October 2022

# Impact Evaluation of Community-owned and Managed Water & Sanitation Project

**Implementing Agency: Gram Vikas**
**Project Duration: 2018 - 2020**


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# Executive Summary

Gram Vikas has designed and executed the Community-owned and Managed Water and Sanitation Project (COMWSP) in various remote villages in Odisha and Jharkhand states of India. Between 2018 and 2020, Gram Vikas implemented the COMWSP in five villages in western Odisha – Sukulpali, Jengapada, Gobarpeti, Tetrabahal, and Karlabud. The project aimed to provide access to safe sanitation services and clean water supply to all households across the five villages. It adopted a community-driven, inclusive approach to implementation.

The COMWSP has three components: a) providing sanitation services in the form of toilets and bathing rooms for each family in the intervention village, b) providing regular access to clean water through a piped supply from a water source in the village, and c) creating and building the capacity of village institutions to execute and manage the implementation work and maintenance of the facilities after completion. The program also includes spreading awareness and building capacities of the communities to adopt safe sanitation practices, including environment-safe waste disposal.

The objective of this study is to provide credible estimates of the impact of COMWSP on participating communities and households across five villages, especially in terms of i) robustness of infrastructure, ii) approach to community ownership, iii) direct impact on WASH, iv) 2$^{nd}$ generation impact on WASH, v) sustainability and vi) community-wide impact. This study uses relevance, effectiveness, efficiency, impact, and sustainability assessment framework. This report primarily accounts for the development outcomes of the project and provides relevant recommendations for sustaining its benefits in the participating communities.

## Key Findings

i) Robustness of infrastructure:

- The project covered 375 households across the five villages. It effectively delivered access to improved water supply and sanitation facilities in locations where these services were absent until 2018.
- Before the project started, sanitation facilities were used by only about **4 percent** of the families. This usage increased to **75 percent** two years after the completion of the project.
- All 375 families were also provided piped water supply through 3 taps. Of the 47 families randomly surveyed during this evaluation, about **63 percent** (27) of the respondents reported that their piped water supply has been fully functional since project completion in 2020.
- **68 percent** (28) stated that they no longer need to rely on other sources of supply. Irregularity of water supply was detected as an issue in two of the five villages (Gobarpeti and Karlabud).
- The communities identify their ownership of the facilities and recognize their responsibility in maintaining them. Four of the five communities pay a monthly maintenance fee to the Village Water and Sanitation Committees (VWSCs) for operations and upkeep of the water supply.

ii) Approach to community ownership:

- Each of the five villages has registered and active Village Water and Sanitation Committees (VWSCs) that are now responsible for managing the infrastructure.
- The VWSCs (except at Gobarpeti) conduct regular meetings with the community members and maintain effective records.

- Three of the five villages surveyed have completed their corpus fund collection. This fund is created with equitable contributions from all households as a step toward future financial stability and is meant to provide the means required to make any new facilities or major repairs to keep the village open and defecation free.
- The overall management and leadership of the VWSCs determine the regularity of operations of the facilities in the five villages surveyed.
- In places where the VWSC demonstrated strong leadership and the capacity to support the project, water supply, repairs, maintenance, and financial processes are more streamlined.

iii) Direct impact on WASH:

- The project positively impacted the adoption of hygienic and safe sanitary practices and the use of safe and clean water, especially in cooking and drinking.
- The instances of open defecation saw a significant reduction across all five villages. Awareness drives and community meetings were conducted across all the villages during construction to drive a change in WASH behaviour. This change has reportedly been gradual over the last two years, especially among the people in the 55 and above age group.
- The project also enhanced household-level access to regular and clean water. Nearly 69 percent (32) of the families covered under the project use water from the piped supply for cooking and drinking.
- The project has contributed to reducing water-borne diseases in the participating communities. Awareness around waste management has visibly reduced solid waste from the proximate village environment in three out of five villages under assessment.

iv) 2nd generation impact on WASH:

- The project created a modest impact on indirect developmental factors such as overall personal hygiene, kitchen sanitation, and participation of women and girls in productive activities.
- The participating communities reported adopting various measures to ensure hygienic cooking practices.
- Due to access to private toilets and bathing rooms, women reported feeling safer and having more time to attend to their family and farm needs.
- The project has indirectly motivated the communities to learn effective ways to manage greywater and adopt practices for safe drainage.
- Typically, in all five villages, families have redirected the drainage from their bathrooms and other taps into the neighbouring fields or jungle. Awareness of effective greywater management was, however, reportedly limited.

v) Sustainability:

- The meetings by Gram Vikas to spread awareness regarding the usage and cleanliness of TBRs have resulted in uniformly clean facilities across the intervention areas.
- Gram Vikas also provided capacity-building training to VWSCs throughout the project to effectively manage the facilities after construction.
- Based on a detailed VWSC assessment, evaluating their composition, regularity of meetings, maintenance of records, transparency of operations and water and TBR availability, three of five VWSCs were found to perform optimally (Sukulpali, Jengapada, and Tetrabahal). The training provided has enabled them to be effective during the project execution phase.

- Regular capacity-building initiatives will be essential to sustain this effect and keep the project financially viable in the future.

vi) Community-wide impact:

- Gram Vikas ensured that all households received equitable treatment in its project implementation.
- The impact, similarly, has been inclusive of social and economic heterogeneity among the communities.

## Key Recommendations

The key emerging recommendations for the implementing and supporting agencies are:

1. Expand the capacity building of VWSCs in support functions such as governance and accountability systems, grievance redressal mechanisms, financial processes, and resource mobilization.
2. Include extensive training on solid and water waste management for the participating communities.
3. Enable data collection through VWSCs for monitoring impact and developing effective and timely responses in case of issues.

# About the Project

## Project Context and Geography

Gram Vikas is a non-profit organization working for the development of marginalized rural communities, registered as a Society under the Societies Registration Act 1860. They work closely with village communities in over 1600 villages in Odisha and Jharkhand, impacting the lives of more than 600,000 people.

From 2018 to 2020, Gram Vikas implemented an Integrated Sanitation and Water Supply Project in five villages of Jharsuguda (2) and Sundergarh (3) districts in Odisha, India. Composed primarily of families belonging to the Scheduled Tribes, the residents of these villages largely rely on daily wage work and sustenance agriculture for their livelihoods.

| District | Block, Gram Panchayat | Village | Number of Households | | | | Total Population | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | ST | SC | Gen/ OBC | Total | Male | Female | Total |
| Jharsuguda | Lakhanpur, Panchgaon | Sukulpali | 15 | 13 | 42 | 70 | 156 | 143 | 299 |
| Jharsuguda | Kolabira, Pokharasalhe | Jengapada | 97 | 0 | 15 | 112 | 238 | 258 | 496 |
| Sundergarh | Rajagangpur, Kukudamunda | Gobarpeti | 66 | 0 | 0 | 66 | 151 | 139 | 290 |
| Sundergarh | Kuarmunda, Dumerjore | Tetrabahal | 52 | 0 | 0 | 52 | 114 | 94 | 208 |
| Sundergarh | Kuarmunda, Khukhundbahal | Karlabud | 75 | 0 | 0 | 75 | 176 | 165 | 341 |
| | | Total | 305 | 13 | 57 | 375 | 835 | 799 | 1634 |

The project involved community mobilization followed by the construction of sanitation infrastructures, including a toilet and bathing room for each household in the community and a piped water supply from a common water tank through 3 taps to each household.

Once all the 375 families completed the construction of toilets and bathing rooms, work around the construction of the water tank was initiated. The project was completed with piped water supply provision to every 375 households in these five villages. Strengthening village-level institutions particularly the Village Water and Sanitation Committees (VWSCs) and Self-Help Groups (SHGs), was also one of the project components where communities were enabled to deal with conflicts, equipped with skills to manage village accounts, equipped with technical capacities to manage the water supply systems on their own, plan and implement development initiatives and mobilize financial resources for village development. Once the sanitation and water supply infrastructures were implemented, the communities were mobilized to adopt the related behaviour change practices for better health outcomes.

# Objective and Scope of the Impact Evaluation

## Objectives of the Study

The project initiated in February 2018 was completed in August 2020. It has been exactly two years since its completion, and this assessment intends to determine the changes in outcome that are directly attributable to the program in the five intervention villages. The key objectives of this impact evaluation will be:

a) To understand the extent of the intended impact of the approach with which the project was implemented (collaboration within the community, shared responsibility of the resources, and village institution strengthening); and
b) To study the extent of behavioural change attributable to the project (sanitation and wastewater management)

### Specific Objectives:

- Village-level review of the household-level sanitation infrastructures, community-built, owned and managed water supply system – the processes and results achieved in reference to the agreed MoU.
- Review the advantages of the integrated sanitation and water approach.
- Assess the institutional and financial methods adopted for the sustainability of the community's sanitation and water supply services.
- Compare the social, economic and general benefits from the piped water supply provision with villages where such service is unavailable.
- Procedures evolved at the community level for adoption of second-generation sanitation issues.
- To understand the development initiatives undertaken at the village level since the completion of the project, particularly those mobilizing financial resources from Panchayats.
- Comparative analysis of the baseline data concerning water and sanitation intervention parameters.

## Framework & Scope of the Impact Evaluation

This study adopts an impact evaluation approach that unpacks the program's theory of change. It collects data under a framework that allows for the evaluation of basic, direct changes that potentially lead to longer, more transformative changes. Inspired from the OECD – Development Assistance Committee's (DAC) development evaluation criteria, this study follows an impact assessment framework outlined below:

**RELEVANCE**

- Extent to which the intervention addresses priorities of the community
- Extent to which the activities undertaken fulfil the mandates of the MoU between Gram Vikas and the project donor

**EFFECTIVENESS**

- Extent to which the objectives of the project are achieved, based on their relative importance
- Extent to which the intervention worked in combination of other interventions to achieve the intended outcomes

**EFFICIENCY**

- Extent to which funds and other resources (including time and labour input) were used economically to achieve the intended output
- Extent of time overruns, if any; reasons thereof and effect on the project

**OUTPUT & IMPACT**

- Extent to which the intended outputs were achieved
- Extent of water, sanitation & hygiene associated effects (solid waste management, others)
- Extent of second-generation impact

**SUSTAINABILITY & HETEROGENEITY**

- Extent of financial sustainability
- Extent of environmental sustainability
- Extent to which impact has been similar across communities that differ in economic status and social caste

**Scope of the impact evaluation:**

Program components and scale of intervention to be evaluated: The primary focus of this project was on the outcomes and impacts realized among the final beneficiaries – the communities and households (existing and upcoming). This assessment thus investigates the combined impact of all resources invested at the community level in the various program components, including the formation and capacity building of village institutions, construction of toilets and bathing rooms (TBR) for each household, construction of water tank and piped water supply to each household, and awareness meetings on efficient and sustainable usage. By contrast, the study does not assess any institutional capacity-building support at the implementing agency level, if any, or impact of any associated interventions from the time of the intervention up to the time of this study in the target geographies.

Timeframe: The impact evaluation covers only the activities and components of the project completed by August 2020 and reported by Gram Vikas to the donor at the time of project conclusion to allow for stabilized impact. To provide a reasonable amount of time for the impact to materialize, this study covers communities that participated in the program until the end of August 2020.

Geographic coverage: This study covers all five intervention villages under the project - Sukulpali, Jengapada, Gobarpeti, Tetrabahal, and Karlabud. Three hundred seventy-five households across these villages received the program benefits by August 2020.

# Research Design and Methodology

## Research Framework and Key Areas of Investigation

**Research components:**

Given the project components, the approach adopted by the implementing organization (Gram Vikas), and the theory of change, this assessment focuses research on two main elements: a) exploring the project approach and outputs, and b) evaluation of the intended impact. The first component begins with evaluating the formation process and status of Village Water and Sanitation Committees (VWSCs), collection of corpus funds and monthly maintenance fees, construction of operative infrastructure (TBR and piped water supply), and water testing and treatment. The evaluation of the intended impact involves looking at the functioning and usage of the infrastructure, regular maintenance and upkeep, and strength and operation of VWSCs.

The study also explores the second-generation impact on water and sanitation hygiene, including safe disposal of child excreta, maintaining personal hygiene and kitchen sanitation, reducing open defecation, and developing a nutrition garden by managing greywater and solid waste.

Water and sanitation hygiene in remote rural areas are as much a matter of awareness as they are of access. Availability and effective usage of such facilities have been shown to positively impact community health and economic-engagement outcomes. The study, thus, also reflects on anecdotal evidence on the extent to which the target geographies have reported a reduction in the incidence of diarrhea and other water-borne diseases, improvement in environmental cleanliness and preservation, increase in school enrolment and participation (especially among girls), and women's participation in self-employment (and other forms of empowerment).

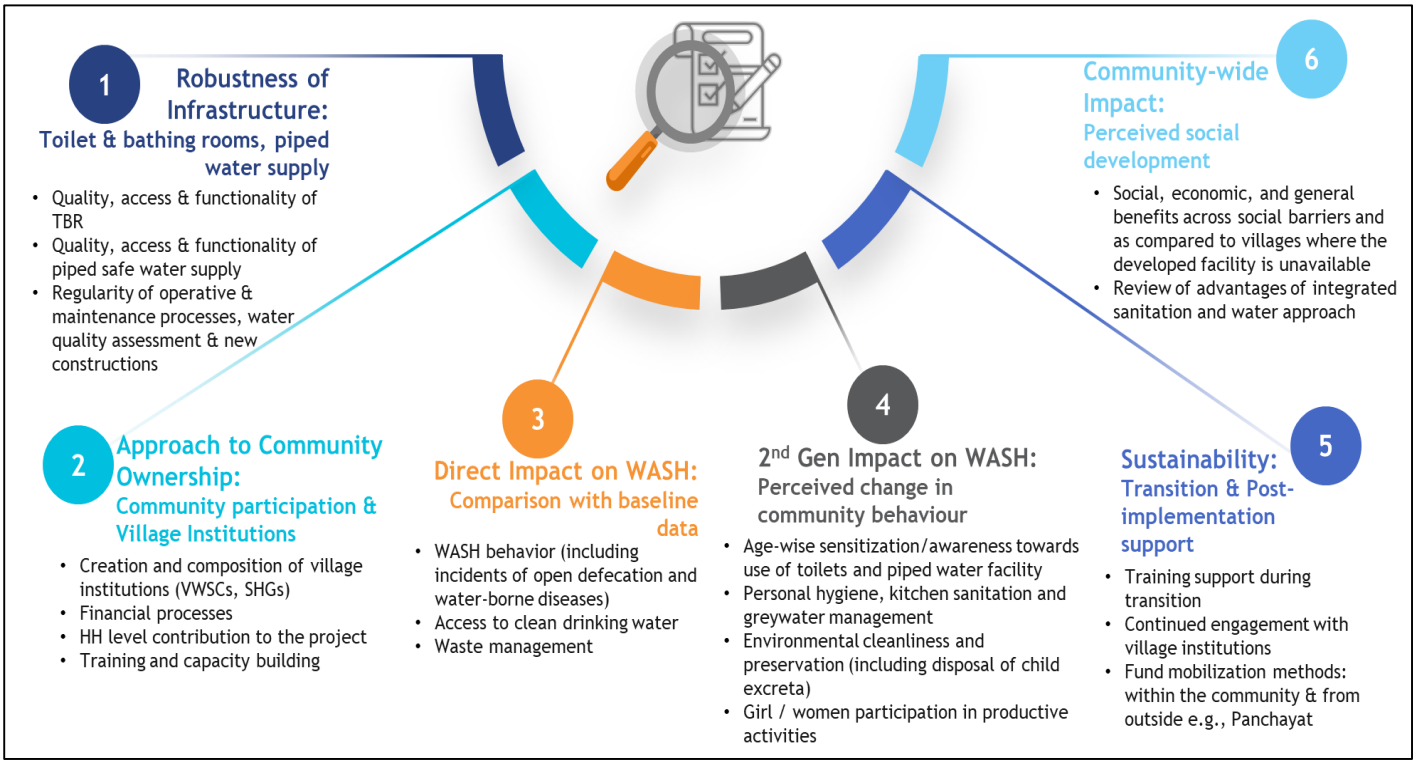
**Research methods:**

With the use of a combination of data collection and survey instruments, this assessment primarily follows the following two methods of evaluation:

a) Non-experimental: Used in cases where experimental or pre-post designs are not possible, this method takes a systematic look at evidence exploring if the results are consistent with what would be expected if the intervention was producing impact. It also explores if other factors provide an alternative explanation.
b) Hypothetical and logical counterfactuals: This method estimates what would have happened without the intervention. Here, key informants identify either a hypothetical counterfactual, i.e., what they think would have happened in the absence of the intervention, or a logical counterfactual, i.e., what would logically have happened in its absence.

Key areas of investigation:

Across the research components highlighted above, this evaluation investigates the following key areas:

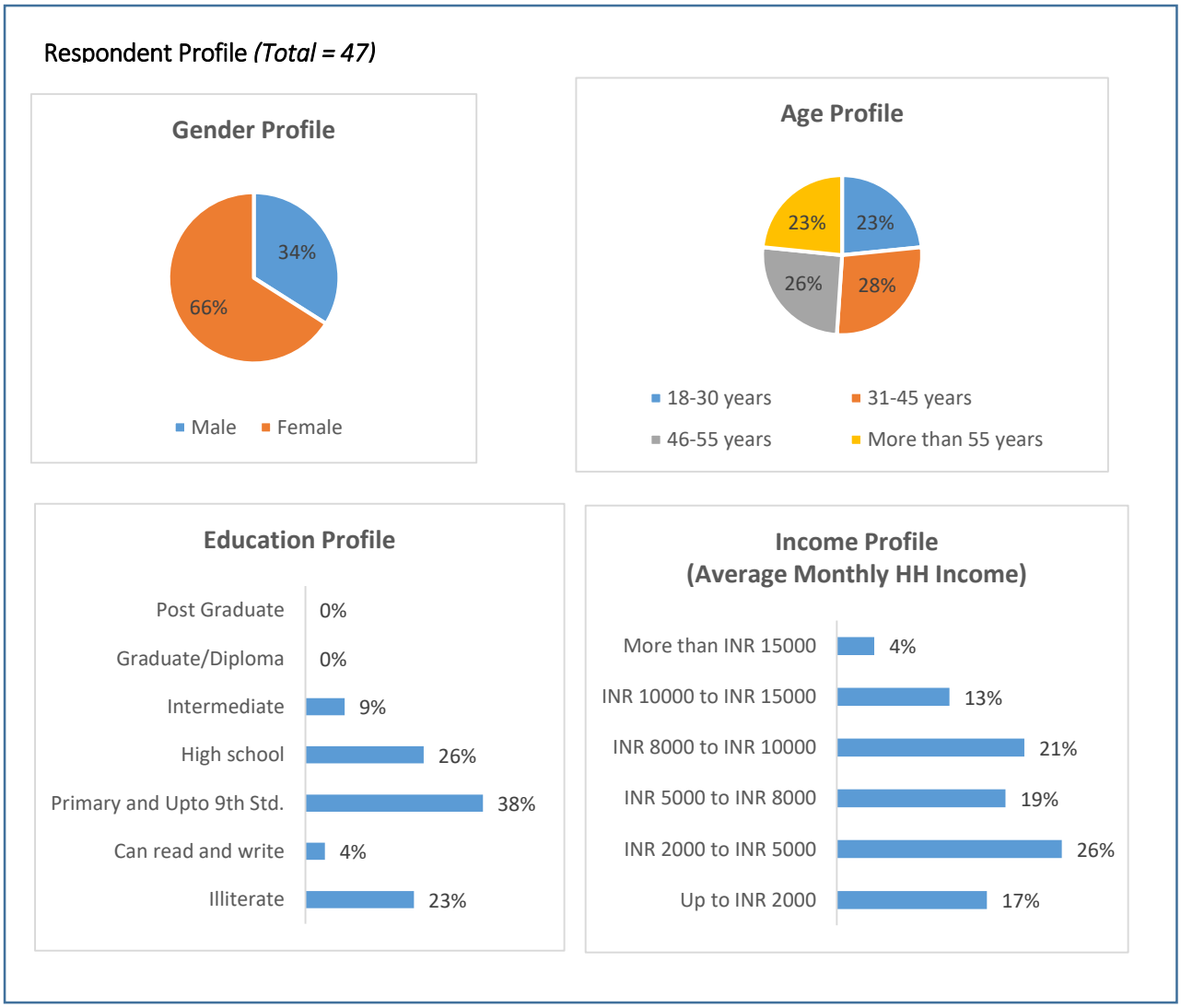



## Sampling Procedure, Sample Size & Description

The assessment was carried out in five villages in Jharsuguda and Sundergarh districts – Sukulpali, Jengapada, Gobarpeti, Tetrabahal, and Karlabud. At the time of the project implementation, these villages had 375 households. Data were collected at three levels for this evaluation: household, community, and village. Using random sampling, 15% of the households covered under the project are selected for household-level data collection. This selection included households from different economic and social strata.

The following table presents the sample used for household data collection:

| S. No. | Village Name | Population | | | | Caste Distribution of HHs Surveyed | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total Households | Caste Distribution of Total HHs | | | Total Sample HHs | Caste Distribution of Sample HHs | | |
| | | | ST | SC | OBC | | ST | SC | OBC |
| 1. | Sukulpali | 70 | 15 | 13 | 42 | 10 | 1 | 3 | 6 |
| 2. | Jengapada | 112 | 97 | 0 | 15 | 17 | 17 | 0 | 0 |
| 3. | Gobarpeti | 66 | 66 | 0 | 0 | 7 | 7 | 0 | 0 |
| 4. | Tetrabahal | 52 | 52 | 0 | 0 | 6 | 6 | 0 | 0 |
| 5. | Karlabud | 75 | 75 | 0 | 0 | 7 | 7 | 0 | 0 |
| **Total** | | **375** | **305** | **13** | **57** | **47** | **38** | **3** | **6** |




Some members of the remaining households participated in the community-level data collection in the form of Focused Group Discussions (FGDs) with community members and structured interviews with VWSCs.

The following table shows the composition of the focus groups in the five villages that participated in the evaluation, and the members of the VWSC that participated in the consultations.

| S. No. | Village Name | Total Households | FGD Participants (Male) | FGD Participants (Female) | VWSC Consultation Participants |
|---|---|---|---|---|---|
| 1. | Sukulpali | 70 | 10 | 12 | Treasurer, Member (3) |
| 2. | Jengapada | 112 | 6 | 12 | President, Secretary, Treasurer, Member (7) |
| 3. | Gobarpeti | 66 | 5 | 6 | President, Secretary, Treasurer |
| 4. | Tetrabahal | 52 | 7 | 9 | President, Secretary, Treasurer, Cadre, Member (5) |
| 5. | Karlabud | 75 | 3 | 7 | President, Secretary, Member (2) |

*[The various survey instruments used in the evaluation are shown in **Annexure 1**]*

## COMWSP Implementation and Impact

This section describes the operational effectiveness of the Community-owned and Managed Water and Sanitation Project (COMWSP) implemented by Gram Vikas in Sukulpali and Jengapada villages of Jharsuguda, and Gobarpeti, Tetrabahal, and Karlabud villages of Sundergarh districts in Odisha. The assessment focuses on two key evaluation questions:

- To what extent was the intervention relevant in the target geographies, and how effectively was the project executed to meet its objectives of providing access to safe water and sanitation practices?
- Have the communities had capacity training to adopt and maintain safe WASH practices, and to what extent has the project achieved the intended outcomes and impact?

**The COMWSP effectively delivered access to improved water supply and sanitation facilities in locations where these services were absent until 2018. While some instances of irregular and insufficient water supply and poor capacity building of village institutions were found, the overall project was delivered without substantial time or cost overruns.** Notwithstanding the minor procedural variability, mainly driven by community context, the implementation covered the three core program components: sanitation services, water supply, and community ownership & contribution (financial and non-financial).

The Gram Vikas project completion report indicates that the COMWSP delivered 100% (375) of the target number of sanitation and water supply facilities and all planned training for the community members and leaders at closing. Various components leading to community ownership and contribution were achieved in three out of five villages (Gobarpeti, Tetrabahal, and Karlabud) and partially in the other two (Sukulpali and Jengapada).

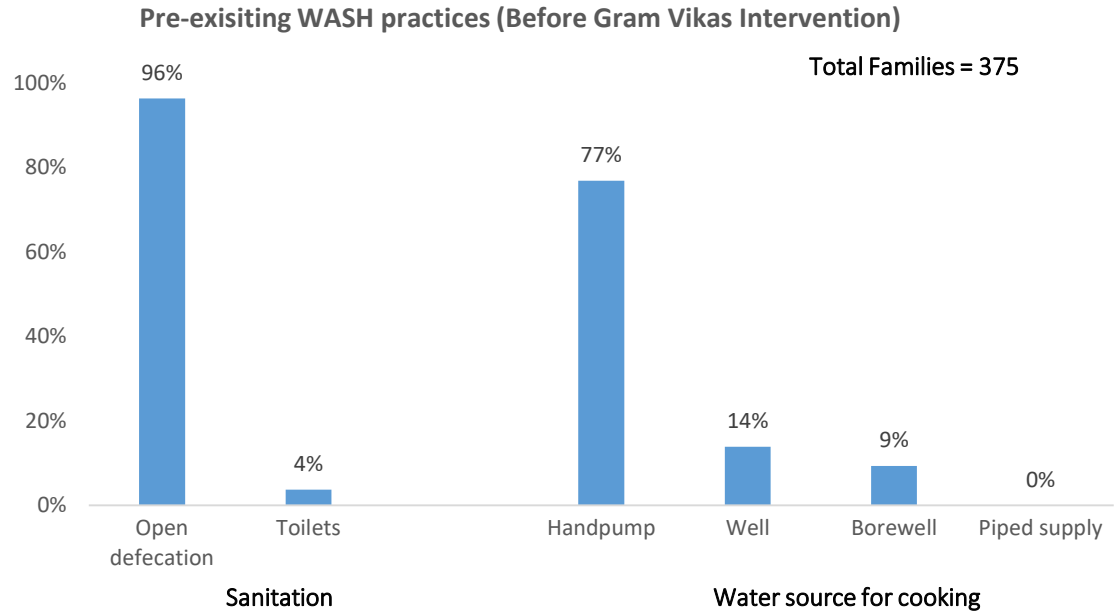
During this evaluation, a random sample of 10-15% of all households was surveyed, accompanied by a structured qualitative discussion with adults from the community. The sections below provide a detailed review of the evaluation questions.

*The COMWSP effectively delivered access to improved water supply and sanitation facilities in locations where these services were absent until 2018. While some instances of irregular and insufficient water supply and poor capacity building of village institutions were found, the overall project was delivered without substantial time or cost overruns.*

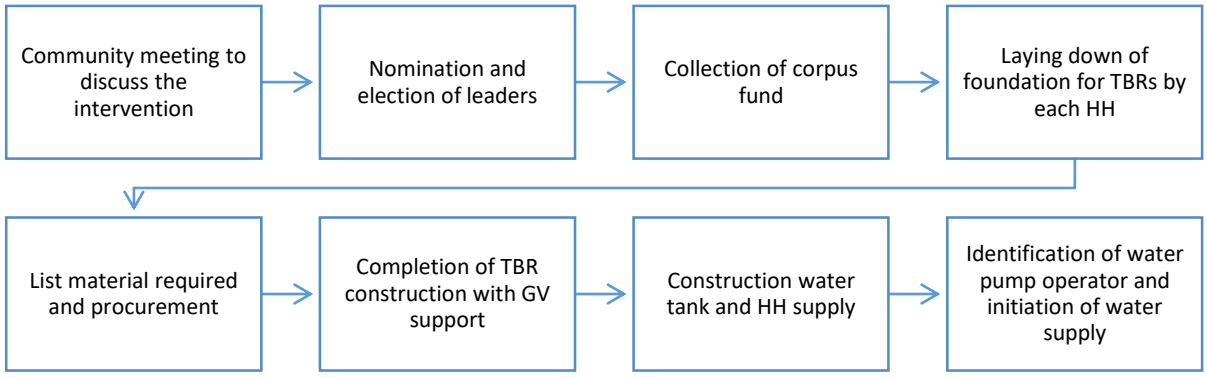
## Community-owned and Managed Water and Sanitation Program Implementation

### Relevance, Effectiveness, and Efficiency

The project covered a total of 375 households across the five villages. Before the project started, sanitation facilities were used by only about **4 percent** (14 out of 375) of the families. All 375 families used community water sources (Handpumps – 77 percent (288), Wells – 14 percent (52), Borewells – 9 percent (35)).




Following the principles of MANTRA (Movement and Action Network for Transformation in Rural Areas)[1], Gram Vikas adopted a structured approach to implement the comprehensive water supply and sanitation program across all five intervention villages. Before the process began, key community members in each village were taken on an exposure visit to see the outcome of a similar project in other villages and understand the implementation process. Representatives from Sukulpali and Jengapada in Jharsuguda were taken to villages in the Bargadh district. Those from Gobarpeti, Tetrabahal, and Karlabud were aware of the program from their neighbouring villages at the beginning of the intervention. Once the project was understood, the intervention was carried out in the following key steps:




[1] MANTRA has five guiding principles: 100% participation (All or none); Shared costs; Ownership; Equitable participation; Financial sustainability

## Robustness of Infrastructure: Toilet and bathing rooms, piped water supply

Over two years, all 375 households across the five intervention villages had built fully functional toilets and bathing rooms and received access to piped water supply through 3 taps. This process was executed through the Village Water and Sanitation Committees (VWSCs). The implementation approach ensured 100% adoption of the facilities across the village in the form of male and female representation in the VSWC from each household and separate facilities for each family.


*TBR construction process:* The construction process of toilets adopted has been refined based on years of experience. The architecture offers low-maintenance life of about 10-12 years for the lavatories, which can be easily extended using sustainable waste disposal methods. The foundation consists of 2 leach pits connected via one junction chamber. The inside walls of leach pits are either dry stones or bricks. Wastewater penetrates through the soil and gets absorbed through the pit's pores. Micro-organisms decompose the leftover solid/organics. Each pit, built at 1 meter from the other, takes on an average of 5-6 years to fill. Once one pit is full, the chamber is closed with a Y-shaped block that also provides diversion to the toilet waste toward the other pit. When the second pit is full, the debris from the first one dries up. This waste is odorless and can be taken out and used as manure. The pits are built at the height of 0.3 meters above ground level. This stops the surface water from flooding the pit. Toilets are installed with the required sanitaryware, cemented floors, walls on all four sides, and a roof.

*100% of the respondents surveyed (47) during this study answered positively about having access to a toilet and bathing room (TBR) since 2019 [Table 1]. The project developed individual TBRs for each of the 375 households at an accessible location, identified and selected by members of the household.* ***An average of 75 percent of people in the intervention villages now regularly use toilets and bathing rooms, a significant improvement from the 4 percent earlier.***

Discussions with the community members in focus groups around themes of long-term practice regarding TBR usage revealed that facilities have been fully functional since the project's completion. Over time, the usage has improved, with most members of the communities using the toilets and noticeably fewer instances of open defecation. At Tetrabahal, the group mentioned that the VWSC had advised them not to store water, allowing for 24-hour availability for the entire community. This leads to some male members going outside for defecation without electricity.

*Table 1: Access, functionality, and usage of TBR among 47 families surveyed*

| Questions | Sukulpali | Jengapada | Gobarpeti | Tetrabahal | Karlabud |
|---|---|---|---|---|---|
| **Access to a private toilet and bathing room** | **100%** *10/10* | **94%*** *16/17* | **100%** *7/7* | **100%** *6/6* | **100%** *7/7* |
| **Status of functionality** | | | | | |
| *Always* | 100% | 94% | 100% | 83% | 100% |
| *About 3 weeks (20 days or more)* | - | - | - | - | - |
| *Half the time (15 days)* | - | - | - | - | - |
| *currently out of order* | - | - | - | 17% | - |
| **Extent of usage** | | | | | |
| *Always, by all members* | 100% | 76% | 71% | 67% | 57% |
| *Always, by most members* | - | - | - | 17% | 14% |
| *Always, by some members* | - | - | - | - | - |
| *Sometimes, by all members* | - | 18% | 14% | 17% | - |
| *Sometimes, by most members* | - | - | 14% | - | 14% |
| *Sometimes, by some members* | - | 6% | - | - | 14% |

*One respondent has access to TBR and water supply through other families in her household.

*Water supply construction process:* Once the TBRs in all the households in a village are completed to the roof-level, water tank construction starts. After a detailed area assessment, the VWSC, along with Gram Vikas, identified the location for the water source and ground for constructing the water tank. The VWSC executes an agreement to lease the land. A technical survey by Gram Vikas follows this to assess the sufficiency of the water supply and quality of water at the source.

Based on the village's size, layout and topography, cost estimates are prepared, and material is procured. Once the reservoir is erected, trenches are dug, and pipes are laid to supply each household. All material required for construction is procured by the VWSC, with support from Gram Vikas. The committee lists the required material at different stages and creates a tender for local vendors. The lowest of three tender offers is selected to purchase the material, and payment is made by the VWSC from the grant received.

On water supply, the project identified a village-level source of water supply. The project developed water reservoirs as overhead tanks on pillars in each of the five villages. All 375 families were also provided piped water supply through 3 taps in their homes *[Table 2]*.

*About **63 percent** (27) of the respondents reported that their piped water supply has been fully functional since project completion in 2020. **68 percent** (28) stated that they no longer need to rely on other sources of supply. Irregularity of water supply was detected as an issue in two of the five villages (Gobarpeti and Karlabud), primarily due to insufficient sources.*

The FGDs also reflected that the project has sufficiently contributed to convenient access to clean water in three of the five villages (Sukulpali, Jengapada, and Tetrabahal). Women said they no longer needed to walk long distances to collect and store water.

During their interview, members of the VWSC of Jengapada said, *"We have seen some people would randomly turn on the tap to see if there is running water."*

Additionally, in these three villages, the water tank location and piped-supply layout ensured that each household had a sufficient water supply. However, women during the FGD at Karlabud pointed out that some houses situated away and uphill from the water tank do not get enough water.

*Table 2: Access and functionality of piped water supply; Water sufficiency among 47 surveyed households*

| Questions | Sukulpali | Jengapada | Gobarpeti | Tetrabahal | Karlabud |
|---|---|---|---|---|---|
| **Access to piped water supply** | **100%** *10/10* | **94%*** *16/17* | **100%** *7/7* | **100%** *6/6* | **100%** *7/7* |
| **Status of functionality** | | | | | |
| *Always* | 50% | 88% | - | 100% | 14% |
| *About 3 weeks (20 days or more)* | 50% | 12% | - | - | - |
| *Half the time (15 days)* | - | - | 100% | - | 86% |
| *Less than 15 days* | - | - | - | - | - |
| **Water availability per day** | | | | | |
| *0-3 hours* | 30% | 41% | 100% | 0% | 86% |
| *3-6 hours* | 70% | 35% | - | - | - |
| *6-9 hours* | - | 6% | - | - | - |
| *9-12 hours* | - | 6% | - | - | - |
| *More than 12 hours* | - | 12% | - | 100% | 14% |
| **Water sufficiency - need to rely on other sources** | | | | | |
| *Never* | 80% | 76% | 14% | 100% | - |
| *Up to 7 days* | 20% | 24% | - | - | - |
| *7 to 15 days* | - | - | - | - | - |
| *More than 15 days* | - | - | 86% | - | 100% |

*One respondent has access to TBR and water supply through other families in her household.

The survey and discussions highlighted that the infrastructure across the intervention areas was sturdy and effective. Two out of five communities claimed that the size of the structures and foundations were better and longer lasting than those provided/proposed through other schemes. One participant from the same group said, *"Our houses may be kachcha, but toilets are pucca."*

The FGDs and interviews with VWSC members revealed that communities across the five villages were made aware of and trained on the construction process. Each household participated in the construction of its toilet and bathing rooms. Women played a vital role in deciding the location of the facilities in their homes or backyards.

In some cases, the community members received support and assistance from the committee members. Some aspects of the process, such as completing foundation work for all households before beginning the construction of structures, ensured inclusivity in the community. Throughout the construction process, regular meetings were conducted to spread awareness among the community about the usage of the facilities.

In two years, by the end of 2020, all facilities, including toilet and bathing rooms, water tanks, and piped supply, were completed in all five villages.

*Operations and maintenance of the facilities:* The communities identify their ownership of the infrastructure and acknowledge their onus in maintaining it. A pump operator is identified in each village who carries the responsibility of running the water supply at predefined times during the day/week based on water availability. The VWSC is responsible for checking and maintaining water

quality, paying electrical dues and pump-operator fees, cadre incentives (if applicable), and making regular repairs. They are also in charge of driving the monthly cleaning drive of the water tank.

The monthly expenses borne for completing all these tasks are shared by all households that use the water supply. The amount is decided in meetings led by the VWSC based on expenses. Four villages follow this process and have different monthly fees *[Table 3]*.

*Table 3: Monthly maintenance fee*

| Questions | Sukulpali | Jengapada | Gobarpeti | Tetrabahal | Karlabud |
|---|---|---|---|---|---|
| **The monthly fee paid for maintenance** | **NA** | **₹ 60** | **₹ 100** | **₹ 100** | **₹ 40** |

*Approximately 74 percent of the families in these four villages (29 out of 37) expressed comfort and willingness to pay such fees for the facility of regular water supply. However, almost half of the families surveyed in Gobarpeti and Karlabud stated they were not getting enough water for the fees. In the FGD, women in Tetrabahal mentioned they could pay as much as INR 120 per month for a stable water supply. If they are asked to pay more, they would prefer to have the duration of supply reduced.*

At Sukulpali, during the survey and FGD, the respondents said they would be willing to pay a monthly fee if required. They were, however, unable to state a particular amount in this regard. Here, the VWSC stated that monthly dues for operating the piped water supply have been unpaid since the project's completion. At Jengapada, the committee collects this fee quarterly, which is used to pay the pump-operator fee. The VWSC here is disputing the electricity bill for the water supply with the electricity supplier and is, therefore, unpaid.

Consultations with the VWSCs at Gobarpeti, Tetrabahal, and Karlabud, on the other hand, informed of the regularity in the collection of maintenance fee from all households and payment of all dues.

*Wear & tear and repair processes:* Almost **100 percent** of the households (*46*) reported fully functioning toilets and bathing rooms in the two years between project completion and this evaluation. Only one household in Tetrabahal said their toilet was out of order for the last three months. On asking what they would do if they encountered a breakdown, **52 percent** (*24 out of 47*) were confident that they would make the repairs themselves. **36 percent** (*12*) said they would file a complaint with the VWSC and wait for redressal *[Table 4]*. As much as **85 percent** (*25 out of 30*) of the households in three villages (Jengapada, Tetrabahal, and Karlabud) understand that they can file complaints and grievances with the VWSC. Most respondents in the other two villages were unaware of such a process.

In their interviews, the committee members of **the VWSCs stated that they carry the responsibility of maintaining and running the piped water supply. The burden of TBR maintenance lies with each household**. At Tetrabahal, during the regular community meetings, the committee gathers any grievances reported by the community members and consults with them on possible solutions. The VWSC adopts a similar process at Jengapada.

*Table 4: Process for repairs mentioned by 47 households surveyed*

| Questions | Sukulpali | Jengapada | Gobarpeti | Tetrabahal | Karlabud |
|---|---|---|---|---|---|
| **Process followed in case of non-functioning of TBR** | | | | | |
| *Repair it yourself* | 30% | 53% | 57% | 50% | 71% |
| *File a complaint and wait for redressal* | - | 24% | 43% | 50% | 29% |
| **Is a process for filing complaints and grievances known?** | | | | | |
| *Yes* | - | 82% | 43% | 100% | 71% |
| *No* | 10% | 18% | 57% | - | 29% |

In other cases, the VWSCs have relatively limited awareness regarding their role after project completion. The water supply in Sukulpali and Karlabud has experienced at least one breakdown since their construction. In Sukulpali, the primary reason was incomplete trench digging leading to exposed pipes, making them more vulnerable to breaking. Other causes, including that in Karlabud, are the breaking of the motor (water pump) and poor electricity supply in the villages. Some of these breakdowns were reported to have been adequately repaired in time. However, there is a noteworthy absence of effective repair processes. The VWSCs have reported that lack of know-how and access to warranty receipts of equipment were some of the main challenges in making repairs. They also expressed dependence on technicians of the implementing agency to address foundational issues such as relaying of pipes (at Sukulpali) and reworking and channeling the water sources (at Gobarpeti and Karlabud).

As in the case of repairs, water testing and treatment processes are also irregular and ad-hoc *[Table 5]*. In addition to the survey respondents, the participants of the FGDs were also unaware of water testing processes.

*Table 5: Frequency of water testing as stated by 47 households surveyed*

| Questions | Sukulpali | Jengapada | Gobarpeti | Tetrabahal | Karlabud |
|---|---|---|---|---|---|
| **Frequency of water testing and treatment** | | | | | |
| *Twice a year or more* | - | - | - | 67% | - |
| *Once a year* | - | 6% | - | - | - |
| *No fixed pattern* | 50% | 29% | 14% | - | - |
| *Never* | - | 6% | - | - | 14% |
| *Don't know* | 50% | 53% | 86% | 33% | 71% |

During their interviews, the VWSCs at Jengapada and Tetrabahal stated that they follow regular water testing processes as conveyed in their training by the implementing agency. However, the other three VWSCs were uncertain of the need for regular water-testing processes. However, they mentioned sending water samples for testing when the water source was initially identified.

## Approach to Community Ownership: Community participation and Village institutions

Intervention in each village began with the setting up of a formal entity. These are the Village Water and Sanitation Committees (VWSCs). These VWSCs comprise a President, a Secretary, a Cashier, and ten members. These positions are elected with the nomination and in the presence of at least one male and one female members of every household in the village. The committee is responsible for leading, executing, and managing the project with support from Gram Vikas, who is accountable for building the capacities of these village institutions to understand, implement and manage the project. Key duties shouldered by the VWSC are:

- Conduct regular Executive Committee meetings to review the WASH project and discuss any issues,
- Conduct a General Body Meeting annually,
- Ensure renewal of registration and re-election of Executive Committee as per bylaws,
- Collect the corpus fund and make a fixed deposit,
- Manage and oversee TBR and water supply construction process, ensuring 100% community involvement,
- Manage construction-related material procurement and payments processes,
- Ensure water availability to all households,
- Collect monthly maintenance fees and make necessary payments (electricity bill, pump operator, cadre, etc.),
- Maintain all financial records and minutes book,
- Ensure availability of toilets for all households,
- Lead and manage the construction of new facilities for any new families,
- Ensure the village is open defecation free, and
- Ensure all activities of the committee are carried forward transparently and inclusively.

*Committee formation and meetings:* The VWSC formation began with community meetings, where members of all households participated. The Self-Help Groups (SHGs) played a pivotal role in initiating meetings in the villages and ensuring the entire community's participation. Approximately 6-8 months from the project initiation, the communities had identified and set up their VWSCs. Each of the five villages has registered and active VWSCs that are now responsible for managing the infrastructure. All of them have at least 50 percent active women representation. However, only 2 out of 5 have women in leadership positions.

Three of the five committees (Sukulpali, Jengapada, and Tetrabahal) meet regularly about the project. At Karlabud, the meetings are conducted jointly with the SHG meetings. While some respondents surveyed were unaware of the committee or did not attend meetings [Table 6], at least one family member was informed of the committee processes and meetings.

*Table 6: Engagement with VWSCs of the 47 households surveyed*

| Questions | Sukulpali | Jengapada | Gobarpeti | Tetrabahal | Karlabud |
|---|---|---|---|---|---|
| **Awareness about the VWSC** | **50%** | **65%** | **100%** | **100%** | **100%** |
| **Participation in elections, meetings (self or via proxy)** | | | | | |
| *Always* | 20% | 24% | 14% | 100% | 86% |
| *Sometimes* | 30% | 41% | 86% | - | 14% |
| *Never* | 30% | 18% | - | - | - |
| *Don't know when they are held* | 20% | 12% | - | - | - |

The committees maintain effective records and minutes of the meetings conducted. These show participation from almost all households during the community meetings. At Gobarpeti, however, community engagement and participation in VWSC meetings have been irregular, as reported in all sources of data and consultations.

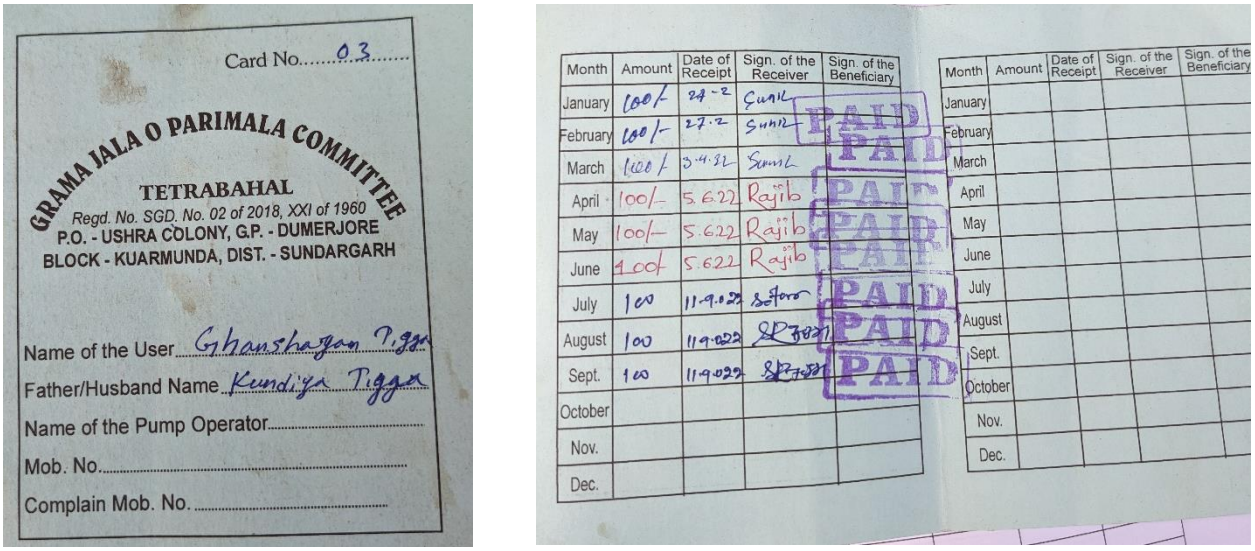
*Financial processes:* The project requires the committees to collect INR 1000 from each household in their village and create a corpus fund. This fund is to be deposited in a fixed deposit with the bank, and monies from interest earned are to be used toward repairs and maintenance and the creation of new TBRs when required. They are also required to collect a maintenance fee regularly (monthly / quarterly)

to pay for variable costs such as electricity bills, operator fees, etc. As a project component, Gram Vikas is to conduct appropriate training and capacity building of the VWSCs in bookkeeping.

The fund and monthly fee collection patterns are different for each village under study. In Jengapada, VWSC members (President and Treasurer) collect fees quarterly, while in Gobarpeti, Tetrabahal, and Karlabud, it is done monthly through door-to-door visits. In Tetrabahal, the collection happens in the monthly meetings. Across all villages, the VWSC maintains a register to record contributions. They also maintain other bank documents and records of payables.

*Picture 1: Register documenting HH financial contributions*

The committee at **Tetrabahal** has also provided all households with a **water card.** This card records each payment made by the family toward the project.




*Picture 2: Water card given to HHs in Tetrabahal*

During the survey, the committees in all five villages expressed that fund mobilization for corpus funds and monthly maintenance has been challenging. In three of the five villages (Gobarpeti, Tetrabahal, and Karlabud), corpus fund collection is complete, while others are still in progress. **In Jengapada, the**

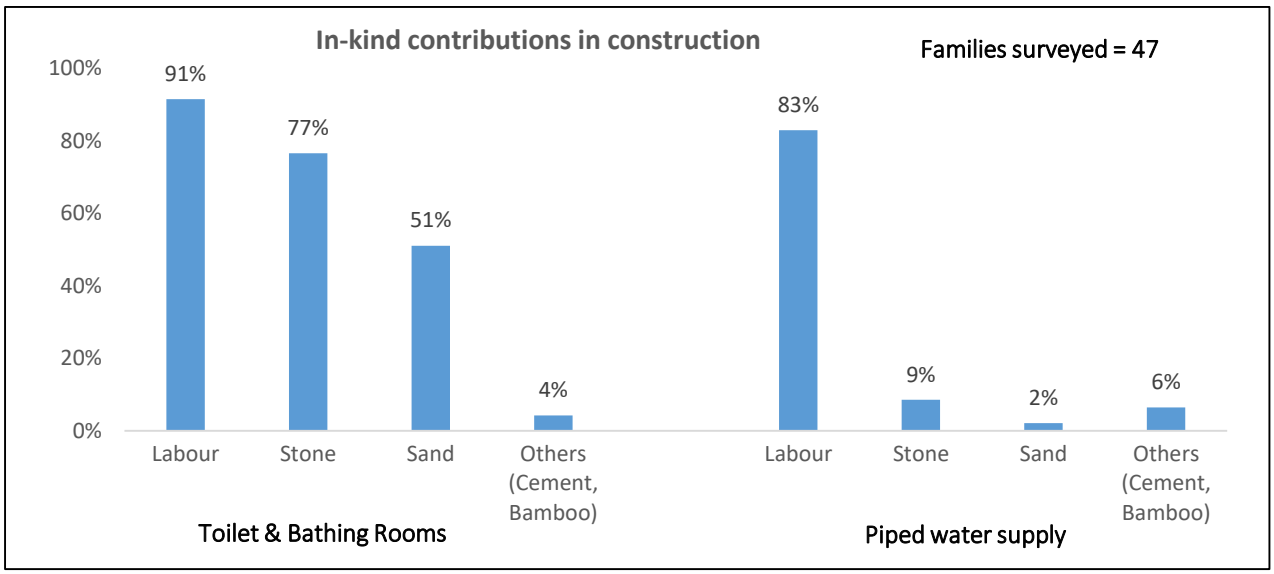
committee has sought the support of Self-Help Groups in the village to mobilize and deposit the requisite fund.

*Among the households surveyed, about **73 percent** of families (29) have contributed to the corpus fund. Committees in Jengapada, Tetrabahal, and Karlabud discuss details of incomes and expenses during the VWSC and community meetings. This is reflected in the responses of about **80 percent** of families (21 out of 30) in these villages to the question of trust on optimal usage of funds. In Sukulpali and Gobarpeti, this number is **36 percent** (6 out of 17) [Table 7].*

*Table 7: Contribution to corpus fund; Perception of fund use amongst the 47 households surveyed*

| Questions | Sukulpali | Jengapada | Gobarpeti | Tetrabahal | Karlabud |
|---|---|---|---|---|---|
| **Payment made toward corpus fund** | | | | | |
| *Yes* | 50% | 29% | 100% | 83% | 100% |
| *No* | 50% | 65% | - | - | - |
| **Is there trust in the effective usage of funds collected?** | | | | | |
| *Yes, they are being used properly* | 30% | 53% | 43% | 100% | 86% |
| *No, they could be used more effectively* | 30% | - | 29% | - | - |
| *Don't know* | 40% | 41% | 29% | - | 14% |

*In-kind contributions:* The VWSCs were also helpful in motivating their communities to make in-kind contributions to the construction of the facilities. In this respect, about **91 percent** of the families (*43 out of 47)* contributed to the project using material inputs such as sand, stone, bamboo, construction tools, and manual labour. Similar contributions were made for the construction of the community water tank, where-in each household (**83 percent** or 39) would contribute their time for construction based on a pre-decided schedule. This divided the workload, allowing people time to continue their livelihoods without significant disruption. Such contributions helped create a sense of ownership in the communities for the facilities.



The VWSC consultations revealed that in some cases, the committee members faced accountability issues, leading to discontinuity, and transferring the burden of work to fewer community members. In Sukulpali, the committee cited community mobilization as a big challenge, especially during the water tank construction. Since they did not get labour inputs from the community, they decided to pay for labour out of the corpus fund contributions of INR 40,000.

*Training and capacity building:* During the two years of the project, members of all five committees received capacity building training from Gram Vikas on the construction process, methods to maintain the facilities, cleaning water tanks, bookkeeping and governance, waste management, personal hygiene, and kitchen sanitation. The VWSCs perceived the training as useful, and three out of five (Sukulpali, Gobarpeti, and Karlabud) either expressed or indicated the need for refresher training. This training included members of the community. The VWSCs, however, did not offer direct training to community members in a group setting.

*86 percent of the survey respondents (39) agreed to have received training on usage and maintaining cleanliness and hygiene of the toilets and bathing rooms [Table 8].*

Observations and inspections in the intervention villages revealed maintenance of high-order cleanliness of the sanitation facilities.

*Table 8: Training of TBR usage and hygiene among 47 households surveyed*

| Questions | Sukulpali | Jengapada | Gobarpeti | Tetrabahal | Karlabud |
|---|---|---|---|---|---|
| **If training on usage, cleanliness and hygiene was provided?** | | | | | |
| *Yes* | 70% | 76% | 100% | 100% | 86% |
| *No* | 30% | 12% | - | - | - |
| *Don't know* | - | 12% | - | - | 14% |

The overall management and leadership of the VWSCs determine the regularity of operations of the facilities in the five villages surveyed. **In places where the VWSC demonstrated strong leadership and the capacity to support the project, water supply, repairs, and maintenance, grievance mechanisms, and financial processes are more streamlined, inclusive, and acceptable to the community.**

The effectiveness of the VWSC operations also drives the community's support and trust. In places where meetings are held regularly, the communities are aware of how the funds collected are used and the general status of operations. They also are more likely to support the committee in repairs and maintenance. Without this leadership, communities' willingness to financially support the project is low.

*[A detailed assessment of the effectiveness of the five VWSCs can be referred to in **Annexure 2**]*

## Community-owned and Managed Water and Sanitation Program Impact

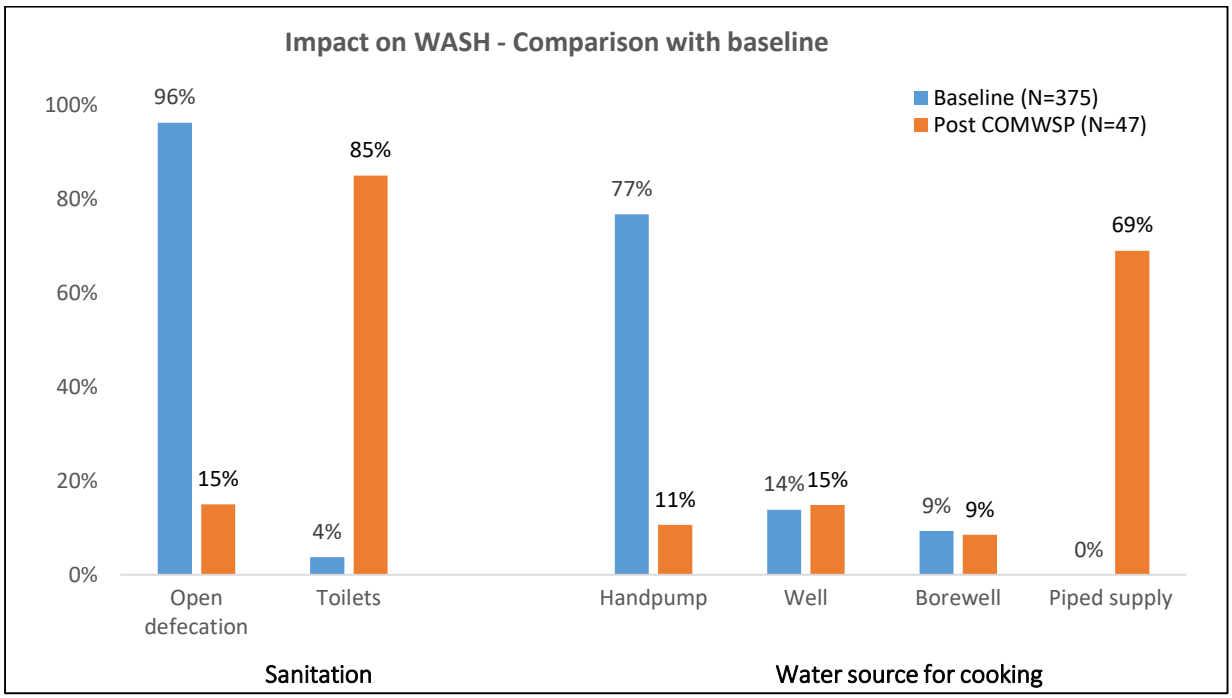
**Output & Impact**

At the time of this report, the project had completed two years in the five intervention villages. Its intended impact was to create village institutions that sustainably and for the long-term maintain the utility of the project, with the community's assistance, build community-owned infrastructure and ensure effective usage through health education and WASH awareness.

During the construction process, Gram Vikas held multiple meetings with the VWSCs, SHGs, and the communities to make them aware of various methods of maintaining personal hygiene, cleanliness of TBRs, kitchen hygiene, and water and solid waste management. The objective was to contribute to the overall cleanliness of the village environment and positive health outcomes.

### Direct Impact on WASH: Comparison with baseline data

*Use of TBR, access to clean drinking water, and WASH Behaviour:* Before the project was initiated, most community members across all five villages practiced open defecation and bathed in community water bodies. These places have generally been reported to be far off and unsafe, especially for women and girls.




The FGDs and VWSC consultations during the study reported that the **instances of open defecation significantly reduced across all five villages**. Extensive awareness drives and community meetings have

been the primary drivers of this behaviour change. Not just the VWSCs, but other people in the community, **especially women, also took the initiative to encourage and nudge neighbours and peers to use toilets**. In a few places like Karlabud, the community even imposed fines for non-usage of TBRs.

*The project positively impacted the adoption of hygienic and safe sanitary practices and the use of safe and clean water, especially in cooking and drinking.*

The research revealed that women across all age groups now use toilets for defecation and bathing. In some cases, older men (>55 years) still prefer to go outside. For some, it is a force of habit, while others find it physically challenging to squat in a high-built closed room. Men between 36 and 55 years of age who don't use toilets include those who occasionally (about seven days a month) defecate outside because they are away from home at work. *Table 9* provides a non-statistical indication of age- and gender-wise toilet use based on data collected during the household surveys and focused group discussions. It is noteworthy that the intervention areas did not have any community toilets either at the village or at panchayat levels.

On average, children start using the toilets from the age of 4 years.

*Table 9: Age-wise toilet usage as suggested among the 47 households surveyed*

| Age-wise toilet use | 0-4 years | 5-18 years | 18-55 years | >55 years |
|---|---|---|---|---|
| Men | 0% | 100% | ~90% | ~75% |
| Women | | 100% | 100% | 100% |

The research also highlighted the preference to use the facilities created under this project against those through other schemes. Anecdotally, this could be for two stated reasons: a) the size of the latter is smaller, and they don't have a roof, and b) there was no water supply. The facilities created under this project include piped water supply which has supported consistent usage and ensured cleanliness and hygiene. Men from the communities pointed out that when the water supply is not functioning, they find it easier to bathe in community waterbodies.

In terms of access to clean water, the project positively enhanced household access to and use of a better water source. Overall, the communities across the five villages recognize the benefits of a piped water supply. **Women noted that access to water inside their homes saves them a lot of time and effort in collecting water from nearby sources**. While families in Sukulpali, Jengapada, Gobarpeti, and Karlabud store water from their piped supply for use later in the day, at Tetrabahal, the water supply is provided for 24 hours. The community here has been instructed by the VWSC not to store water and to allow enough water for all families.

*Nearly **69 percent** (32) of the families surveyed use the water from the piped supply for cooking and drinking. These comprise the entire villages of Sukulpali, Jengapada, and Tetrabahal and half the families in Karlabud. Of the remaining 31 percent (15), those living in Karlabud have cited insufficient water as the primary reason for not using the piped supply in cooking.*

Those from Gobarpeti mentioned that due to rains and inconsistent supply, they don't trust the water from the supply to be clean enough for cooking and drinking. The VWSC here has not successfully conducted regular meetings and kept the community updated on the water cleanliness and safety processes and results thereof.

Having convenient access to water and training seems to have improved water-handling practices and hygiene in the communities. It has also contributed significantly to maintaining the cleanliness of toilets, homes, and neighbourhoods.

*Impact on water-borne diseases:* The project had a noticeable impact on the overall health of community members. ASHA workers from three out of the five villages stated that until 2018-19 they saw a lot of cases of diseases such as malaria, diarrhea, worm infestation among infants and kids, and menstrual infections among adolescent girls. From 2021, they have noted a significant reduction in these diseases. They have also found that children are generally healthier. There is improvement in healthy menstrual practices, such as using sanitary napkins instead of cloth, and menstrual waste is buried.

*All respondents during the survey mentioned that they hadn't had a case of water-borne disease in their family in the last 12 months.*

Adult community members in Jengapada said there are now fewer cases of skin infections that were common due to unhygienic bathing and washing practices in the common community well. In Tetrabahal, the community had suspected a few cases of food poisoning after the monsoon. The committee arranged to clean the water tank, and the households were advised to use hand pumps for cooking and drinking while the cleaning exercise was underway.

Anecdotally, the VWSCs attribute the reduction in instances of food poisoning and water-borne diseases in their communities to the multiple components of the project, not limited to access and usage of toilets for sanitation. They also believe regular training and meetings have developed a sense of responsibility and awareness amongst the communities. During the community meetings, they have spread awareness of maintaining personal hygiene and cleanliness. People are more conscious and mindful of their hygiene, sanitation, and water practices. They are also more comfortable going to hospitals or health centers for serious health concerns. Although, the nationwide awareness campaigns to prevent communicable diseases since the outbreak of the Covid-19 pandemic in 2020 could have also been a significant factor in improved health consciousness.

*Solid Waste Management:* With increasing consumption patterns and improved market linkages, villages now have significant amounts of plastic and other non-biodegradable waste. Solid waste management was one of the focuses of the training provided under the project. These components of training were meant to make the communities aware of safe and clean waste disposal methods and other solid waste management techniques.

These meetings were thorough and effective in three of the five villages (Sukulpali, Jengapada, and Tetrabahal). Community members in these villages stated that they were earlier unaware of waste disposal methods and have noticed cleaner surroundings since their communities have adopted them. However, these training pieces were reportedly insufficient or ineffective in Gobarpeti and Karlabud. Even though they were conducted, very few households attended them.

*Almost **80 percent** (38) of the households surveyed dump their solid waste into a mud-pit dug at a suitable location near the jungle. One mud-pit is accessible to and is shared by multiple households. About the same number also segregate their plastic waste [Table 10]. This waste is then burnt separately.*

*Table 10: Managing solid waste among the 47 households surveyed*

| Questions | Sukulpali | Jengapada | Gobarpeti | Tetrabahal | Karlabud |
|---|---|---|---|---|---|
| **How do you manage solid waste?** | | | | | |
| *Throw in the jungle* | - | - | 29% | 33% | 43% |
| *Segregate plastic waste and burn* | 100% | 71% | 86% | 67% | 86% |
| *Mud pit, soak pit, leach pit, and other techniques* | 100% | 100% | 43% | 67% | 86% |
| *Waste collection drive* | - | - | - | 33% | - |

In Tetrabahal, the Gram Panchayat office's waste collection drive initiative has begun. Some households aware of this initiative collect the waste for pickup once every two days. Such initiatives allow the VWSC to engage with local governance (Gram Panchayat) and build their agency.

## 2nd Gen Impact on WASH: Perceived change in community behaviour

Water and Sanitation projects directly aim to improve sanitation practices. In addition to providing access to appropriate facilities, that includes spreading awareness and education regarding hygienic sanitation behaviour. Regular use of toilets and bathing rooms and proper waste disposal practices are bound to have long-term second-generation impacts on health and the environment. In the rural context, such an effect significantly impacts other developmental factors such as environmental preservation, girls' school attendance, and women's labour force participation.

*Age-wise sensitization toward the use of toilets and clean water:* Change in behaviour and adoption of safe sanitation practices was a gradual process in each of the five communities. The sensitization and awareness meetings under the project were conducted in a group setting, addressing participants of different age groups.

Men and women over 50 years of age stated that it was difficult to begin using the toilets. A senior member in the group discussion in Sukulpali mentioned that he used to feel that the use of toilets was dirty and unhygienic and found open defecation cleaner. However, **project components like regular meetings, convenient water availability, and community participation in setting up the facilities indirectly provided the nudge for older people to adopt safe WASH practices.** They regularly witnessed other family members (younger than 50) use toilets, which helped them build their own comfort levels.

*Silverius Kerketta of Tetrabahal (55) said, "Slowly, I got used to it. Now I don't feel like going outside."*

**It was reportedly easier for women to adopt the usage of facilities as it offered freedom against time restrictions of going outside.**

*Picture 3: Chhayer Kisan, Jengapda*

*Chhayer Kisan, a 65-year-old woman from Jegapada, passionately makes a case for the use of facilities. She said, "Why will I go far away till Dungri in dense jungles? Now we have got this facility of toilet and bathroom. So instead of going here, why will I go far away to Dungri?"*

*Personal hygiene and Kitchen sanitation:* **The project created access to sanitation facilities and clean water, which reportedly made it easier to maintain household cleanliness and hygiene.** Before the project started, the VWSCs found it difficult to motivate the community toward the expected benefits of the facilities. Since all personal cleanliness-related tasks would happen away from their homes, the community had little focus on personal hygiene. Access to water was limited and required extra effort and time, if needed, beyond consumption.

The usage of TBR, access to water, and awareness around the spread of water-borne diseases have encouraged communities to adopt effective personal hygiene and kitchen sanitation practices.

## Standard cleanliness practices

| Personal Hygiene | Kitchen Sanitation |
|---|---|
| ☐ Using toilets and bathign rooms | ☐ Keeping kitchen floor and cooking vessles clean |
| ☐ Washing hands with soap | ☐ Using clean water and soap to wash utensils |
| ☐ Bathing in clean water with soap | ☐ Washing vegetables before cooking |
| ☐ Wearing clean clothes | ☐ Keeping cooked food covered |
| ☐ Washing dirty clothes with soap | ☐ Storing drinking water in clean and covered vessels |
| ☐ Wearing footwear while using toilets | ☐ Keeping animals away from kitchen and utensils |

In the absence of deliberate action, however, awareness about menstrual hygiene continues to be limited. Women across the communities practice different methods ranging from continued use of cloth instead of sanitary napkins and burning of menstrual waste to flush the waste down the toilet.

*Greywater management and Environmental preservation:* The project has indirectly motivated the communities to learn effective ways to manage greywater and adopt practices for safe drainage. Typically, in all five villages, families have redirected the drainage from their bathrooms and other taps into the neighbouring fields or jungle. Gram Vikas has attempted to include training on developing kitchen gardens in their meetings after project completion.

The VWSCs in Sukulpali and Jengapada have been trained on methods to develop nutrition gardens. However, homes in these villages generally have smaller areas, making it challenging to grow and maintain nutrition gardens. Greywater deposits in small places around the facilities, making their immediate environment dirty.

In about 54 percent of cases (*23*), families have set up deliberate and conscious nutrition gardens in their backyards. In Tetrabahal, most households have redirected their drains into nutrition gardens where they grow small leafy vegetables *[Table 11]*. About 24 percent (*7*) of respondents mentioned diverting their greywater into community drainage and attempting to make small banana plantations around their TBRs.

*Table 11: Greywater management techniques adopted among 47 households surveyed*

| Questions | Sukulpali | Jengapada | Gobarpeti | Tetrabahal | Karlabud |
|---|---|---|---|---|---|
| **How do you manage greywater?** | | | | | |
| *Use leach pit, soak pit, and other methods* | 10% | - | - | - | - |
| *Community drainage, bucket system, or other techniques* | - | 6% | 14% | 33% | 43% |
| *Kitchen garden* | 30% | 41% | 43% | 100% | 57% |
| *None of the above* | 80% | 53% | 43% | - | 14% |

The project had a noticeable impact on environmental cleanliness. Communities in all five villages have reported significant improvement in the cleanliness of their surroundings. Before the TBRs, the community waterbodies or places of open defecation were lined with human waste and would get stuck to footwear while walking. The project has inspired using toilets and contributed to cleaner surroundings due to adopting waste management methods.

*When children are not using toilets, only about 28 percent (7 out of 25) still go outside on community drains. In more than half the cases, mothers wash the soiled clothes in the bathroom, and the soiled water drains itself to the drainage system created by the household. The communities have organically developed these methods due to lack of any specific training.*

However, in all five communities, people complained of increased mosquitoes during monsoon season. Conscious inputs to ensure effective wastewater management is essential for the project's sustainability's positive impact on the village environment.

*Women/girls' participation in productive activities:* **The project has been modestly effective in improving the participation in productive activities, privacy, and safety for women and girls.** During the research, women, and girls from all five communities pointed out that they have more time on their hands due to these facilities. Even though there was no noticeable impact on girls' school attendance or increase in women's self-employment activities, the time savings were reported to be significant enough to enable them to contribute more to family farming and focus on their children.

Leaders in Tetrabahal revealed that there are now **fewer cases of eve-teasing and harassment**. Women and girls can use toilets and bathrooms in the privacy of their own homes and are more comfortable. They are also able to maintain proper hygiene. **Women also observed and reflected on the increase in food consumption in the last two years due to easier and safe access to toilets**.

Sustainability & Heterogeneity

Implementation of a project is truly effective only when its outcomes and impact can be realized sustainably, even in the absence of the implementing agency. Such sustainability is achieved when the project inputs can be driven by owners while ensuring outputs similar to the project's initial objective.

Similarly, heterogeneity is an important aspect of impact effectiveness, especially in social development projects. Heterogeneity ensures that the project is socially, economically, and racially inclusive in all its components – process, outputs, outcomes, and impact.

## Sustainability: Transition and post-implementation support

This section of the report examines the extent to which the project's beneficiaries were empowered to own and execute the project after its completion. In evaluating the transition processes and capacity-building support provided, it comments on the readiness of the beneficiary communities to mobilize resources needed to maintain the infrastructure, ensure 100% usage of facilities collectively, and manage ancillary issues such as drainage and waste management.

*Regular maintenance:* Gram Vikas conducted regular training and meetings within the community to spread awareness regarding the usage and cleanliness of TBRs, and ways to manage waste. These meetings have resulted in clean facilities across all the intervention villages. About **68 percent** (31) of the respondents claimed to clean their toilets with antiseptic and anti-bacterial solutions at least once every two days *[Table 12]*.

*Table 12: Frequency of TBR cleaning among the 47 households surveyed*

| Questions | Sukulpali | Jengapada | Gobarpeti | Tetrabahal | Karlabud |
|---|---|---|---|---|---|
| **How often do you clean your TBR?** | | | | | |
| *Once a day or more* | 80% | 53% | 29% | 33% | 43% |
| *Once in every 2 days* | - | 18% | 14% | 33% | 14% |
| *2-3 times a week* | 20% | 18% | 57% | 17% | 43% |
| *Once a week* | - | - | - | - | - |
| *Less than once a week* | - | 6% | - | 17% | - |

*The project successfully promoted household ownership of the TBRs and community ownership of the piped water supply.*

However, waste management continues to be a challenge. The community feels ill-informed regarding the methods for waste management that may be relevant to them. This is especially true for greywater management.

*Technical aspects:* Most facilities developed across the five villages are technically sound. However, the issues of water insufficiency at the source and noted irregularity in water testing processes dispute the technical sustainability of the water supply systems.

Nonetheless, the community members were equipped with technical know-how about the functioning of the facilities, including the water supply system. They exhibited the capacity to repair or address any breakdowns effectively. Despite the knowledge and capacity, the communities had almost no agency. Even as 52 percent of the families agreed to repair their TBRs themselves, they depend on the VWSCs and the implementing agency to address any larger issues or breakdowns.

*Institutional and financial aspects:* Throughout the project, Gram Vikas provided handholding to the VWSCs across all five villages, including construction processes, solicitation of tender offers from vendors for raw materials, operations and maintenance of the water tank and water supply, and bookkeeping. VWSCs in Sukulpali and Jengapada were also taken on an exposure visit to help them understand the intervention completed in other villages.

This review conducted a detailed assessment of the VWSCs based on a predefined checklist adopted by Gram Vikas to evaluate formers' functioning. It includes parameters such as membership (composition and inclusivity), meetings (participation), registrations & elections, availability of records, water availability, toilets, and transparency — *[Details provided in Annexure 2].*

This assessment revealed that three of five VWSCs perform optimally (Sukulpali, Jengapada, and Tetrabahal). The committees in Gobarpeti and Karlabud have weak technical capacity and poor agency within and outside their respective communities. The training provided by Gram Vikas has enabled the VWSCs to perform effectively during the project execution phase. Regular capacity-building initiatives will be essential to sustain their effectiveness.

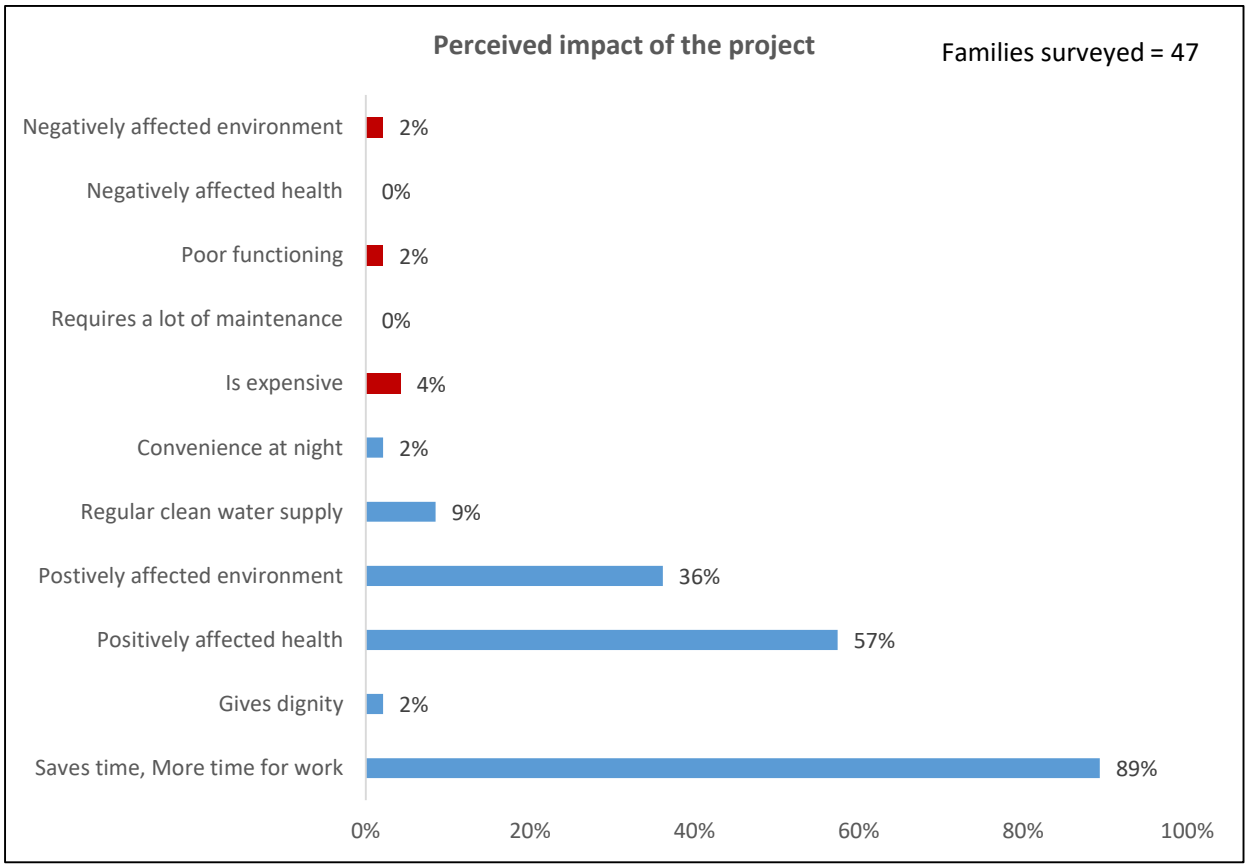
While overall willingness to pay and contribute financially toward operations and maintenance of the facilities among the community is high, the discussions with committee leaders revealed increasing challenges in fund mobilization. While in some villages like Sukulpali and Jengapada, corpus fund collection is incomplete, in Tetrabahal, the aggregate amount collected monthly is reduced due to fewer families willingly paying the maintenance fee. The VWSCs in Sukulpali and Tetrabahal have

managed to mobilize funds from their Gram Panchayats to maintain the project. The committee in Tetrabahal also approached GAIL Limited, who is setting up a plant in the village's proximity, proposing to support the water supply financially. These initiatives, however, are weak in execution, signaling the poor capacity of the VWSCs to make the project financially viable in the absence of support from Gram Vikas.

*Monitoring systems:* The project's standard operating processes and documentation systems are well-defined. The VWSCs in all five villages understand these procedures and effectively maintain financial transactions and meeting records. Community meetings are used to review the facilities' functioning and record any complaints or grievances.

## Community-wide Impact: Perceived social development

This section reviews the advantages of the integrated sanitation and water-supply approach adopted for the project. It examines if the impacts have been similar across the beneficiary communities, despite any social barriers. The data reflect the community's perceived social and economic benefits attributable to the project.




In their project implementation, Gram Vikas employed the MANTRA principle that speaks to a 100% inclusive approach in execution. All households received equitable treatment during the project duration. The construction of facilities, distribution of raw materials, and in-kind contribution expected from the families were the same across a village. If any subsidy was to be given to any family toward their financial contribution, that was decided mutually by the VWSC.

In addition to the stated environmental and social 2nd generation impacts, during the FGDs, **adults in the community stated that this process and meetings have provided a platform for all families in the village to interact with each other in a social setting**. It has helped in building greater understanding and collaboration within the community.

# Conclusion and Recommendations

## Conclusion

The COMWSP implemented by Gram Vikas in Sukulplai, Jengapada, Gobarpeti, Tetrabahal, and Karlabud effectively delivered technically sound and long-lasting toilets and bathing rooms for each resident family. The project significantly reduced instances of open defecation and encouraged safe sanitation practices. The community recognizes the ownership of its facilities and maintains them.

The project also effectively delivered piped water supply to all households in the intervention villages. It successfully motivated the community to contribute to the project in cash and kind to complete the construction work. The communities in some places have identified issues of water insufficiency. However, they have also discussed and crafted solutions to address those issues.

The COMWSP created Village Water and Sanitation Committees (VWSCs) in all five villages, democratically and inclusively. Through extensive training, the project built the capacities of these committees in executing the construction, improving community WASH behaviour, managing community fund mobilization and day-to-day operations of the facilities, and waste management. The committees maintain sound financial and non-financial records of their work.

The project led to communities experiencing improved health and environmental benefits with a notable reduction in cases of water-borne diseases. It also created a socially safer and more inclusive environment, especially for women and girls.

The project's sustainability in the five villages is expected to be moderate due to weak and less effective VWSCs in some locations.

## Recommendations

Based on the assessment, the critical points of recommendation for the project implementing and support agencies are:

1. **Expand the scope of capacity building of VWSCs with support after project completion.** The reliance on operating and maintaining the facilities is on the VWSCs. They are essential for sustaining the project results. The VWSCs must understand and realize their agency. The research suggests that they don't feel empowered to take the responsibility or authority of making decisions beyond the day-to-day operations. Effective capacity building in certain functions will enable the entity to grow into a community-governed center for village development.
    a. *Governance and accountability systems:* Capacity building on governance and accountability systems will ensure that the entity functions democratically and transparently. Such systems will ensure greater community trust, smooth running of operations, and readiness and effective response to external shocks or crises. Good governance will balance the authority and responsibility of members, allowing for more efficient results.
    b. *Grievance redressal mechanism:* The VWSCs in the five villages did not have an official grievance handling and redressal system. The community relies on meetings to share their complaints, which may not be officially documented. Similarly, any action taken or not taken on the complaint may go unaccounted for. This leaves gaps for inefficiency in operations and breakdown of the facilities in the long term.
    c. *Financial processes and resource mobilization:* The sustenance of the project is significantly dependent on the committee having access to financial resources to cover

operational expenses and make a capital expenditure for the stability of the facilities and their intended outcomes. In Karlabud and Gobarpeti, the communities have been facing water insufficiency issues for only two years since the completion of the project. The committee lacks the capacity, resources, or agency to build new water sources. At Sukulpali, the water supply faces regular breakdowns because the pipeline is exposed above ground. The VWSCs should be able to make decisions to address these issues and mobilize the resources required.

2. Include extensive training on solid and water waste management. Based on the topography of the intervention areas, it will be useful to include a list of methods to manage the expected waste after the usage of facilities begins. The implementing/training agency could develop a handbook that includes a variety of methods for managing different kinds of waste in different geographical and climatic conditions. The youth of the villages could play a major role in this aspect.
3. Enable data collection through VWSCs for monitoring impact and developing effective and timely responses in case of issues. The implementing agencies could build a system where the financial and non-financial records maintained by the VWSCs could be used for monitoring and evaluation purposes and regularly track the facilities' functioning. This will help the implementing agencies monitor their project's long-term effectiveness and provide data to create success stories, identify pain points and iterate subsequent projects based on learnings. The use of smart technologies to strengthen this system can be explored.

# Annexure 1 – Survey Instruments

This evaluation applies quantitative and qualitative data collection tools to gather evidence of impact. For the three levels, the following tools are deployed:

1. **Household level -** Door-to-door surveys: In villages with different castes, a sample will be selected in the population proportion (total families). Surveys will include an inspection of the infrastructure built.
   ***Note:*** *The indicators marked with an asterisk (*) are included in the Household Survey Questionnaire APPI shared by Gram Vikas*

| Name of beneficiary | | |
|---|---|---|
| Village, District | | |
| **Areas of enquiry** | **Parameters** | **Indicators/questions** |
| Personal profile | Demographic | Gender * |
| | | Age * |
| | | Education * |
| | Livelihood | Type of livelihood * |
| | | Vintage * |
| | | Monthly income * |
| | | Alternate source of income * |
| | | Number of dependent family members * |
| Robustness of Infrastructure:<br>Toilet & bathing rooms, piped water supply | Quality, access and functionality of TBR | Do you have access to a private TBR? * |
| | | How often in a month is it fully functional? |
| | | To what extent does it service your sanitation needs? * |
| | Quality, access and functionality of piped safe water supply | Do you have access to piped water supply in your home? * |
| | | What are the timings of water availability? * |
| | | How often a month is it fully functional? * |
| | Regularity of operative and maintenance processes, water quality assessment & new constructions | Do you pay a monthly maintenance bill? How much? |
| | | What do you do when the TBR is not functioning, or needs repair? Do you have a process for complaints and grievance reporting? |
| | | How often is the water testing and treatment done? |
| | | Have any new families in your neighbourhood got their TBR? |

| | | |
|---|---|---|
| Approach to Community Ownership:<br>Community participation & Village institutions | Creation and composition of village institutions | Are you aware of the VWSC in your village? Do you participate in the election and GBM processes? |
| | Financial process & HH level contribution to the project | How much money did you pay for this project? * |
| | | What other forms of input did you contribute to this construction? |
| | Training and capacity building | Did you receive any training or awareness on usage of the TBR? |
| | | Did you receive any training on management of waste, maintaining hygiene and cleanliness of the TBR? |
| Direct Impact on WASH:<br>Comparison with baseline data | WASH behaviour including incidents of open defecation and water-borne diseases | Since when do you use this TBR? What did you do before? * |
| | | How often do you or anyone in your family has to defecate in the fields? How often do you have to use community water body for water needs? |
| | | When was the last time anyone in your family had diarrhea? * |
| | Access to clean drinking water | Since when do you use the piped water supply? What did you do before? |
| | | What source of water do you most often use for drinking and cooking? * |
| | Waste management | How do you dispose child excreta? * |
| | | What measures do you adopt to manage solid waste? |
| | Personal hygiene, kitchen sanitation and greywater management | What measures do you adopt for maintaining personal hygiene? |
| | | What measures do you adopt for kitchen sanitation and greywater management? Do you have a kitchen garden? |
| Sustainability:<br>Transition & post-implementation support | Environmental cleanliness and preservation | How often do you clean your TBR? |
| | | Where do you dispose solid / plastic waste? * |
| | Continued engagement with village institutions | What role does the VWSC play in maintaining the project in the village? |
| Community-wide Impact:<br>Perceived social development | Review of advantages of integrated sanitation and water approach | Did you feel included during the process of construction of TBR in your village? |

2. Community level – Focused Group Discussions: Two groups per village (Male and Female, aged above 18 years), with 8-10 participants per group, participation limited to one member per household. Each group's investigations will compose different questions for those above 60 years of age.

   The questions below are indicative of the flow of the group discussion. Researchers will use responses of the group to conduct a detailed discussion and gather evidence on predefined indicators.

   a) Community engagement:
      a. What do you know about the process of construction of toilets and piped water supply? To what extent did you feel included in the process?
      b. What have you invested or spent in the project (both financial and non-financial resources)?
      c. Do you regularly participate in any meetings?
      d. Did you attend any awareness or capacity building meetings? What did you learn?

   b) Impact on WASH behaviour:
      a. Do you and those around you regularly use the toilets and bathing rooms? Are there examples of when it is easier to not use them?
      b. Have you noticed any changes in health outcomes around yourself – in your households and neighbourhood?
      c. How do you identify which water to be used for drinking and cooking purposes?
      d. How challenging do you think it is to maintain cleanliness of the TBR now?
      e. How do you manage the waste (solid and water) now produced after the construction of TBR? What would happen before that?

   c) 2nd Gen impact indicators:
      a. What changes do you see and experience around you (in your homes and community) since this project?
      b. At approximately what age do you think young people should start using the toilets?
      c. To what extent is having a bathing room different than community waterbodies for bathing?
      d. Do you think children, especially girls, would go to school more, or less often if TBR was not available?
      e. Do you feel women now have more time to spend as compared to before?

   d) Sustainability:
      a. How well have the toilets and water supply been working in the last 2 years?
      b. Do you know the person responsible for operating and maintaining the infrastructure?
      c. What gaps have you felt since the project finished in 2020?
      d. What challenges did you face when the project started? What challenges do you face now?
      e. Have you been able to provide TBR to new families that have been added in the last two years?

3. Village level – Stakeholder Consultations: One consultation per village with VWSCs and key members of other village institutions (including SHGs, ASHA and AWDs).
   The questions below are indicative of the flow of the group discussion. Researchers will use responses of the group to conduct a detailed discussion and gather evidence on predefined indicators.
   a) Community leadership & Financial processes:
      a. Describe your experience in taking leadership for a community development project like this.
      b. What challenges did you face in ensuring 100% participation across your village?
      c. What were some of the key questions or queries you had to address during the process?
      d. To what extent do you see community participation and engagement has changed two years after the project?
      e. Explain the process and your experience of setting up the corpus fund. How is the fund used?
      f. How do you maintain records of individual contribution?
      g. What other processes (financial and non-financial) do you follow regularly for operations and maintenance of the project?
   b) Sustainability:
      a. What kind of support do you receive from Gram Vikas implementation team after conclusion of the project?
      b. What kind of training/capacity-building meetings have you attended?
      c. What kind of efforts are you making toward fund mobilization? Have you been able to get financial support from the Panchayat or other entities? What challenges are you facing?
      d. How has your role changed/evolved in the different phases of the project? What do you focus on now?
      e. What other development initiatives have you adopted since the completion of the project?
   c) Community-wide impact:
      a. Have you noticed any significant changes in your environment due to the project?
      b. What made you identify the need for such infrastructure in your village? Are you aware of any villages without one?
      c. How strongly do you believe this project has been able to bring impact across various social and economic communities within your village?
      d. Have you noticed a change in incidents of diarrhea and other water-borne diseases?
      e. Have you noticed any changes in women/girl participation in productive activities (school, self-employment)

# Annexure 2 – Assessment of VWSC functioning

| Criteria | | Sukulpali | Jengapada | Gobarpeti | Tetrabahal | Karlabud |
|---|---|---|---|---|---|---|
| Membership | Number of members in the VWSC | 10 | 16 | 10 | 10 | 10 |
| | Number of active members (Attendance >50% in meetings) | 10 | 16 | 10 | 10 | 10 |
| | Number of women members | 5 | 8 | 5 | 4 | 4 |
| | Number of active women members (Attendance >50% in meetings) | 5 | 8 | 5 | 4 | 4 |
| Meetings | Number of Executive Committee meetings in last 12 months | ~12 | ~12 | ~2 | ~12 | ~10 |
| | Number of General body meetings during the last 12 months | 1 | ~2 | 1 | 1 | 1 |
| Registrations & Elections | Has the VWSC been registered? | Yes | Yes | Yes | Yes | Yes |
| | Are elections held as per bylaws? | Yes | Yes | Yes | Yes | Yes |
| Availability of records | Minutes book | NA | Updated | Updated | Updated | Updated |
| | Monthly fee register | No collection | Updated | Updated | Updated | Updated |
| | Passbook | NA | Updated | Updated | Updated | Updated |
| | Fixed deposit receipt | NA | NA | NA | Available | NA |
| | Corpus fund deposited? | NA | No | Yes | Yes | Yes |
| Water availability | Is water available for all households? | Yes | Yes | Yes | Yes | Yes |
| | If not, how many households are not getting water? | NA | NA | NA | NA | NA |
| | Is the operator paid? | NA | NA | Yes | Yes | Yes |
| | Any arrears in operator payment? | NA | NA | No | No | No |
| | Any electricity bill payment pending? | Yes | Yes | No | No | No |
| Toilets | Is toilet available for all households? | Yes | Yes | Yes | Yes | Yes |
| | Is the village open defecation free? | Yes | No | No | Yes | No |

| Criteria | | Sukulpali | Jengapada | Gobarpeti | Tetrabahal | Karlabud |
|---|---|---|---|---|---|---|
| Transparency | Do VWSC members know each other? | Yes | Yes | Yes | Yes | Yes |
| | Do all VWSC members know EC members? | Yes | Yes | Yes | Yes | Yes |
| | Do all VWSC members know income and expenditure details? | No | Yes | No | Yes | Yes |
| | Does VWSC know bank account details? | No | Yes | No | Yes | Yes |
| | Does VWSC know the amount of fixed deposit available? | NA | NA | No | Yes | Yes |