counting health, environment, livelihood, education, and economic development. The lack of safe drinking water, particularly for a marginalized and vulnerable population, has major implications that affect every aspect of life if not solved promptly. The scarcity and lack of access to safe drinking water is a major threat to the health and well-being of communities, particularly children, women, and people with disabilities are the primary victims.

It has been confirmed that poor access to safe water and sanitation can have critical negative outcomes ranging from long journeys to collect water to exposing women and girls to protection issues, harassment, and psychological stress.

Women have also been observed to spend valued and productive time fetching water and caring for ailing children, which they could otherwise use for livelihood activities, parenting, or other prolific household responsibilities.

Poor WASH also affects educational access and achievements, as frequent disease and fetching water disrupts the continuity and regularity of school.

Girls and boys give additional time on water fetching. Safe water at the doorstep, followed by improved domestic hygiene and sanitation, is essential for vulnerable women and children's health, safety, and well-being. It has been observed and noted that the shallow hand pump project significantly contributed to the health, nutrition, livelihoods, education, and protection of children and women in the target areas. Some of the following secondary impacts observed in the fields:

1. Women and Children Protected

The project promoted and respected the rights and dignity of women, boys and girls, especially the vulnerable segments. The availability of safe drinking water at nearby locations reduced the risk of abuse and exploitation of both boys and girls, as well as minimized the risks of physical and sexual violence during long journey.

It has been noted and stated by the women and young girls' beneficiaries that the women and young girls feel so relaxed and safe after the installation of safe water facilities at their houses.

It has appeared that the girls and women of the area are thriving physically because of the reduction of the strain on the bodies of women and young girls who used to carry heavy water containers while walking for hours every day to fetch water for household consumption.

2. Improved Community Health & Nutrition

The project significantly improved health of the local population by reducing the incidence of waterborne diseases and respiratory infections amongst the children and women.

The improved access to safe draining water and hygiene also helping children to be better nourished, preventing chronic diarrhea, which leads to enteropathy & undernutrition.

3. Improved Food Production and Livelihoods

The project reflected to improve water security and reduce hunger. The shallow handpump water systems provide water for productive uses in growing vegetables & fruit trees on homestead forms and animal drinking.

Clean water and agriculture production are intricately linked. The non-availability of clean water adversely affects agricultural productivity and people's health. When smallholders don't have access to clean water for agricultural production, they cannot dare to adopt homestead gardening, especially on small farms nearby homes. In some cases, it has been observed that small farmers resort to irrigating crops with sewage or any other wastewater, which leads to water-borne diseases and low and unhealthy yielding.

The shallow handpump safe water project improved water access for smallholder women farmers, who were encouraged to adopt homestead gardening. The majority of the project beneficiaries have been observed to practice kitchen gardening uses in growing vegetables & fruit trees on homestead forms and domestic level goats/cows & hen farming.

4. Reduced Dropouts and Increased School Enrollment in Education

The shallow handpump project has significantly contributed to improving educational outcomes, particularly in terms of safeguarding children, especially girls, from harm. The provision of safe water at their doorstep has resulted in a reduction in the time & labour previously spent on fetching water from distant areas on a daily basis.

Consequently, children, particularly girls, now have more time available for studying and engaging in recreational activities. Moreover, the project has positively impacted school attendance rates due to a decrease in child illnesses, thereby enhancing the overall learning environment.

5. Women and Girls Participated

In most of the villages in district Multan and Khanewal, women are more concerned about the household chores and bringing water to their homes. Women had to walk for miles away from their homes to get drinking water, which in result disturbed their daily work schedule at homes.

The project interventions have provided relief to the women of the targeted areas where they can get the clean drinking water at their doorstep and easy access for neighbor women to get water from it. The physical suffering of women has minimized to great extent and the time they used to walk from home for water is now used for productive outputs at homes and other economic activities.

The handpumps installed in 400 women head households (209 in Multan & 191 in Khanewal), 59 Persons with disabilities (PWDs) head household and 02 transgenders. The 18574 women (8940 in Multan & 9634 in Khanewal) and 26321 children including 50% girls benefited from the from installation of handpumps. The 456 women actively participated and trained as member of WASH committees, 2134 women and 1576 young children including 50% girls actively involved and participated in health & hygiene promotion activities. g the overall learning environment.

CHAPTER 2: IMPLEMENTATION

2.1 Methodology

Rural Aid's Shallow water pump project is making tremendous achievements; it has reduced the suffering of water fetching and reflected a positive impact on the communities. The local health unit's results revealed that diarrheal disease prevalence amongst children and the elderly have reduced significantly because of access to safe water and improved household-level hygiene behaviors of the local communities. The project was a classic example of a participatory approach – designed on the idea of community-led installation of water pumps, their maintenance, and engagement of communities at various project activities.

The enhanced community engagement ensured safe, functional, and sustainably managed water at the household and community levels. Community actors were equipped to manage, maintain and repair the shallow handpumps facilities for long-term sustainability. In addition to hardware construction and maintenance, Rural Aid worked closely with community activists and political leaders to promote WASH-related behavior change. The strong community-based approaches reflected in reaching and identifying the most vulnerable households. This project logic is designed to benefit all members of the household and selected community, specifically focusing on women and children especially girls.

The strategic aim of the participatory approach was to ensure that everyone in the intervention zone would have access to sustainable, safe water before the project was phased out.

In this way, Rural Aid closely engaged the local communities at all levels starting from the design to the monitoring and execution phases, to make sure that the sustainable WASH facilities are accessible, appropriate, safe, and sustained for the most vulnerable in the target communities including people with disabilities and those on the socio-economic margins.

Household Selection: The household having no water source inside premises and have no access or limited access to drinking water with dignity.

Secondary Criteria:

- Extremely poor families having no resources to install hand pumps in household premises
- Those households headed by elderly persons, women, widows, orphans or PWDs and having no water source at home have been given priority
- Households' selection was done purely on basis of need without any discrimination

Beneficiary Database: Beneficiary forms have been filled by the field team and the data is maintained in soft form in an excel sheet mentioning the number of households and their children taking benefits from the project interventions.

Certificate of Handover and Completion: After the installation of each handpump the "Handover and Work Completion Certificated" signed by the authorized members by the local Operation and Maintenance (O&M) Committee.

The project activities and cross cutting themes are mentioned in the table of key project activities

Community Engagement & Mobilization

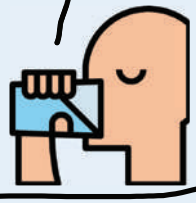
Design Stage

Implementation Stage

Impact Assessment

Awareness Raising, Community .trainings & Promotion of Safer WASH Practices

Site Selection & Installation of Handpumps



Inclusion of all groups & Beneficiary Selection

Formation of Community level WASH Committees & Capacity Building

2.2 Table of Key Project Activities

Improved Accessibility	Need Assessment for the identification and selection of the villages: Rural Aid conducted a need assessment and identified villages for installation of deep wells as per criteria. The methodology of the need assessment included key informant interviews, questions from villagers on pre-designed format, focused group discussions (FGD's) and transit walk. Rural Aid developed a detailed need assessment report based on the findings and ground realities.
	Water Quality Assurance: Pre and Post water quality tests conducted for all the water sources to ensure the availability of clean drinking water and stop the spread of waterborne diseases. The quality test included biological appearance, turbidity, hardness, pH, and TDS of water.
	Procurement of the contractors
	Installation of the shallow hand pumps
Hygiene Promotion	Development of a behavior change strategy and a behavior change communication (BCC) plan for the project
	Development of hygiene promotion IEC materials
	Implementation of hygiene promotion campaigns through community volunteers and interactive sessions at community & school level
Inclusion, Community Ownership & Capacity Building	Involvement of socially excluded groups i.e. men, women, youth, children and PWDs
	Formation of community level WASH committees
	Training of WASH committees on operations, water source protection, water testing, maintenance and sustainability
	Training of community volunteers on household level water treatment, hygiene promotion and sanitation. The hygiene promotion sessions included messages regarding personal hygiene, domestic hygiene, clean environment, hygienic food, clean drinking water and waste water management. Besides the hygiene sessions for adults, interactive and innovative hygiene sessions for school children organized at local schools including art & speech competitions, quiz competitions, sensitization and awareness activities. Kitchen Gardening: Rural Aid educated and trained the partner communities on kitchen gardening including sowing practices, information about seasonal vegetables, plantation, manures, organic method, seeds, plants and other inputs. Complaint Response Mechanism: Complaint response mechanism established at the village level to make the Rural Aid accountable to the beneficiaries. The CRM ensured protection and confidentiality of the complainant and also ensured that all the parties treated impartially.

2.2 Table of Key Project Activities

Addressed Cross Cutting Themes	All the cross-cutting themes – protection, cultural sensitivity, gender, DRR and environment protection ensured in project implementation.
	Gender: The shallow hand pumps installed at the locations easily accessible for women and children without fear of harassment or are save from the wild animals during the day time and in the evening. Also, addressed other vulnerabilities, e.g. old age and persons with disabilities (PWDs) during project design and implementation.
	DRR measures: The Washing pad of the shallow hand pumps constructed at least 10" above Natural Surface Level (NSL). It will make deep well resilient to 1' flood water.
	Environmental Protection: The water of shallow hand pumps is safe for drinking. The excess and waste water drained to kitchen garden and soakage pit respectively. Proper filled of bore with concrete to avoid external contamination, this prevents internal source from contamination.
	Participatory Monitoring: Participatory monitoring ensured during all the phases of project and the participatory monitoring is ensured at all stages of the project from the planning to execution and phase out.
	Do No Harm: The project has not affected local culture, religion, traditions and any other relevant factor. Do-No-Harm approach is reflected in all components of the project.

CHAPTER 3: KEY COMPONENTS EXECUTION

3.1 Safe Water Access

Rural Aid adopted a shallow handpump installation strategy to reach the groundwater source to improve the vulnerable and marginalized community's access to safe drinking water. The District Multan lies on the left Indus plain delta and holds ample underground water resources compared to other areas of the country.

The groundwater table has been depleted because of the region's access water extraction for agricultural purposes and low rain patterns. The areas targeted by Rural Aid also need more surface water that can be utilized for drinking purposes. Therefore, considering the underground hydrological aspects of the areas, Rural Aid proposed a water source alternative that the people in the targeted areas could utilize. In this connection, shallow handpumps were considered a suitable and reliable alternative to resolving water access.

Before the installation of handpumps, Rural Aid Pakistan conducted initial meetings with stakeholders /community members, local elected bodies, PHED departments, district management, and other line departments. A Project stakeholders' coordination committee was formed for further deliberation and consultations.

The potential sites or points for installing handpumps were further determined from the results of the geophysical analysis. The potential sites or points for installing handpumps were further determined from the results of the geophysical analysis.

The point selection also considered discharge potential, productive aquifer depth, quality, location characteristics, and the convenience and accessibility of the water site. Hiring well-equipped vendors executed the installation of the handpumps, and the local communities took full charge of monitoring the entire process.

A certified lab to ensure water quality through performing pre and post-water quality tests included in the course of action. The accessibility to safe drinking water was improved by installing 967 handpumps in the selected households and sites. After the installation of each handpump, the "Handover and Work Completion Certificated" was signed by the authorized members of the local WASH/Operation and Maintenance (O&M) Committee.

The installation of the handpumps at the convenient location of the communities has impacted positively the target communities. (See the project impact)

3.2 Hygiene Promotion

Rural Aid conducted a comprehensive formative study to gain insights into the local water, sanitation, and hygiene practices of the target communities. The key findings from this analysis guided the development of a behaviours change communication and hygiene promotion plan. To effectively implement this plan, Rural Aid trained a dedicated group of community volunteers and organized multiple meetings and hygiene promotion sessions in the partner rural communities where the shallow hand pumps were installed within the district of Multan and Khanewal. These sessions were conducted both at the community level and within households, and other individuals were trained to engage in interpersonal communication initiatives.

Rural Aid field team organized 107 health and hygiene sessions in all the targeted communities and schools. They managed to sensitize and educate 5914 community members (2204 men, 2134 women, and 1576 young children). The hygiene promotion sessions included messages regarding personal hygiene, domestic hygiene, clean environment, hygienic food, clean drinking water and waste water management. Besides the hygiene sessions for adults, interactive and innovative hygiene sessions for school children organized at local schools including art & speech competitions, quiz competitions, sensitization and awareness activities. The hygiene promotion component, led by Rural Aid teams with the active involvement of community volunteers, targeted families and households with a particular focus on school-going children, especially those under the age of five.

To reach this important audience, Rural Aid relied on community volunteers, religious leaders, and members of the community WASH committees. The WASH committees are playing the vital role at village level for information dissemination, awareness raising, advocacy and promotion of safer WASH practices.

Various channels were utilized for hygiene promotion at the community level. For instance, religious leaders were mobilized to deliver hygiene promotion messages during Friday sermons, reaching a wide audience comprising fathers and children. Women volunteers conducted hygiene sessions inside households, engaging with mothers and adolescent girls to promote hygienic practices. Members of the WASH committee organized separate sessions within their respective communities to demonstrate proper hygiene behaviours. The paramedical staff at local Basic Health Units (BHUs) also played an active role in mobilizing communities and emphasizing the importance of hygiene practices.

Additionally, local community-based organizations (CBOs) and other civil society groups supported hygiene promotion efforts at the local level, incorporating hygiene awareness messages into their existing social welfare and awareness activities, thereby amplifying the reach of the hygiene promotion campaign. Women members of the WASH committee showed exceptional dedication and support for the hygiene promotion campaign.

3.3 Inclusion, Community Ownership and Capacity Building

To ensure the long-term sustainability of the project, Rural Aid actively engaged the target community, fostering a sense of ownership. This participatory approach involved the community in the planning, implementation, and management of the project. Rural Aid's approach prioritized the involvement of socially excluded groups, such as women, youth, older, persons with disabilities and transgenders, promoting community ownership and good governance at the implementation of project at all stages and activities. Through social mobilization and community engagement efforts, active community members were identified and enrolled in WASH committees, which play a crucial role in ensuring the sustainability of community water systems.

The well oriented and trained 100 community level WASH committees with 970 members (514 men & 456 women) have various responsibilities, including overseeing the day-to-day operations of the hand pumps, establishing procedures for community members to access water, and planning for future operations and maintenance. These WASH committees also received tool kits and training on operations & maintenance of shallow hand pumps and to conduct hygiene promotion activities within the community, aiming to bring about behaviours change and improve hygiene and sanitation practices at both the community and household levels. Additionally, the WASH committee members are connected with service providers and contractors to address any maintenance or repair needs that may arise in the future.

To promote gender equality and women's inclusion, the WASH committees actively encourage the participation of women and young girl activists and support their leadership roles within the committees. This emphasis on women's involvement aims to challenge traditional gender attitudes and roles.

Capacity building training has been a crucial component of the project, involving multiple stakeholders such as social welfare officials, representatives of the Public Health and Engineering Department, district management, youth and women's groups, religious leaders, and local authorities. These stakeholders have been oriented to define their responsibilities throughout the project's lifespan and beyond, ensuring the continued operation and management of the deep wells.

The WASH committees also mobilize the local communities by promoting safer WASH practices and addressing water quality issues, while emphasizing the importance of environmental cleanliness. The capacity building training has remained an integral part of the project. The project has involved multiple stakeholders, e.g., officials of social welfare, representatives of PHED, district management, youth, and women groups, religious leaders, and local authorities at the project's initial inception and pre-inception phases. Together all these stakeholders were oriented to define their responsibilities within the life of the project and post-project scenario for the running and operationalization of the water handpumps.

CHAPTER 4: THE SUCCESS

The shallow handpumps safe water project impacts communities' lives far beyond the expected improvements to diversified health and reduction of time spent collecting water.

After the project was phased out, Rural Aid conducted an impact evaluation and recorded case studies of the multiple beneficiaries on how the project brought about diversified impacts on the lives of the vulnerable and marginalized.

The post-project study shows that the project also significantly impacted improvements in household incomes and livelihoods. Increased school attendance occurs along with better child care at home and social and cultural benefits such as reductions in stress levels and increased protection and self-esteem of girls and boys. Some of the key success stories from the field are recorded below.

4.1 Precious Drops of Water (Story of PWD)

Mr. Mazhar ul Haq is a Basti Motha resident in Kotla Chakar, Jalalpur Peerwala Multan. Haq lives with his mother, wife, and three kids (2 daughters and a son). Trapped in the mire of marginalization and vulnerability for generations, this family is still deprived of the basic amenities of life. Mazhar's father was a farmer, and by working hard in the landlords' fields throughout his life, he found nothing but a piece of land he was buried in. Mazhar's whole universe consists of a small house covering a few yards, which consists of two rooms and a toilet.

In most parts of the world, inhuman and draconian laws have been abolished, but Mazhar's severed arms still trace the horror and cruelty that still appears somewhere in his society. Mazhar's arms were amputated by one of his relatives with an axe due to a political disagreement.

Hands are the only earning tools for a poor person; if they are separated from the body, then begging becomes the only medium to fill gastronomic needs. But saluting Mazhar's independence, he did not choose to beg. He adopted reciting Naats (Religious recitations) at bus terminals and around the city and sustained his earnings.

Mazhar used to leave home early in the morning for his job, and his wife and children took care of all the household affairs. As his house was deprived of basic life amenities, half of the day was spent by his wife and children only on the water as the only water source was an open-well miles away from his home.

Before the installation of the hand-pump Mazhar and his family used the contaminated water for years to quench their thirst, cook, bathe, and perform other household chores.

But using that open-well water was not only time-consuming for the wife and children who engaged in fetching but also a source of contaminated water, a risk factor for epidemic diseases such as diarrhea and cholera.

To improve the situation and ensure access to safe water in his house, Rural Aid, with the support of partner Penny Appeal installed a hand pump in Mazhar's house. This cooperation started when his house was identified during a participatory O&M committee meeting, and Rural Aid field teams approached Mazhar for help.

With the support of the Penny Appeal, Rural Aid equipped the identified households with a clean drinking water facility. The project also included awareness-raising sessions to improve personal hygiene behaviors.

Says Mazhar, "Fetching water from far away wells was a real concern for us. My wife and daughter dedicated themself to water.

Especially when my wife or any of my daughters fell ill, even a single drop of water would become precious to us in those days. In such a case, I had to leave work to assist my wife in water labor partially ".

The accessibility to clean drinking water impacted Mazhar's life in many dimensions. The suffering of fetching water from far away is now eliminated. His family is getting clean drinking water whenever they need it. Ample water mixed with health and hygiene awareness resulted in the adoption of a greater behavior change - his children are wearing clean clothes, taking daily baths, and washing their hands before meals and after bathroom use. The availability of ample water urged Mazhar's wife to start homestead gardening. She is cultivating seasonal vegetables off and on, which in turn is reliving the cost burden associated with cooking.

4.2 Story of Zarina Bibi

Access to safe drinking water at your doorstep is a huge blessing of God, "says Zarina. "A two-year-old sleeping and tied on the waist along carrying a pitcher full of water on the head and walking a kilometer, the pain of this burden can only be owned by those who have suffered it."

Sometime back, before the installation of a hand pump at her home, Zarina's life was miserable. Her children were confronted with many water-related ailments, and due to the lack of water, they were not even able to keep animals. Zaina, "Today, everyone in her home has access to clean water – nobody has diarrhea – she is now keeping three cows on a sharing basis. It is all because of clean water."

Zarina, a middle-aged woman, belongs to an ultra-poor segment of society. She has eight children, three boys and five girls, ages ranging from 2 years to 18 years. Zarina and her family live in Basti Walayat, a remote and far-flung village in the district of Multan. Zarina's husband is engaged in agriculture farm labor, which pays marginal rewards, while Zarina takes care of the household chores and partially works in farming on a seasonal basis.

Their small brick house is located in the same village, which lacks a water facility nearby. It was hard for her to walk long distances to get water daily. Says Zarina, "It became so tiring after the birth of her first child. She was alone, and nobody was there to help her until her first daughter reached eight years and joined her in water fetching. Zarina Says, "Before installing a hand pump in our house, my children and I spent hours every day fetching water from an open spring. My elder daughters devoted more time to water than schooling – arriving late, leaving early, and sometimes absent from school to fetch water.

In 2022, Rural Aid through a community lead approach, installed a clean drinking water hand pump in her house. Zarina and her family were excited to have a clean water facility at their doorstep. This facility has brought a big change in Zarina's life, and her children are now giving more time to their schooling.

Because of the easy access to water, Zarina has kept three cows on a sharing basis, resulting in her daughter's improved economic and nutritional needs. Zarina is now giving more time to farming, which is rewarding in household income gains.

"It's a big change having water readily available day and night," Zarina said. "We are delighted." Zarina is thankful that her children won't have to spend hours carrying water, and they will have more time for school. With improved knowledge of health and hygiene awareness, Zarina has emerged as a respected woman committed to the health of her family and community.

4.3 Precious Drops for Livelihood

When Rural Aid installed the hand pump in my home, I felt God had sent a young son to share my burden. We now understand that if we take good care of our hygiene, we will not be more ill. Since we had our water pump and hygiene education, our diarrhea and abdominal pains have gone".

Nazakat Ali, the 32 years old man, belongs to an ultra-poor family and shares a single-room mud-made house with eight family members in Jahan village of district Multan. He lives in an extended family consisting of a brother, his wife and their three siblings. Nazakat works on a daily wage and uses his donkey cart to transport bricks to the villagers on demand from a brick kiln situated in the nearby place. This harsh labour merely fulfils the food needs of the whole family, which is even lesser than 2 dollars a day. His wife subsequently, in his support, engages in seasonal cotton-picking labour in the nearby villages, which can occasionally add one to two dollars a day. Nazkat's house lacks the basic needs of life, even the toilet and water facilities - the entire family practice open deification in a nearby field, which becomes havoc in the rainy seasons. Says Nazakat, " I had assigned the responsibility to earn the food and economic needs of my family, whereas my wife used to fulfill the water needs of our family. Fetching water from far-flung sources had never liberated my wife for economic earnings.

Sometimes when my wife got sick or pregnant or engaged in other necessary chores, I had to leave work to fetch water, which badly affected our earnings and overall livelihood ". Nazakat's eyes are filled with sadness when he remembers those days when his wife was pregnant, and for four months, she could not bring water.
Subsequently, Nazakat sometimes requested other family members to help him out, but for a long time, this could not continue. Nazakat explained that his family's situation was unfavorable due to contaminated water intake. His family suffered greatly from diarrhea, parasites, and stomach pain. Nazakat was identified during the local WASH committee meeting and equipped with a hand-pump facility by Rural Aid in December 2022, along with water provision. His family was educated on personal hygiene.

Says Nazakat," Rural Aid gave us safe water in our house. It was like a miracle because I could not even think of installing the hand pump at my home by ourselves. We also received important information on personal hygiene, which was new to us, and by adopting those practices, our health has improved. Rural Aid taught us activities that we could do ourselves to improve our health and hygiene. And they taught us that it is unnecessary to have a lot of money to do it. When Rural Aid installed the hand pump in my home, I felt God had sent a young son to share my burden. We now understand that if we take good care of our hygiene, we will not be more ill. Since we had our water pump & hygiene education, our diarrhea &abdominal pains have gone".

The clean water provision at his doorstep is benefitting Nazakat in many ways. He is planning to adopt kitchen gardening at the corner of his yard. He has been able to buy two goats on sharing basis (the offspring will be given back to the actual owner at the time of birth, and the person taking care will keep the mother goats). He feeds his goats with the water available at his home.

His family is happy because the water pump solved their big challenge, and his wife has been able to switch to earning side rather than consuming most of her time fetching water which has improved their economic status.

Mr. Nazakat gave his feedback in the following way, At last, I request the concerned authorities to build a room with a toilet at my house as the situation is in front of you. We live in a joint family in one room, which is in a pathetic condition. I pray for the success of the organizations who have played their part in installing this hand pump for us."

4.4 Water Reduces Sufferings

"Availability of clean drinking water was like a dream to us," Razia says, "we have never thought that we would have more time and clean clothing, but my children are healthier, and our livelihood improved."

Razia hails from an ultra-poor social and economic background. She lives in a small mud house in Basti Basira district of Multan. She has 3 children (1 boy and 2 girls) ranging from 4 to 14 years. Even her 4-year son was her companion in water fetching. Razia's husband is a farm laborer who hardly earns 12 thousand PKR in a Month.

Razia and her family used to wake up very early in the morning to fetch water," She had others in her community who would also lose hours each day walking to fetch water for the household needs.

Razia and other community members brought water from muddy swamps, which always caused diseases like typhoid and diarrhea among children and adults.

Says Razia, ***"My daughters wasted much time walking for water instead of focusing on their education. Various members of our community, including my household, suffered from waterborne disease, which affected my daughters' education because of illness; they had to stay home. I spent much time fetching water instead of doing productive work and sharing with my husband. In dry seasons, when the water receded in the swamp in such cases, we would walk to another village's water point and spend hours waiting for our turn".***

The water scarcity affected Razia's family's health and hygiene and limited her chances to keep livestock for her livelihood.

In 2022, all of that changed suddenly when Rural Aid installed a clean drinking water tap at her home, which is also open to the whole community. Razia is proud to have a clean drinking water facility in her yard. Because of her house's clean drinking water facility, she can now complete tasks like cooking and washing clothes and kitchen utensils efficiently and hygienically. She has also grown homestead vegetables in her yard and raised one calf and two goats on a sharing basis.

Says Razia, "Clean water and knowledge of good hygiene practices have greatly impacted our lives. We know the importance of good hygiene and health. Now my daughters have time to play and concentrate on education because my daughters spend less time fetching water. I am grateful to all those who have given us such a precious gift of life which has changed everything in our life".

CHAPTER 5: LESSON LEARNT

Many lessons were learned throughout the implementation of the project cycle - key findings and lessons learned for future scaling up are summarized below:

1. Implementing a participatory approach and ensuring the inclusion of all community groups proves invaluable in fostering active community participation, cultivating a sense of ownership, fostering resilient communities, promoting safer WASH practices & ensuring the long-term sustainability of the project. The participatory approach is also a very helpful tool for batter involvement, learning, confidence building and skill enhancement of non-literate community members.

2. Effective coordination and involving stakeholders, government officials and line departments department provide stronger support on wider scale and playing a vital role for the project efficiency, ownership and success.

3. The successful implementation of the project can be attributed to the engagement of local communities in the planning, execution & monitoring stages. Notably, the formation of various community groups, particularly the WASH committees, has resulted in the acquisition of invaluable knowledge and experience in promoting safer WASH practices and building the capacity needed to sustain water systems. Equipped with this knowledge and experience, these community-based WASH committees have emerged as effective advocates for creating awareness, driving behaviour change regarding water, sanitation, and hygiene.

4. As the most vulnerable section of the society, women participation is crucial in bringing change in community behaviors.

5. Participatory community mobilization approach ensured WASH committee members commitment and effective learning for adoption of safer WASH practices and development of change agents at community level.

6. A significant milestone in engaging communities and fostering ownership of the shallow hand pumps operations and maintenance was achieved through raising community and household awareness about the importance of safe drinking water and good hygiene practices. In response, the target communities demonstrated their commitment by donating resources, such as land for the installation of shallow hand pumps, and consistently bearing operational and maintenance expenses.

7. Household-level water treatment practices remain dismally low, with less than 5 percent of the target areas implementing such measures. Surprisingly, over 95 percent of respondents in the baseline survey admitted to not boiling water before consumption and neglecting to perform any water quality tests. This prevailing misconception underscores the urgent need for widespread public awareness campaigns.

8. It is imperative to provide communities with comprehensive knowledge on domestic hygiene, sanitation practices, and water treatment techniques in order to mitigate the risks of waterborne diseases and respiratory infections. Equipping communities with such knowledge and skills will play a pivotal role in safeguarding public health and well-being.

Step wise Pictures of Shallow Hand Pumps

Figure 1: Step 1 (Layout)

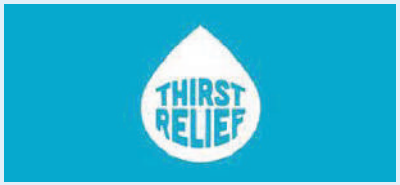
Figure 2: Step2 (Boring)

Figure 3: Step 3 (louring)

Figure 4: Step 4(Construction)

Figure 5: Step 5 (Construction completion)

Figure 6: Step 6 (Beneficiary fetching water)



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