Key Achievements and Learnings from the WASH Project in Makawanpur: Effectiveness of Behaviour Change Communication Tools

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RRN Rural Reconstruction Nepal

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Abbreviation

BMZ	German Federal Ministry for Economic Cooperation and Development
CLTS	Community Led Total Sanitation
FCHVs	Female Community Health Volunteers
FGD	Focus Group Discussions
HH	Households
IYCF	Infant and Young Child Feeding
KII	Key Informant Interviews
RMWASHCC	Rural Municipal Level WASH Coordination Committee
OD	Open Defecation
ODF	Open Defecation Free
PLA	Participatory Learning and Action
PRA	Participatory Rural Appraisal
LANN+	Linking Agriculture and Natural Resource Management towards Nutrition Security
RM	Rural Municipality
RRN	Rural Reconstruction Nepal
WASH	Water, Sanitation, and Hygiene
WHH	Welthungerhilfe
WSUCs	Water and Sanitation Users Committee
WWASHCC	Ward level WASH Coordination Committee

Executive Summary

The purpose of this report is to assess the changes the project has brought about over the three years of implementation, particularly in WASH and nutrition behaviour change practices. This report aims to systematically generate clear, evidence-based insights into how strategies, such as Community-Led Total Sanitation (CLTS), Total Sanitation campaigns, and PLA LANN+ sessions, have contributed to behaviour change among marginalized households at the community level.

The report will provide an overview of the behaviour change interventions, their implementation strategies, and the changes they have reflected in communities. It will also provide actionable recommendations to strengthen future programming and support broader replication and policy advocacy efforts in the WASH and nutrition sectors.

The key objective of the report is to document results, good practices, and lessons learned from the implementation of:

- Community-Led Total Sanitation (CLTS)
- Total Sanitation Campaigns (Hygiene sessions and household monitoring)
- PLA LANN+ (Nutrition-focused participatory learning and action)

The report employs a qualitative, participatory, and evidence-driven approach to capture key results, best practices, and lessons learned from the behavior change interventions implemented under Output 3. The qualitative insights were gathered through discussions with project beneficiaries, local government stakeholders, and the project team. Along with it, relevant data were collected through monthly/quarterly reports and from the baseline and endline surveys.

Over the three years, the project achieved substantial improvements in WASH and nutrition practices. Water systems were installed and managed by community-based Water and Sanitation User Committees (CWUCs), significantly reducing the burden of collecting unsafe water. Sanitation coverage improved through the construction of household toilets, and communities adopted safe hygiene practices, including handwashing, safe water handling, and household cleanliness. Nutrition practices also improved, with households increasing dietary diversity, establishing kitchen gardens, and adopting appropriate feeding practices for infants and young children. Women, particularly mothers and adolescent girls, emerged as key drivers of change, taking leadership roles in promoting healthy practices at both household and community levels.

1. Project Overview

1.1 Project Background

The WASH System Strengthening and Behaviour Change in the Hilly Region of Makwanpur District (NPL 1081-21) project builds on the longstanding efforts of the Government of Nepal and development partners to sustain Open Defecation Free (ODF) achievements and improve nutrition outcomes through strengthened WASH governance and behavior change. Although Nepal has made significant progress in expanding WASH services, an assessment conducted by WHH/RRN in Makawanpur revealed critical gaps, most notably the issue of slippage–where communities gradually return to unhygienic behaviours, failing to meet or sustain the ODF standard. The challenge is driven by limited access to safe drinking water, insufficient awareness of proper sanitation and hygiene practices, and underdeveloped municipal WASH systems.

In remote, hilly regions of Rakshirang and Kailash RM, people relied on unimproved drinking water sources during the rainy season and had to walk farther to fetch water. The availability and quality of water remained inadequate year-round, with 27% of households lacking toilets and practicing open defecation (OD), signaling a considerable risk of ODF slippage. These limitations in WASH services disproportionately impact children under the age of five (U5), pregnant and lactating women, elders, and people with disabilities. It contributes to a higher prevalence of stunting, wasting, and underweight conditions among under five (U5) children and various forms of micronutrient deficiencies among women of reproductive age, heightening the risk of malnutrition and infectious diseases.

Recognizing the need for a sustainable nutrition-sensitive approach to WASH, RRN implemented a three-year WASH Systems Strengthening project with financial assistance from WHH and BMZ in Rakshirang and Kailash RM of Makawanpur District. The project focused on strengthening local government capacity, improving community engagement in WASH planning and management, promoting sustained sanitation, and promoting hygiene behaviors. The project was carried out in Rakshirang and Kailash Rural Municipalities, areas where geographic remoteness, limited infrastructure, and socio-economic marginalisation have historically constrained access to quality WASH services.

1.2 Project Objective

The goal of the project was to improve the health and nutritional status of marginalised communities in the rural municipalities of Rakshirang and Kailash RM of Makwanpur district, through strengthened WASH systems and behaviour change.

The project leveraged and mobilized existing mothers' groups, Female Community Health Volunteers (FCHVs), Water and Sanitation Users Committee (WSUCs), Municipal/Ward level WASH Coordination Committee (M/WASHCCs), and health staff to promote WASH and behaviour change in their communities. The project focuses on delivering the given results:

Result 1: WASH service delivery is strengthened through enhanced governance at the local government level

Result 2: Drinking water supply schemes and sanitation and hygiene facilities are improved in target communities, schools, and Healthcare Facilities

Result 3: Vulnerable and marginalized households and beneficiaries adopt adequate and safe WASH and nutrition practices as a result of behavior change communciation

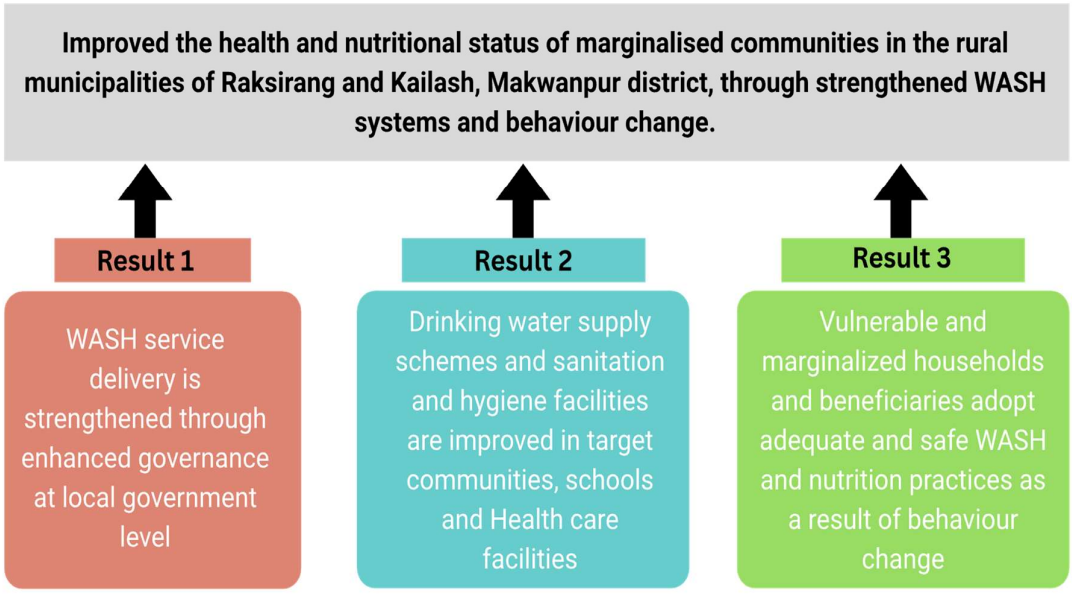


Figure 1: Project Goal and Results

1.3 Project Area and Beneficiaries

The project targeted Rakshirang and Kailash RM of Makawanpur district, with the aim of supporting the development, endorsement, and implementation of municipal-wide WASH plans for a total of 54.752 direct beneficiaries (9.209 HHs).

The project was implemented in close partnership with the local governments. The Kailash and Raksirang RMs contributed to supplementing the construction cost of the schemes. Local communities also contributed to the implementation of the schemes.

To address the needs of the most vulnerable and marginalized HHs and increase their access to safe drinking water, safely managed sanitation, and proper hygiene, the project will deliver specific measures to the direct target groups.

Figure 2: Project Beneficiaries/ Participants

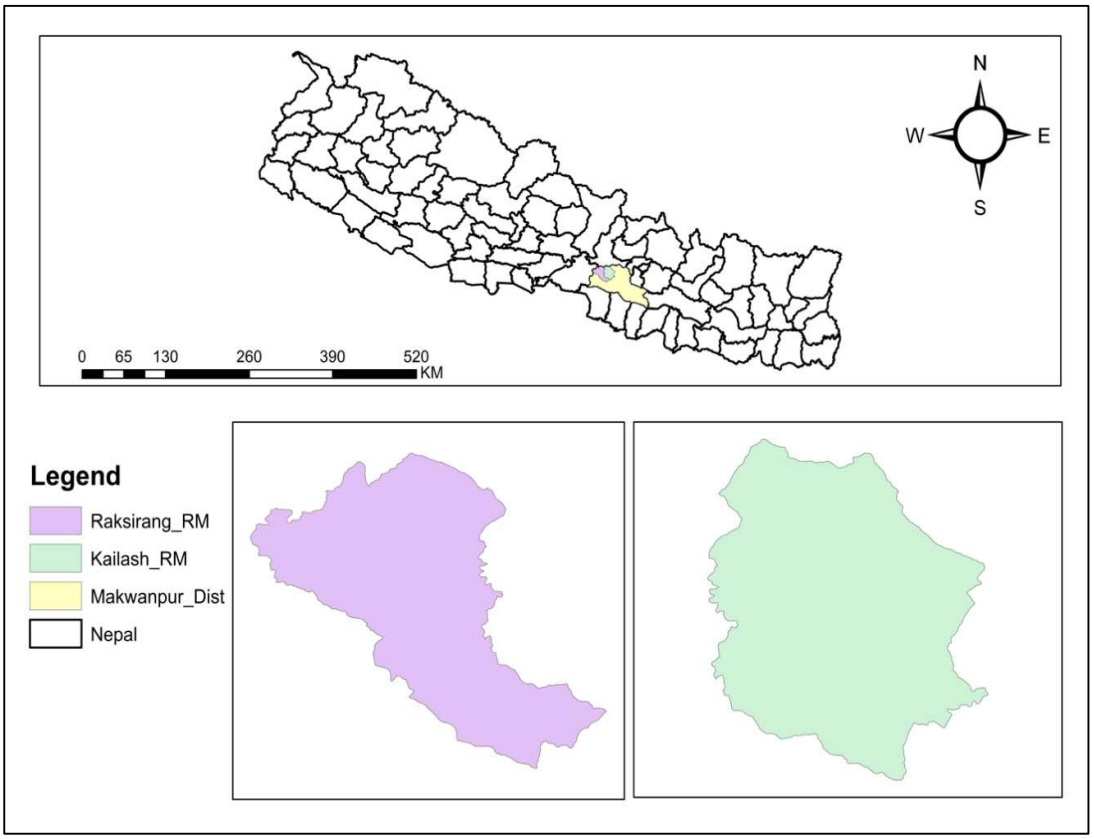


Figure 3: Project area

2. Behaviour Change Communication Tools

2.1 Community Led Total Sanitation (CLTS)

CLTS is a widely used community-based mobilisation strategy in Lower- and Middle-Income Countries (LMICs) to eliminate open defecation. It empowers communities to analyse their sanitation situation, understand the health risks associated with open defecation, and take collective action to stop open defecation and build and use latrines, without relying on external subsidies to purchase sanitation hardware. The CLTS approach, introduced by Kamal Kar in Bangladesh, was first introduced in Nepal in 2003. Since then, it has become a key component of Nepal's national strategy to achieve Open Defecation Free (ODF) status in 2019, thereby improving hygiene and sanitation.

In CLTS, facilitators guide communities through participatory appraisal and analysis exercises that help them confront the realities and consequences of widespread open defecation. It stimulates a collective sense of disgust and shame among community members as they confront the crude facts about mass open defecation. The analysis prompts community members to realize that they need to change their habits and behaviours and mobilize to achieve ODF status. The role of the facilitator is to help community members see for themselves that open defecation causes ill health and an unpleasant environment, thereby inspiring and empowering them to find locally appropriate sanitation solutions. The community-driven process builds on existing social cohesion and collective action to foster sustainable behaviour change.

Core Principle of the CLTS Approach

- Focus on stopping open defecation rather than just building latrines.
- Leverage traditional collective community action to stimulate hygiene behaviour changes.
- No subsidies to build latrines.

Implementation Strategy

The project developed a guideline for conducting CLTS campaigns in open defecation communities in the target area. This included all key steps to be followed during pre-triggering, triggering, and post-triggering processes. The identified open-defecation communities from the field survey were selected at the respective W-WASH-CC meetings for the CLTS campaign. Following the Participatory Rural Appraisal (PRA) ignition, sanitation action committees were formed in each community to conduct monthly follow-up and monitoring progress, and to resolve any issues that arose during the campaign.

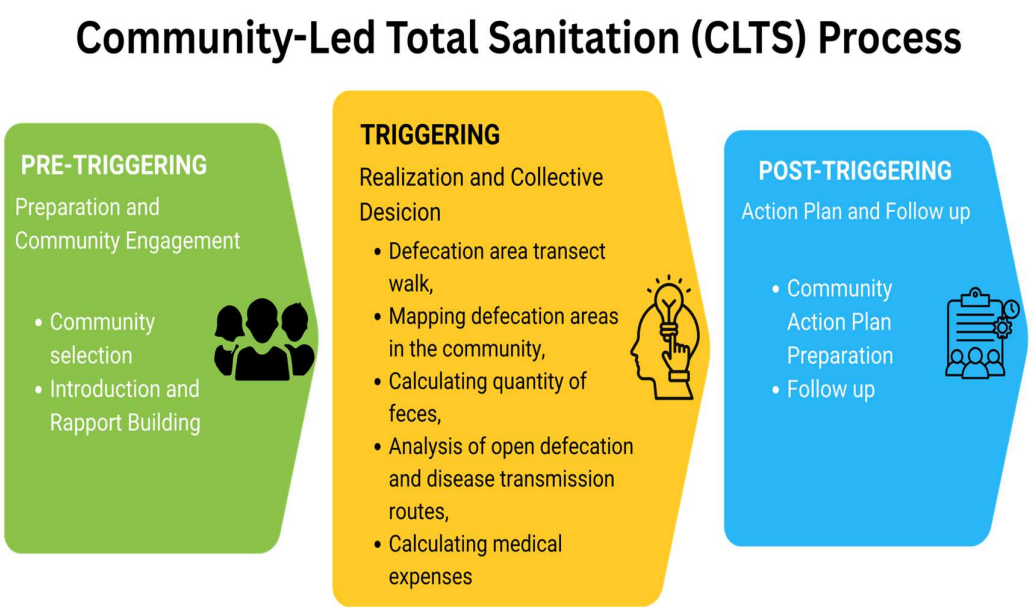


Figure 4: CLTS Process

After PRA ignition, social maps were developed and displayed in all 79 target communities. The social map includes key features of the community, including households with and without toilets, water sources, open defecation areas, schools, churches/temples, agricultural land, forests, roads, and trails, among others. It helps communities clearly see the risks of open defecation in their surroundings and motivate them to construct toilets. This collective awareness serves as a strong motivator for households to take action, build toilets, and work together towards improved sanitation and ODF status.

In addition, RRN field staff, in collaboration with the health post in charge of the respective wards, facilitated orientation sessions on the importance of toilet construction, particularly targeting households without toilets. The ward office formally invited community members from each selected community, and detailed discussions were held on the importance of toilet construction and on the underlying reasons for the lack of toilets. Together, community members co-developed action plans with commitments and timelines for toilet construction. Follow-up meetings were held to motivate communities to construct toilets. To further reinforce motivation, Toilet Identity Cards were introduced in Kailash and Rakshirang RM, linking toilet construction to access municipal services, including social security allowances.

Social Map of Rakshirang RM Ward-6

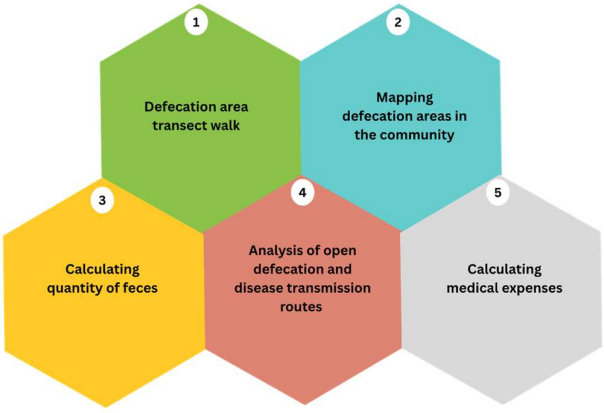
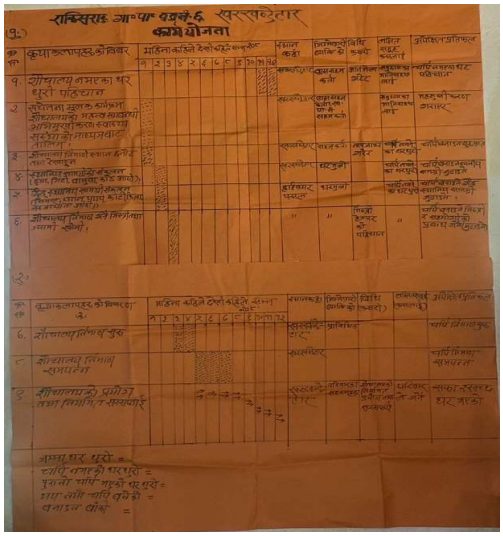


Figure 5: CLTS Triggering Tools



Community Action Plan

2.2 Hygiene Sessions and Household Monitoring

Hygiene sessions and household monitoring are key components of the total sanitation campaign within the project. These sessions were conducted in the communities to reinforce behaviour change initiated through CLTS to ensure sustained adoption of safe sanitation and hygiene practices at the HH level.

Structure of the Hygiene Session

The hygiene session focused on seven Total Sanitation indicators: proper toilet use; handwashing at critical times; personal hygiene (including menstrual hygiene); safe drinking water; safe food hygiene; and household and environmental sanitation. Awareness and commitment toward these indicators were promoted through six participatory learning methods, designed to make learning engaging and practical for the sustained adoption of safe sanitation and hygiene practices.

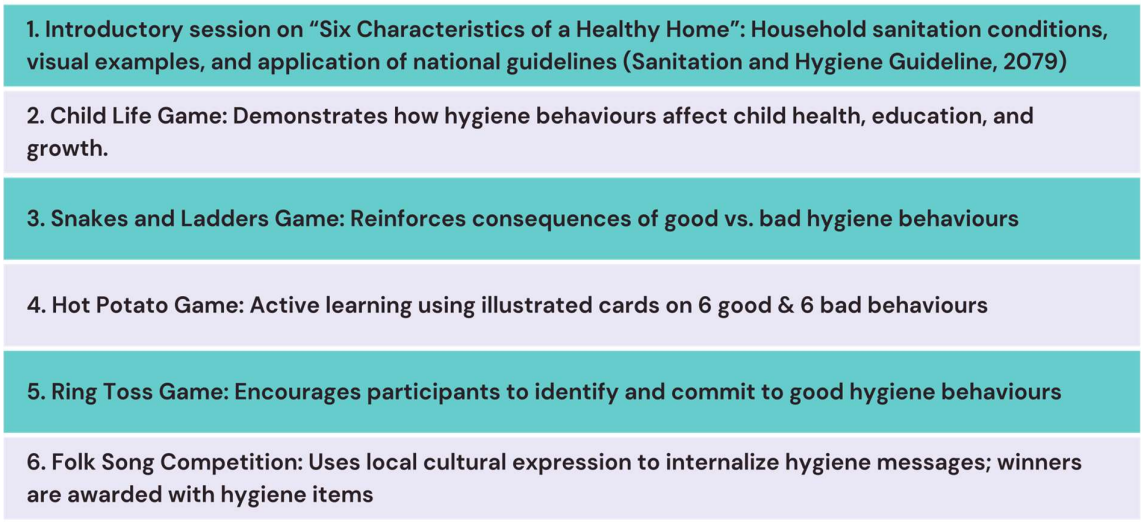


Figure 6: Six PLA Hygiene Session Steps

Implementation Strategy

The first session introduced the six good characteristics of a healthy home, as outlined in the Sanitation and Hygiene Guideline-2079. During this session, all seven Total Sanitation indicators (as mentioned above) were explained through lectures, images, and participatory exercises.

The second session used a *Child Life Game* to demonstrate hygiene and sanitation. In this activity, one mother plays the character of having good knowledge, attitude, and hygiene and sanitation practice, and another mother plays the character of having poor knowledge, attitude, and hygiene and sanitation practice. This game aims to show the link between hygiene and sanitation practices and children, their health, education, and overall development.

The third session involved a *Snakes and Ladders Game*, in which six good and six bad hygiene and sanitation behaviours were displayed on the board, strengthening recall and understanding of the key practices. **The fourth session** is about the *Hot Potato Game*, where participants passed play cards with six good and six bad hygiene and sanitation behaviours.

The fifth session featured a *Ring Toss Game*, in which participants aimed a ring at the poster, which displayed six good and six bad hygiene and sanitation behaviours.

The sixth session was a folk song competition, in which participants performed folk songs about hygiene and sanitation behaviour they had learnt in previous sessions. The winners of the competition were awarded with hygiene and sanitation materials.

In each session, six key messages of Total Sanitation were disseminated through different methods, and participants were encouraged to commit to applying six good hygiene and sanitation behaviours at home. Hygiene sessions were delivered after CLTS triggering to reinforce sanitation actions, particularly toilet construction and use. Each session provided an opportunity to verify households, monitor progress against the Total Sanitation indicators, and identify remaining behaviour gaps.

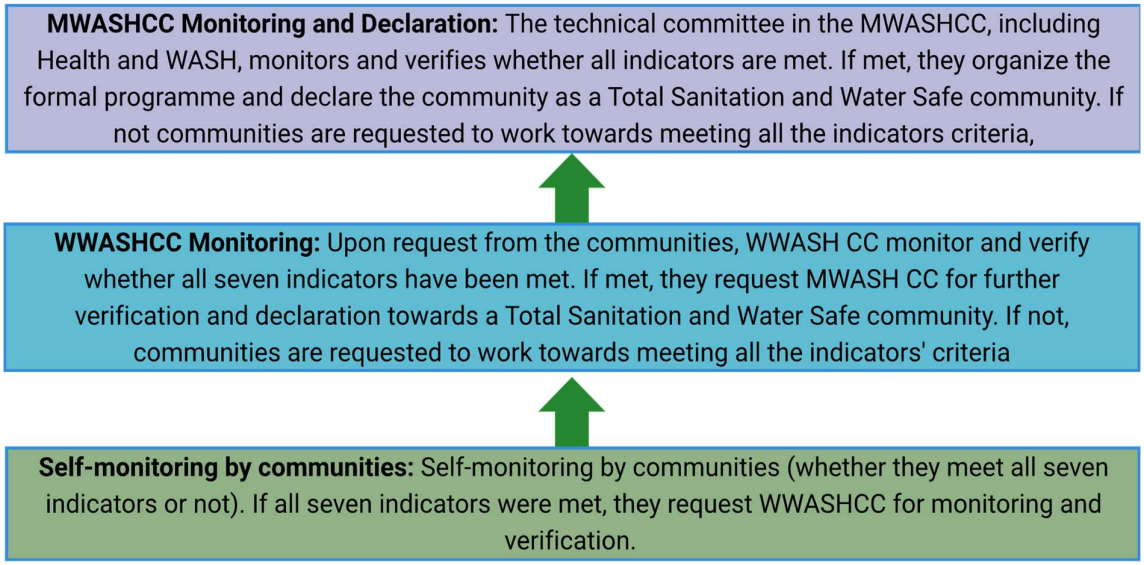


Figure 7: A process towards Total Sanitation and Water Safe Community Declaration

2.3 Linking Agriculture and Natural Resource Management towards Nutrition Security through Participatory Learning and Action (PLA LANN+)

To complement the sanitation interventions, the project implemented PLA LANN+, a multisectoral and nutrition-sensitive approach aimed at improving family nutrition and achieving nutrition security at the HH level. It is a holistic approach that includes some level of knowledge and skills enhancement, creates an enabling environment for sustained behavioural changes in nutrition, agriculture, natural resource management, childcare, and care practices, and promotes the creation of alternative sources of income.

The LANN+ cycle consists of four phases and is delivered through 24 field-level participatory sessions, conducted once a month. The target group includes women (mothers, young adolescent girls, and other women in the community) and was also accessible to men. The sessions' topics include a wide range of behaviour-driven activities, such as assessing natural resources and promoting effective utilisation,

identifying food groups, cooking demonstrations, establishing nutrition gardens, harvest planning, hygiene and care practices, appropriate infant nutrition, feeding practices, drinking water treatment and storage, among others. The graphic illustrations, ICE tools, and other training/information material were translated into local languages to ensure cultural relevance. The key messages of the LANN+ nutrition programmes were coordinated with local health authorities. This strengthened alignment with national guidelines and further improved the programme's accessibility and acceptability.

Implementation Strategy

The LANN+ component of the project was implemented through PLA cycles, a participatory process comprising four phases and facilitated by a trained moderator/facilitator. Community nutrition facilitators supported with the PLA sessions. These facilitators were systematically trained in technical, communication, and leadership skills and familiarised with the local situation and the causes of malnutrition. The PLA methodology places women, particularly mothers, pregnant and lactating women, and adolescent girls, at the centre of identifying nutrition problems, planning solutions, and taking collective action. Men and other community members were also encouraged to participate to foster shared responsibility for nutrition and care practices.

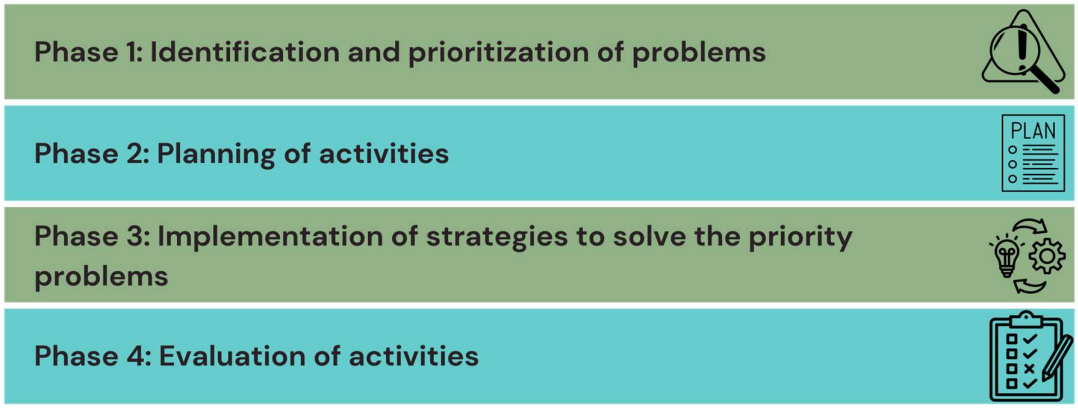


Figure 8: PLA LANN+ Phases

3. Integrating CLTS, Hygiene Session, and PLA LANN+ for WASH and Nutritional Behaviour Change

Result 3 of the project focuses on enabling vulnerable and marginalised target households to adopt adequate and safe WASH and nutrition practices. This component sought to improve nutrition status, sanitation coverage, and hygiene practices among target households, with the support of an enabling environment. The project applied an integrated and multi-layered approach to promote long-term improvements in health, recognizing the significant influence of policy environment, socio-economic contexts, and cultural norms on sustainable behaviour change.

The project provided a comprehensive platform for participatory learning and collective action through the implementation of CLTS and hygiene sessions and household-level monitoring, and the nutrition-focused PLA LANN+ approach. These strategies enabled communities to internalize new knowledge, reflect on harmful practices, and consistently adopt adequate and safe WASH and nutrition practices. Through this approach, communities were encouraged to view the link between WASH and nutrition for total sanitation and improved dietary practices as essential to overall health and well-being.

It is evident that sustainable behaviour change cannot occur in isolation; it requires an enabling environment that supports and reinforces individuals' choices. The project engaged stakeholders at policy, programmatic, community, and household levels for effective and sustainable behaviour change. Partnership with local governments strengthened planning, budgeting, and policies on WASH and nutrition, while community engagement empowered women's groups, community leaders, and FCHVs to champion healthier practices. These collective efforts helped reduce barriers such as limited access to information, low perceived risk, and inadequate services or facilities.

3.1 Effectiveness in Behaviour Change through CLTS, Hygiene Session, and PLA LANN+

Open water source before the project

A woman collecting water from a tap after the project

Rakshirang and Kailash RM are among the most remote and hard-to-reach areas of Makawanpur district. The households living in these areas faced persistent challenges in maintaining safe water, sanitation, and hygiene practices, and maintaining adequate nutritional status. The community's vulnerability to food and nutrition was exacerbated by factors such as limited infrastructure, scarce livelihood opportunities, and the economic impacts of COVID-19.

At the beginning of the project, many households practiced open defecation due to limited awareness of the health implications and lack of sanitation facilities. Community members used to collect water from distant, unsafe sources (*kuwa- traditional well)* that required long, exhausting walks, often returning with muddy water during the rainy season. Knowledge of hygienic practices, nutrition, and childcare was minimal. Families cooked and consumed whatever food was available, with little understanding of food diversity or the nutritional needs of pregnant and lactating mothers and young children.

These realities contributed to poor health, frequent illness, and limited dignity, especially for women and children. Children ate whatever was available, households lacked toilets and proper waste management, and families were unaware of the link between hygiene, safe drinking water, and health.

"My family and I had to walk for about an hour just to fetch water, and even then, it was difficult to collect clean water."

Through the RRN/WHH project, household yard water taps were installed in many villages across the target area, substantially easing the physical burden and time previously spent collecting water. Functioning water systems are managed by trained WSUCs, which oversee tariffs, repairs, and equitable distribution to ensure sustainability and accountability.

"There is a big difference now. The clean and safe water comes directly to our home."

At the beginning of CLTS Implementation in 79 open-defecation-practicing communities (2454 households), 1140 households (42.86%) did not have toilets. The participatory CLTS-triggering sessions helped households reflect the health risks of open defecation and mobilised collective action to commit to building toilets. After the ignition of the PRA and regular follow-ups, 699 households (62.50%) have constructed toilets in the respective target communities. Among them, 540 households (48.3%) fully completed the toilet construction, and 159 households (14.2%) are under construction.

"I learned the importance of toilets for maintaining sanitation and hygiene in the family."

"After our toilet was built, my family no longer has to go to the jungle at night. We feel safer, and the community respects us for our decision to build a toilet."

"During the CLTS meetings, I felt guilty for not having a toilet and reflected on our situation. After discussing it with my family, we began collecting local materials to build our toilet."

Community members who previously lacked awareness of the importance of toilets and the health risks of open defecation are aware and have become sanitation role models, leading as champions of sanitation behaviour change in their respective

communities. This shift has contributed to restoring dignity and respect and to safer living environments, especially for women and children. After the ignition and PRA activities, communities that had completed toilet construction were enrolled in hygiene sessions.

Sapana from Ghairang village cleaning her newly constructed toilet

A women participant with her newly constructed toilet

Among 171 communities (3802 HHs), 50 communities (1305 HHs) have been declared towards Total Sanitation and water-safe communities. The session enhanced knowledge and everyday hygiene practices using games, visuals, folk songs, and commitment-based learning. Families began storing water in covered containers, washing hands with soap at crucial times (after defecation, after handling child/adult feces, after cleaning the environment before preparing food, before serving food, and before eating food), maintaining clean toilet surroundings, and properly managing solid waste pits, moving their communities towards Total Sanitation goals.

"We built toilets, handwashing stations, and drying racks on our own initiative. Now we are happy to have these basic facilities in our home."

Household-level observations showed increased safe water-handling behaviours, such as storing water in covered containers and regular handwashing with soap, which contributed to a reduction in disease risks.

A group of community members playing Snake and Ladder Game during the Hygiene Session

Locally Made Dustbin being used to dispose garbage in the HHs

The PLA LANN+ approach enhanced understanding of the link between WASH, nutrition, and household health. Community members learned to identify food groups, prepare nutritious meals, and prioritize infant and young child feeding (IYCF) dietary needs. Community members in the target area have established Kitchen gardens near homes and are using household wastewater to grow locally available vegetables such as coriander, beans, carrots, chilies, and leafy greens. A total of 38 Health Mothers' Groups in 19 wards of both RMs were identified through joint assessments with the health facility in charge of the respective wards. A total of 976 Health Mothers' Group members participated in the PLA LANN+ sessions.

"I used to feed my children whatever we cooked at home, without fully understanding the importance of nutrition. Now we are aware that nutrition matters for children's health and growth."

Women, particularly mothers, pregnant and lactating women, and adolescent girls, are taking the lead in planning and implementing household-level changes, while men's participation encourages shared responsibility**.** Families reported increased dietary diversity, more frequent consumption of nutrient-rich foods, and greater adoption of kitchen gardens as a sustainable source of fresh vegetables and fruits**.** Through the PLA LANN+ sessions, they have also learned about the importance of nutrition, which has improved the children's health and made them healthier and more active.

Community members know better WASH, locally available nutritious food, food diversity, and the importance of nutrition for pregnant, lactating, and under-five children. According to the project's annual survey (2025), 836 out of 976 households (88%) are now consuming balanced diets, showing improvement in household dietary diversity.

Mahilimaya from Birta Village using a recycled dustbin to dispose HHs waste

A woman participant tending her kitchen garden while holding her baby

The integrated participatory interventions, along with the continuous follow-up, have equipped communities with knowledge and agencies to sustain improved WASH and Nutrition behaviours. The project components, such as community engagement, peer support, and repeated reinforcement, played a crucial role in keeping communities motivated and committed to maintaining improved sanitation, hygiene, and nutrition practices. Community-wide adoption of the healthier behaviours is now visible and valued across the target communities.

3.2 Case Stories

3.2.1 Regita's Journey to Better Nutrition and Hygiene: From Vulnerability to Empowerment

Regita Chepang, a 23-year-old young mother from Simargaon, Rakshirang Rural Municipality (Ward 6) in Makawanpur district, lives with her husband, in-laws, and 24-month-old son. Her family depends on small-scale agriculture, cultivating only 8 kattha of land, barely enough to feed the household for six months a year. To sustain themselves for the remaining months, she and her husband work as daily labourers.

Before joining the project's activities, Regita faced several challenges during pregnancy. Limited knowledge of nutrition and care practices led to a miscarriage, a painful experience that left her bedridden for months. She recalls***, "I did not know what to do during pregnancy. Even when I was sick, I had to work hard, and I couldn't eat the food I needed."*** Support at home was minimal, and the lack of awareness about maternal nutrition further affected her physical and emotional well-being.

Regita began attending monthly meetings of the Silinge Healthy Mothers Group, facilitated by RRN/WHH under the PLA-LANN+ approach. The sessions helped her understand the immediate, underlying, and basic causes of malnutrition, and the

serious health impacts it can have on pregnant and lactating women and young children.

Regita working in her home nutrition garden

Actively participating in group discussions, she strengthened her knowledge and confidence. She shared key learnings at home, especially with her mother-in-law, and gradually gained family support. ***"I brought my mother-in-law to four meetings. After she understood, her behaviour towards me changed,"*** she shared.

During her subsequent pregnancy, Regita adopted healthier dietary habits, incorporating four meals a day with green vegetables, legumes, and meat whenever possible. Although financial constraints sometimes limited her food choices, she continued to apply what she learned.

She exclusively breastfed her son for the first six months and then introduced soft complementary foods such as homemade porridge mixed with green vegetables. Today, her child is healthy and active and is regularly taken to the nearby health facility for check-ups and vaccinations.

Through seeds provided by the project, Regita and her family started a kitchen garden, growing winter vegetables, such as leafy greens, coriander, radish, cabbage, and cauliflower. Realizing the benefits, they expanded to crops such as beans, okra, bitter gourd, pumpkin, and brinjal. This not only improved household dietary diversity but also reduced food expenses.

She also learned the nutritional value of local foods that were once stigmatized as *"food for the poor,"* like millet, githa (*Dioscorea*), alucha fruits (*plum*), niuro (*Fiddlehead Fern*), and wild greens. ***"We now understand these are good and nutritious foods, and we use them,"*** she shared proudly.

Regita now practices proper household hygiene, including menstrual hygiene, kitchen cleanliness, safe water storage, and environmental sanitation. ***"We clean regularly, but now we pay special attention to hygiene, especially during menstruation. We filter our drinking water and keep the surroundings clean."*** Her participation has encouraged positive changes at home and within the community, contributing to a healthier environment for mothers, children, and families.

Regita's journey reflects how the PLA-LANN+ approach empowers women to take charge of their family's nutrition and well-being. With knowledge, confidence, and community support, she transformed her household's dietary habits, improved her child's health outcomes, and created a healthier living environment. Her story highlights the potential of participatory learning to break cycles of malnutrition and pave the way for sustained behaviour change among vulnerable communities.

3.2.2 Small Changes, Big Impact: Transforming Community with Hygiene Session

Mrs. Kailimaya Syangtan, a 61-year-old resident of Namtar, Ward-9 of Kailash RM in Makawanpur District, lives with her husband and granddaughter. Her family belongs to a marginalized farming community and owns only one kattha of unregistered land, which produces food sufficient for barely two months in a year. To sustain their livelihood, they run a small tea shop in the local market.

Before participating in the project, Kailimaya had minimal knowledge about hygiene and sanitation practices. She recalls, ***"I often served tea and handled food without properly washing my hands, because I did not know it was important."*** She also said that utensils were left wet and scattered in the kitchen, posing a high risk of contamination.

Her journey toward change began when the WASH facilitator from RRN/WHH visited her home and informed her about the hygiene session being conducted in her community. ***"I knew nothing about hygiene before. When the facilitator explained why it matters, I thought it was important for my family and my customers,"*** she shared. Motivated by the relevance to her daily life, she decided to attend the sessions regularly. The six-month hygiene programme adopted a participatory approach, engaging 21 women (one from each household) through interactive learning tools such as role plays, visual demonstrations, games, and discussions. The sessions covered essential topics, including critical times for handwashing (after defecation, after handling child/adult feces or cleaning a child's bottom, after cleaning the environment before preparing food, before serving food, and before eating food), proper toilet use, menstrual hygiene, safe water handling, safe food practices, and maintaining

household and environmental cleanliness. A Sanitation and Hygiene Action Committee was also formed to promote and monitor improved hygiene behaviours within the community.

Among the lessons, understanding the critical times for handwashing made a substantial impact on her daily practices, particularly after defecation, after handling child/adult feces, after cleaning surroundings, before preparing food, and before serving or eating food. She explained, ***"After the training, I realised how important it is to wash hands at the right times. Now, I wash my hands before serving tea, and I also teach my family to do the same."*** She further learned about utensil hygiene, especially the risk of contamination when utensils remain wet. Inspired by the group discussions, she decided to act immediately: ***"I made a wooden rack by spending NRs. 3000 from my savings, to keep the utensils clean and dry. It was my own idea from what I learned in the session."*** Today, all utensils in her home and tea shop are adequately cleaned and dried, improving hygiene and customer trust.

Kailimaya with her newly constructed wooden rack

Kailimaya's commitment to positive change extended beyond her household. She began encouraging neighbours to adopt better hygiene practices, gradually becoming one of the campaign's leading participants. Alongside the WASH facilitators and the Sanitation and Hygiene Action Committee, she helped guide a community cleanliness campaign to improve waste management, safe water practices, toilet use, and environmental hygiene. With pride, she expressed, ***"I led the community to keep our surroundings clean. Now everyone can see the difference, before and after, because of our efforts."***

Kailimaya showing her newly constructed toilet

The transformation in Kailimaya's life is clearly visible. Earlier, there was little awareness of hygiene-related risks, the household environment was unclean, and she played a passive role in community affairs. Today, she confidently follows safe food handling practices, maintains proper sanitation at home and in her tea shop, and influences others to do the same. ***"People now trust the way I serve food and tea. I am happy that I can keep my family and customers healthy,"*** she shared with a smile.

Kailimaya's story demonstrates that simple knowledge, when combined with confidence and community support, can create powerful and lasting behaviour change. By transforming her habits and becoming a role model, she has helped move her community toward healthier, safer, and more dignified living conditions, one clean hand at a time.

3.2.3 Transforming Sanitation Practices through CLTS: From Open Defecation to Healthy Living

Pratap Singh Thing, a 38-year-old resident of Kuwapani Birta, Ward-9, Kailash RM, lives in a joint family of eight members, including his wife, two sons, two daughters, and his parents. The family owns only one kattha of infertile land, producing enough food to feed them for just one month each year. The family's livelihood depends entirely on Pratap and his wife, who work as daily wage laborers, while the other members are dependent. Despite these hardships, all children remain enrolled in school, reflecting the family's commitment to education even under economic strain.

Before participating in the WASH project, Pratap's family had no access to proper sanitation. ***"I used to defecate on the nearby steep land, and my family did the same,"*** he recalls without hesitation. They lacked basic awareness about hygiene and sanitation, and this practice posed significant health risks to all family members, particularly children and elders.

Pratap first learned about the CLTS meetings through his neighbor, who was already participating in the sessions facilitated by RRN/WHH. Recognizing the relevance of hygiene and sanitation messages for a healthier life, Pratap and his wife decided to attend the monthly meetings. ***"I was informed to participate through my neighbor. The messages taught in the sessions were useful to live a healthy life, so I felt the need to attend,"*** he shared.

The meetings introduced him to the importance of safe sanitation, proper toilet use, and hygiene practices. Through participatory discussions, he understood how open defecation affects health and the environment and learned practical ways to improve household sanitation. Inspired, Pratap decided to take action. He mobilized his family and constructed a household toilet, investing 15,000 rupees earned through wage labour.

The new toilet has transformed their daily lives. All family members now use it consistently. They keep a separate pair of slippers at the entrance, maintain a bucket of water inside, and have installed a handwashing station with soap nearby. Personal hygiene and household cleanliness are now routine practices. ***"I have shared what I learned with my family and started the toilet construction, which is now complete,"*** Pratap said proudly.

Pratap with his newly constructed toilet

His commitment also inspired his neighbors. Hari Bahadur Thing, living next door, was motivated by Pratap's actions and built a stone-masonry toilet, which he now uses regularly. Seeing these changes, other community members began adopting similar practices, contributing to the success of the Total Sanitation Campaign in Kuwapani Birta.

Pratap continued attending the monthly meetings, sharing his experiences and learnings with fellow participants. His active participation and visible efforts in improving sanitation earned him recognition as a role model within the community. "***I***

learned the importance of toilets for maintaining sanitation and hygiene in the family," he said. ***"Now everyone in my family knows why hygiene matters, and we are healthier because of it."***

From a household practicing open defecation with limited awareness of hygiene, Pratap Singh Thing's journey represents the power of knowledge, motivation, and community-led action. His proactive engagement with the CLTS programme improved his family's health and well-being. It also inspired others in the community to embrace safe sanitation practices, creating a ripple effect of positive change.

4. Challenges

During the implementation, the following challenges were observed, reflecting both contextual and systemic factors:

4.1 Resource Constraints: Households with limited income faced challenges in the timely completion of CLTS-triggered latrine construction, hygiene facilities, and nutrition interventions.

4.2 Geographic and Environmental Constraints: The hilly and scattered settlement patterns made mobilization, follow-up, and access to markets for sanitation materials and hygiene products challenging. Seasonal weather, particularly during the rainy season, slowed toilet construction and limited water supply reliability.

4.3 Limited Technical Capacity: Municipalities and communities lacked sufficient technical knowledge to implement climate-resilient WASH solutions, operate complex infrastructure, and maintain water systems sustainably.

4.4 Infrastructure vs. Behaviour Change Focus: Local government officials often prioritized infrastructure development over behaviour change interventions. This challenges long-term system strengthening, as a focus on latrine construction or water supply infrastructure alone cannot ensure sustained use or maintenance.

4.5 High Turnover of Officials and Staff: Frequent changes among RM staff and officials required repeated orientations that present concerns about continuity and institutional memory.**4.6 Limited Initial Awareness and Data Gaps:** Initially, there was limited information on safe WASH practices, household sanitation status, and the linkages between health and nutrition. This made it challenging to build ownership and motivation for behaviour change, requiring repeated orientation sessions, participatory discussions, and practical demonstrations.

4.7 Socio-cultural Barriers: Traditional beliefs, gender roles, and household responsibilities limited women's participation in hygiene and nutrition sessions.

4.8 Behavioral Slippage: Despite progress in ODF status, some households risked reverting to open defecation or unsafe hygiene practices without continuous reinforcement, demonstrating the need for ongoing monitoring and engagement.

5. Key Learnings

The implementation of integrated WASH system strengthening, CLTS, hygiene sessions, and PLA LANN+ in Raksirang and Kailash RM demonstrates that sustainable behaviour change requires more than infrastructure. It depends on good governance, community ownership, intersectoral coordination, and continuous capacity building.

5.1 Systems thinking is essential for sustainability: The Building Block and participatory approaches helped local governments and communities understand their position within the broader WASH system, shifting perspectives towards a sustainable system-strengthening approach. However, this transition required repeated orientation sessions due to initial gaps in WASH-related data, limited technical understanding, and frequent turnover among government officials. These experiences highlighted the importance of institutional memory, standardized tools, and formal integration of WASH processes into government systems

5.2 Local government leadership and ownership are critical: While both the RM showed strong interest, WASH planning was often overshadowed by a preference for visible infrastructure over sustainability and service quality. Where municipal leadership actively engaged, through M/WASHCCs, ward coordination, and budget co-financing, outcomes were more sustainable. Conversely, limited technical and financial capacity at the municipal level constrained timely action on identified gaps.

5.3 Community-led approaches drive behaviour change when combined with consistent follow-up: CLTS, hygiene sessions, and PLA LANN+ proved effective because they relied on participatory learning, peer influence, and repeated reinforcement. Communities demonstrated that collective action and willpower can overcome long-standing norms, as reflected in increased toilet construction, reduced slippage, improved hygiene practices, and better nutrition behaviours. However, scattered settlements, low literacy levels, and seasonal challenges (such as monsoon overlaps during toilet construction) required adaptive implementation strategies.

5.4 Women's leadership is transformative and requires structural support: Women emerged as powerful change agents in sanitation, hygiene, and nutrition practices. Yet, domestic workloads, limited access to hygiene materials (particularly menstrual hygiene supplies), and social norms constrained their sustained engagement. The project showed that when women are supported through women's groups, FCHVs, and leadership opportunities, household- and community-level outcomes improve significantly.

5.5 Climate resilience and intersectoral coordination: While progress was made in water supply and sanitation, rural municipalities still lack sufficient technical capacity to design and implement climate-resilient WASH systems. Climate resilience in WASH requires stronger collaboration across agriculture, forestry, health, and disaster risk reduction sectors.

6. Way Forward and Recommendations

6.1 Institutionalize WASH System Strengthening Approaches: Integrate system-strengthening and participatory assessment tools into federal, provincial, and local government policies and annual planning cycles to ensure continuity beyond project timelines. Regular review and updating of WASH data at household, community, and institutional levels should be mandated to support evidence-based planning.

6.2 Strengthen Local Government Capacity and Continuity: Build the technical and managerial capacity of RM engineers, WASH focal persons, health staff, and DRR officials through targeted training on climate-resilient WASH, operation and maintenance, and system monitoring. Clear handover and documentation mechanisms should be established to address frequent staff turnover.

6.3 Embed Participatory Accountability in Planning and Budgeting: Integrate community-led review processes and agreed action plans into ward- and municipal-level annual plans and budgets. Ward offices and RM WASH Units should take ownership of follow-up actions to strengthen accountability and ensure sustained service improvement.

6.3 Community-Led Monitoring: Support and empower WASH committees, mothers' groups, and sanitation champions to monitor household and community practices, ensuring adherence to safe hygiene, toilet use, and nutrition practices.

6.4 Gender and Social Inclusion in WASH and Nutrition: Continued support should be provided to women's groups, FCHVs, and marginalized populations, ensuring that women, persons with disabilities, and remote households remain central to decision-making and implementation.

6.5 Institutionalize Water Quality Assurance Mechanisms: Establish routine water quality testing and reporting systems led by the RM Health and WASH Units, with defined responsibilities for Water and Sanitation User Committees. Local policies should mandate periodic testing across all water supply schemes to ensure safe drinking water**.**

6.6 Multi-sectoral Coordination: Strengthen collaboration between health, WASH, nutrition, agriculture, and disaster risk reduction sectors for integrated, sustainable, and climate-resilient community interventions.

6.7 Promote Knowledge Sharing and Scale-Up of Good Practices: Document successful community-led models, behaviour change outcomes, and system-strengthening practices. Facilitate peer learning and experience-sharing among rural municipalities to support replication and scaling of effective WASH and nutrition interventions**.**

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