WASH SDG Programme

USHHD

WASH SDG - Nepal Four Cities Sub-Programme

Sanitation and hygiene behaviours in urban households, Nepal

Rapid formative research on access to toilets and use, faecal sludge management and solid waste management

November 2021

SNV

WASH SDG programme

www.snv.org

About SNV

SNV is a not-for-profit international development organisation that makes a lasting difference in the lives of people living in poverty by helping them raise incomes and access basic services. We focus on three sectors and have a long-term, local presence in over 25 countries in Asia, Africa, and Latin America. Our team of more than 1,300 staff is the backbone of SNV.

For more information, visit: www.snv.org

About USHHD

SNV's Urban Sanitation and Hygiene for Health and Development (USHHD) approach builds capacities for city-wide sustainable sanitation services for all. It is being applied across 20 cities in five countries; each with a population of 20,000 to 1.2 million. In applying USHHD, we work with city authorities, utilities, private sector, civil society and rights holder groups to realise financially viable and safely managed sanitation services that leave no-one behind: in households, schools, health care facilities and public places

For more information, visit: https://snv.org/product/urban-sanitation-hygiene-health-and-development

Cite this document as: Newar, N. and Gurung H.S., *Sanitation behaviours in urban households, Nepal,* Kathmandu, SNV Nepal, 2020.

Acknowledgements

SNV Nepal would like to thank the following people, without whom this study would not have been possible.

Formative research led by Harishova Gurung, BCC & GESI Advisor for WASH, SNV Nepal, supported by Gian Melloni, Krishna Hari GC, Lek Bikram Shah, Mun Khadka, SNV Nepal. Report edited by Sunetra Lala, SNV Nepal and Joseph Thompson and Emmeline Henderson, Independent Consultants

Cover photo

Photo by SNV Nepal. Focus Group Discussion conducted by SNV researcher with female participants in Khadak Municipality, Saptari district

Contact information

Sunetra Lala
WASH Sector Leader, SNV in Nepal
slala@snv.org

Contents

Abbreviations

BCC	Behavioural Change Communication
COVID-19	Coronavirus Disease
CSO	Civil Society Organisation
DWSS	Department of Water Supply and Sewerage
FCHV	Female Community Health Worker
FGD	Focus Group Discussion
FSM	Faecal Sludge Management
GESI	Gender Equity and Social Inclusion
GoN	Government of Nepal
IDI	In-Depth Interview
KII	Key Informant Interview
MoWS	Ministry of Water Supply
NGO	Non-Governmental Organisation
NPR	Nepalese Rupee
ODF	Open Defecation Free
SaniFOAM	Sanitation – Focus, Opportunity, Ability, Motivation
SDG	Sustainable Development Goal
SNV	Netherlands Development Organisation
SWM	Solid Waste Management
USHHD	Urban Sanitation and Hygiene for Health and Development
WAI	WASH Alliance International
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

Executive summary

SNV in Nepal works closely with the Government of Nepal (GoN) through the Ministry of Water Supply (MoWS) and its Department of Water Supply and Sewerage (DWSS). SNV does so at different levels of the government – federal, provincial, district and municipality ward. Since 2017, SNV in Nepal has been implementing the Water Sanitation and Hygiene Sustainable Development Goal (WASH SDG) Programme in four cities of Nepal: Birendranagar, Chandannath, Khadak and Nepalgunj.

Implemented across Africa and Asia, the programme gives specific attention to gender and social inclusion, and climate vulnerability and resilience in approaching its three objectives: 1) increasing demand for improved WASH facilities and practices, 2) improving the quality-of-service provision, and 3) improving governance of the sector. SNV is active in five of the seven WASH SDG countries of Bangladesh, Nepal, Indonesia, Tanzania, and Zambia.

SNV's core contribution to the programme is applying its urban sanitation approach – Urban Sanitation and Hygiene for Health and Development (USHHD) – which is designed to address the entire sanitation chain and realise inclusive, sustainable, and scalable city-wide sanitation services.

SNV in Nepal conducted a rapid formative study between August and September 2020 to understand the enablers and barriers for three sanitation behaviours: access to toilets and use, faecal sludge management (FSM) and solid waste management (SWM). The study was conducted in the three cities where the USHHD programme is being implemented: Birendranagar (Surkhet district), Nepalgunj (Banke district) and Khadak (Saptari district).

The study used a qualitative research approach known as the Sanitation – Focus, Opportunity, Ability, Motivation (SaniFOAM) framework to understand behavioural determinants and explore sanitation behaviours impacting cities.

The findings will help develop a Behavioural Change Communication (BCC) strategy to support the WASH interventions in these three cities.

The target groups for this research were urban households in municipal wards. The research specifically focused on poor and vulnerable groups such as marginalised ethnic groups, Dalits, Muslims, low-income families, residents of informal settlements, and single women.

Findings

Access to toilets and use: There was improved access to sanitation after building toilets, but there were concerns over their maintenance. Most toilets were not designed to accommodate the special needs of people with disabilities (temporary or permanent) and elderly family members. The poorest households could not afford the cost of building toilets at home and felt they were too expensive. Their alternative was to defecate in the open.

Faecal Sludge Management: Most respondents stated that they did not empty toilet pits on a schedule and the study found that this was one of the main issues around maintenance. Instead, they waited for pits to overflow before cleaning. Many still used local, traditional pit emptiers who did not follow safe cleaning methods. While professional FSM services were

available, respondents said they were expensive, and little information was available about them.

There were diverse perceptions and opinions about users' willingness to pay, which in turn seemed to be influenced by the amount of information at their disposal. Those who had used professional FSM services found it was safer and better than doing the job themselves or hiring the local, traditional pit emptiers.

Solid Waste Management: The study found several differences in household SWM. Most households in downtown areas did not segregate waste. However, in semi-urban areas, households did segregate organic waste and used it as compost on their farms. One of the key issues raised by participants was river pollution caused by households disposing of waste in nearby rivers.

In semi-urban areas, waste collection services were not as frequent as in downtown and main market areas where the waste quantities were large. Respondents said the lack of adequate public waste bins was why they unsafely disposed of garbage in rivers, forests, and secluded roads. Participants in all municipalities said they were willing to pay for the services if they were good and the charges were affordable. They wanted regular collection and the provision of more public waste bins.

Gender roles in sanitation: The research examined gender roles in household sanitation and hygiene practices. The study found that women handled most of these household responsibilities in all three cities, even though most participants felt both men and women should share equal responsibility. Therefore, it is evident that improved sanitation, toilets, FSM, and SWM alone does not change gender roles.

COVID-19: The study also looked at the impact of COVID-19 and found apprehensions around toilet pits or septic tanks filling up faster as more people stayed home during the lockdowns. SWM and FSM services were affected as people were reluctant to interact with service providers.

Conclusions

Access to toilets and use: Respondents noted that having a toilet at home added to their sense of self-respect, dignity, and safety. However, many thought regular toilets and those adapted for people with disabilities were expensive. They lacked the knowledge to build accessible toilets, and there was little awareness about toilet maintenance.

Faecal Sludge Management: Respondents who had used professional pit emptying services realised their worth in keeping toilets clean and functional. They also understood that cleaning pits on time reduced the costs involved and prevented foul odours. However, others who had not used these services knew little about pit maintenance and safe FSM practices. They felt large pits were better since they took longer to fill and would need cleaning at less frequent intervals, thereby keeping costs low. Instead, this was expensive as desludging large pits after long intervals meant the volume of faecal sludge was large, and the solidified sludge at the bottom of the pit was hard to remove. There was a lack of safe sites for disposing of faecal sludge.

Solid Waste Management: Respondents said proper SWM kept their households and neighbourhoods clean and sanitary and reduced the risk of diseases. Their health expenses were low. However, some respondents did not understand segregating waste and assigned a

low priority to managing solid waste. They also said municipal waste collectors did not segregate waste, collection was irregular, and there was a lack of designated disposal sites.

Recommendations

The recommendations identified objectives and key messages for BCC interventions for all three sanitation behaviours.

- Households require more information about the dimensions of disability. All household members should be involved in the decision to build toilets, so they meet the requirements of the elderly and people with disabilities. More information is needed about constructing accessible toilets, with the cost of construction prioritised among other demands. The responsibility of cleaning toilets should be shared between both male and female members of the households.
- For FSM, the study found people need to be better informed about the need for regular desludging to keep costs down and toilets functional. They also require more information about the availability, costs, and reliability of mechanical pit emptiers. The process of getting these services from municipalities requires simplification.
- For SWM, households should be informed and encouraged to segregate solid waste and recycle household waste. They also require information on the safe disposal of household solid waste.

1 Introduction

1.1 Background of the study

SNV leads the WASH SDG Programme (2017-2022) in four cities of Nepal, with a focus on urban sanitation and hygiene. These four cities belong to three distinct ecological zones: the mountains (Chandannath in Jumla district), the hills (Birendranagar in Surkhet), and the plain or *terai* (Nepalgunj in Banke and Khadak in Saptari). Their population sizes vary considerably, from 21,000 in Chandannath to 165,000 in Nepalgunj. These cities provide a cross-section of urban typologies.

The WASH SDG Programme is a consortium programme financed by the Netherlands' Ministry of Foreign Affairs. Its members - SNV, WASH Alliance International (WAI) and Plan Netherlands - aim to increase access to and use of safe drinking water for at least 450,000 people and improve access to and use of sanitation facilities and hygiene behaviours for at least 2 million people. SNV is active in five of the seven WASH SDG countries: Bangladesh, Nepal, Indonesia, Tanzania, and Zambia.

At the core of SNV's contributions to the consortium programme is applying its urban sanitation approach – Urban Sanitation and Hygiene for Health and Development (USHHD). USHHD is designed to address the entire sanitation chain and realise inclusive, sustainable, and scalable city-wide sanitation services. The key USHHD components are behaviour change and awareness, sanitation service delivery, sanitation governance and financing, and treatment and disposal, with gender equity and social inclusion (GESI) as a cross-cutting theme.

This approach is particularly relevant in Nepal, where open defecation has been formally eradicated (the country was declared open-defecation free in 2019). However, urban settings remain spaces of inequality, with significant differences in sanitation access and use in different wealth quintiles.

1.2 Objectives of the study

The qualitative research focused on the three key sanitation behaviours: access to toilets and use, faecal sludge management (FSM), and solid waste management (SWM). The research aimed to understand these behaviours, as they directly impact sanitation in the urban households of Nepal.

The study analyses the determinants that influence behaviours and mainly explores the key barriers and motivators of behaviours influencing people's decisions and actions. The findings from the study will support the design of an evidence-based Behavioural Change Communication (BCC) strategy to support practical and strategic WASH interventions in the USHHD-supported cities. It can also help develop and improve ongoing programmes. At the same time, it is important to note that its findings cannot be considered statistically representative. Therefore, this report does not attempt to define findings or conclusions in quantitative terms.

SNV wanted to achieve a deeper understanding of the three selected behaviours in the local urban contexts. SNV had previously conducted research and developed knowledge on other WASH behaviours such as handwashing and menstrual hygiene practices.

The research covered the three cities of Birendranagar, Surkhet district, Nepalgunj, Banke district and Khadak, Saptari district, where SNV is implementing the WASH SDG USHHD programme. The research, however, did not include Chandannath municipality, Jumla district, where SNV is also implementing the same programme. Here, formative research on FSM was carried out in December 2016. It was assumed that the findings about toilet use and SWM from Birendranagar would also apply to Chandannath due to geographic proximity after validation and confirmation with local stakeholders.

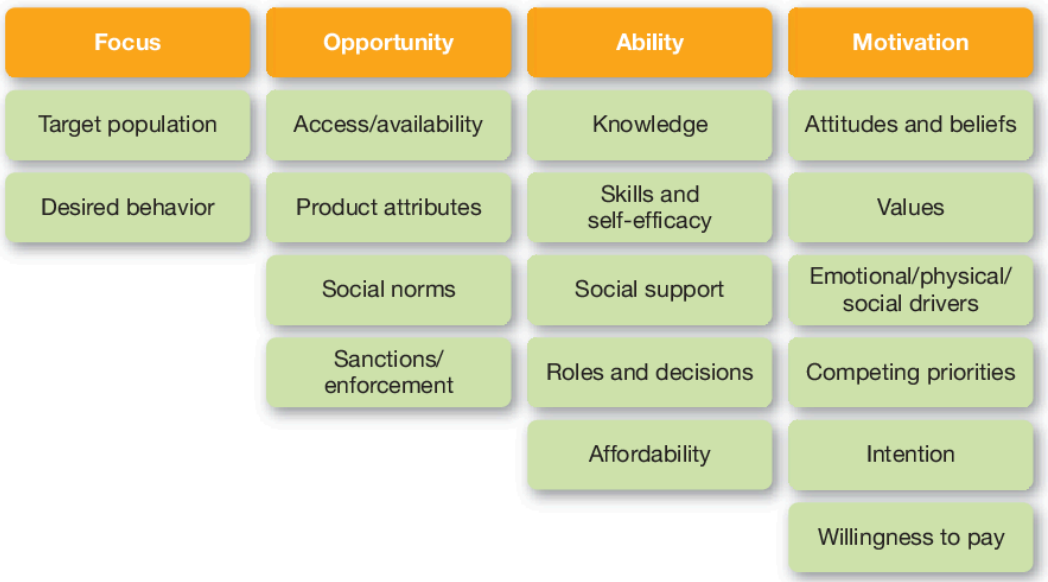
Before implementing the WASH SDG USHHD programme, SNV conducted a baseline study in 2018 providing quantitative qualitative data on the local urban contexts. For this research, SNV used a qualitative approach to understand the barriers and motivators related to WASH practices.

1.3 Analytical framework and methodology

1.3.1 Analytical framework

This qualitative research uses the SaniFOAM (Sanitation - Focus, Opportunity, Ability, Motivation) framework (World Bank Group, 2019) to understand the behavioural determinants and explore sanitation behaviours in the target groups. The framework provided a guideline to structure questions for the research and was applied to analyse the findings. Figure 1 below provides a summary of the methodology.

FIGURE 1: SANIFOAM FRAMEWORK



Focus

The first step in the SaniFOAM framework is to define the desired sanitation behaviours and the target population. This research considered three WASH behaviours, including access to toilets and use, FSM, and SWM. The focus population were households in the three urban municipalities, focusing on vulnerable households such as Dalit, Muslim, minority groups, marginalised ethnic groups, residents of informal settlements and single women.

Behavioural determinants

Opportunity, ability, and motivation determine sanitation behaviours.

The determinants under the *Opportunity* category focus on whether a person has the chance to perform the desired behaviour. Under this category, there are four key determinants: access and availability, product attributes, social norms, and sanctions/enforcements.

Under the *Ability* category, five determinants influence an individual by identifying one's capacity: knowledge, skills and self-efficacy, social support, roles and decisions, and affordability.

The *Motivation* category helps to understand the factors that motivate a person to change or improve their behaviours. These determinants are attitudes and beliefs, values, emotional/physical/social drivers, competing priorities, intention, and willingness to pay.

The research questions are available in Annexure 1.

1.3.2 Sampling

Wards among the most impoverished, with low access to sanitation facilities in the three municipalities, were purposefully selected for the sample. The list of locations and research participants is available in Annexure 2.

The study also purposefully selected groups of participants based on gender, age, literacy, and socio-economic backgrounds to include diverse perspectives and dimensions.

People from diverse backgrounds were interviewed: homemakers, farmers, slum dwellers, daily wage labourers, entrepreneurs, development practitioners, educators, students, and municipality and government officials.

SNV consulted local stakeholders (development partners, government agencies and local community-based groups) to discuss the proposed research questions and sampling.

1.3.3 Interview methods

The study used an interview-based methodology in which a total of 145 people participated from 70 municipality wards. There were both one-on-one interviews (in-depth interviews and key-informant interviews) and focus group discussions.

Photo: In-depth Interview with participant in Birendranagar.

One-on-one individual interviews

In-Depth Interviews (IDI): IDIs helped explore local sanitation practices and behaviours issues in-depth. Seventy-five participants from 44 wards, mostly household heads or those responsible for day-to-day household management, were interviewed. They were interviewed on each of the sanitation behaviours in three separate IDIs.

Key Informant Interview (KII): KIIs helped collect information from diverse individuals who had good knowledge about the local communities, sanitation behaviours and determinants. KIIs were held in 14 wards with local stakeholders covering municipality officials, educators, development practitioners, youth leaders, community leaders and entrepreneurs. For the KIIs, all three sanitation behaviours were discussed in one KII with each respondent.

Group discussions

Focus Group Discussions (FGDs): FGDs were held with a selected group of individuals from similar backgrounds and experiences to understand their attitudes, beliefs, opinions, and ideas. Separate female and male groups FGDs were held in 12 wards. All three WASH behaviours were discussed in every FGD.

1.3.4 Ethics

Before the interviews, the research teams ensured that the participants clearly understood the study's objectives. They also briefed the participants about the structure of the interviews. The team obtained written consent from the participants and assured confidentiality.

1.3.5 Challenges

Data collection for the research took place in the initial days of the coronavirus (COVID-19) pandemic. The research team took appropriate precautions, such as physical distancing and the use of face masks. They provided safety kits to the participants and encouraged them to follow safety measures during interviews. When, in certain situations, people from the neighbourhood (other than the research participants) tried to come close to the team during the interviews, the team paused the interviews to take precautionary measures and convinced bystanders to maintain physical distance and wear masks.

2 Findings: Access to toilets and use

Throughout this section, findings are categorised by thematic sanitation focus, with an emphasis on opportunity, ability, and motivation. Specific municipalities are mentioned only when they present unique features.

The key highlights for the behaviours related to access to toilets and use were:

- Access to toilets depended on emptying and maintenance.
- Most of the toilets were not user-friendly, especially for people with disabilities, children, and the elderly.
- While some traditional social norms had limited impact, gender roles were strongly reinforced.
- There was a knowledge-behaviour gap on toilet maintenance.
- Affordability was an issue for the poorest households, who could not afford to build toilets.
- Dignity, respect, values, and security were strong motivators.

Barriers:

- There were perceptions that user-friendly toilets were expensive.
- People lacked knowledge about technical options for user-friendly toilets.
- Toilet maintenance was accorded low priority.
- The views of household members with physical disabilities were not taken into consideration while building toilets.

Motivators:

- Having a toilet at home promoted dignity and self-respect.
- Compared to open defecation, toilets at home provided physical safety and prevented injuries.

2.1 Opportunity determinants

2.1.1 Access to a toilet facility

Photo: In-depth Interview with a female participant in Birendranagar.

Many participants stated sanitation and hygiene conditions in their households improved after they built their toilets. They attributed this to the decade-long national open defecation free (ODF) movement led by the GoN across all 77 districts.

There was, however, a challenge for the poorest households who could not build their own toilets. Participants noted most of their toilets were not user-friendly for people with disabilities and the elderly. In such cases, relatives helped by providing stools or other means.

Many participants said there was no need to discuss toilets with or involve household members with disabilities during construction. They

also felt that building accessible toilets would incur high costs. There seemed to be a lack of awareness of the dimensions of disability. They did not know about the technical options for building accessible toilets for people with disabilities.

2.1.2 Social norms

Participants believed that traditional norms did not restrict access to toilets. All male and female members in the household shared the same toilets. Many participants said that norms barring women from using toilets during menstruation no longer existed. Most participants stated that in the past, there was a practice where the daughter-in-law could not use the same toilet as her father- or brother-in-law in some wards of the Terai districts. However, it had stopped being a significant barrier.

In this modern day and age, this old social norm is not practical at all. In an urban municipality ward like ours, we cannot afford to build separate toilets in the same house. (Male student, Khadak)

While this social norm of sharing toilets may not be a major barrier, household cleaning responsibility norms remained mostly unchanged. Gender roles were clearly defined, and women continued to bear the responsibility for flushing and cleaning toilets. In large households, the lack of shared responsibilities was a major barrier to having a functional toilet. Large households with a high frequency of use could easily make the toilets dirty if all users did not help in cleaning.

The main reason why the toilets are not clean is that when the household members use toilets, they never clean immediately after use. The toilets would be a lot cleaner if every toilet user was responsible. (Female resident, informal settlement[1], Birendranagar)

Participants said dirty toilets were one of the main reasons some people still preferred to defecate in the open. This also influenced households who had not yet built toilets, as they noticed that even in households with toilets, people sometimes defecated in the open.

Despite the ODF declaration in our ward, people are still defecating in the open, although they have toilets at home. (Male respondent, Ward Chair, Nepalgunj)

[1] In Birendranagar, there are informal settlements where most residents are landless and impoverished. The sanitation and hygiene conditions are also very poor.

2.2 Ability determinants

2.2.1 Knowledge about sanitary practices

Many participants believed that having and using one's own toilet was the key to household sanitation. They were aware of how to flush and clean toilets after use, and most said that every user should do so after they use it. However, most users did not clean after use, even in households with cleaning agents and materials in the toilets (buckets filled with water, cleaning products and brushes).

People find the unclean toilets disgusting as they have a bad odour and look very unsanitary. Yet, they do not bother to clean. (Female farmer, Khadak)

2.2.2 Knowledge-behaviour gap

The failure to translate knowledge into behaviour was a clear gap.

People are aware of how to keep toilets clean, but they are usually careless. For example, they don't use separate clean slippers and instead, go inside toilets with shoes filled with dirt and wet mud. They don't even clean the dirt they were responsible for. (Female farmer, Birendranagar)

Many participants also stated that access to clean toilets has helped reduce diseases, especially diarrhoea amongst children. Most of them felt that this had helped to reduce their household medical expenses.

Some participants also linked neglecting cleanliness to living in areas where people have easy access to rivers and farms and defecate in the open. Poor hygiene in household toilets made it especially inconvenient for the elderly, who were unwilling to endure the stench of dirty toilets. Many participants said the elderly were reluctant to use toilets for this reason.

It is difficult to convince senior citizens not to defecate outside. But even when we try to educate them about causing sanitary risks, they retort by saying that they are not used to defecating in toilets (mostly used to defecate in riverside or forest), and they find them congested. (Ward official, Nepalgunj)

2.2.3 Affordability issues

The participants believed that cleaning toilets was affordable, unlike emptying pits (discussed in the next section on FSM).

It takes little effort to just wash the urine from the toilet pan with a bucket of water. They always make excuses. It is all about people's attitude and their bad habits. (Male, daily wage labourer, Birendranagar)

Building toilets could be quite difficult for the poorest households. New toilets usually cost between Rs 20,000 (US$ 200) to Rs 30,000 (US$ 300). Participants stated this was too expensive for them. Their spending priorities were children's welfare, buying food, and other household essentials. Often, having a toilet came at the bottom of the priority list, and they

only showed an interest in building them if they received financial support. In addition, they also mentioned worries about toilet maintenance, particularly about removing faecal sludge.

Most of the households who do not own toilets are daily wage workers whose daily income are barely enough to afford food. The toilet maintenance is not just about cleaning the toilet pans but also clearing out the sludge from the pit. (Daily wage labourer, Nepalgunj)

2.3 Motivation determinants

2.3.1 Value

Many participants believed that since the number of toilets had increased, especially after the ODF movement, their neighbourhood had earned more respect from visitors. They believed their community had modernised. To ensure that their locality's reputation remained intact, people allowed their neighbours, who did not have their own toilets, to use theirs.

Lots of neighbours in my ward have let me use their toilets to prevent me from defecating in the river or the open spaces. In return, I share the responsibility by providing some cash to buy cleaning materials. (Female respondent, small shop owner, Khadak)

Participants were also asked to compare their own wards' sanitation and hygienic conditions with neighbouring wards during interviews. Many said their wards were more sanitary, and cleaner compared to others. Their responses showed a sense of pride, one of the driving forces for building and maintaining toilets. In situations where most households had toilets, the local community encouraged the poorer households to build their own toilets too.

The local municipality has also encouraged me to build my own toilet. I am planning to make my toilet in the next six months, and I have already started saving money to build it. (Small-scale entrepreneur, Khadak)

2.3.2 Social, emotional, and physical drivers

Many households mentioned health benefits as one of the key motivating factors for having toilets and keeping them clean. In all three municipalities covered in this study, most participants stated that having their own toilets helped prevent diarrhoea and other diseases. They reported a higher health risk when children defecated in forests or riversides.

Many people are motivated by the fact that the toilets have reduced medical expenses and have helped to prevent typhoid and other hygiene-related diseases. (Female respondent, government health inspector, Nepalgunj)

Another main motivator was the sense of dignity when using one's own toilet in privacy, without facing humiliation while heading to the river or farms for open defecation. Participants also perceived having toilets as a sign of a 'modern' or 'progressive' community where nobody practised open defecation.

Our visitors often looked down on our neighbourhood when there was a lot of open defecation. Now they are full of praise, and we feel that our community has become modernised. (Female respondent, daily wage labourer, Khadak)

The safety and security of women were also listed among the benefits of toilets. Participants shared that women were often subject to harassment and were sometimes at risk of sexual assault when they went out for defecation.

It was always very frightening, especially at night, and now both women and children are safe due to our toilets. (Female respondent, farmer, and squatter settler, Birendranagar)

The risk of snake bites or attacks by animals at night in the forest when households did not have toilets was also mentioned, alongside the risk of physical injuries while going out in the dark.

3 Findings: Faecal sludge management

Key highlights:

- Issues such as affordability, poor knowledge, and lack of skills for safe FSM were common barriers to maintaining and emptying toilet pits.
- The lack of proper information and knowledge on FSM were other barriers.
- The willingness to pay for professional FSM services depended on knowledge about pit emptying.

Barriers:

- Households lacked technical knowledge about pit maintenance and safe FSM practices.
- Many households believed that large pits did not fill up rapidly and, therefore, seldom needed cleaning.
- In some areas, there were no service providers for desludging.
- Many found the costs for desludging services unaffordable.
- There was also a lack of appropriate sites for the disposal of faecal sludge.

Motivators:

- Regular pit maintenance helped to keep toilets functional and reduced stress while using the toilet.
- Timely desludging reduced costs for desludging services.
- Desludging regularly prevented odour and social shame.

3.1 Opportunity determinants

3.1.1 Product attributes

For household toilet faecal sludge containment, several households had simple pits, offset pits or cesspits/holding tanks. Few households had proper septic tanks. Septic tanks were more common in newly constructed buildings.

Many participants said that they had never emptied their toilet pits. In Birendranagar and Chandannath, participants said their containment units were not full even after 10-15 years of use. They felt this was because sludge was absorbed in the soil, as most pits were unlined. However, it needs to be highlighted here that this perception may not reflect reality and will require further research.

In Birendranagar and Chandannath, several pits were quite old and traditionally built. These were also connected with biogas stations to generate cooking fuel.

Our toilet pit has never filled even after 15 years, as the faeces are absorbed underground. Many households also connected toilets with their biogas stations, and we did not find it necessary to clean. (Female farmer, Birendranagar)

In Khadak municipality, located in the Terai, most of the participants had septic tanks that filled up in less than a year. Some participants with large families (between 15-20 members) said their septic tanks filled up in a few months. Despite this, only a few had used professional desludging services to empty their septic tanks.

Many of them do not find it necessary to empty it until their septic tanks are full. They should be emptying at least twice a year but most clean after five years. (Municipality Ward Chair, Khadak, male respondent)

In households where pits were full, participants described how they usually emptied the faecal sludge by themselves. The most common way was to extract the sludge with buckets, carry it on their heads, and dispose of it in farms, open spaces, nearby ponds, rivers, or open drains. Sometimes, they also called traditional emptiers to take out the sludge. People with enough space in their backyards or farms usually dug an additional pit so they could let the full pit dry and use the content as a soil conditioner. Other households used kerosene to dry out the sludge and then disposed of it in water bodies.

3.1.2 Barriers to emptying

Participants who had never cleaned their pits shared several barriers that determined their behaviours. They said there was not enough space for the disposal of sludge. This was common in the neighbourhoods near market areas in all four municipalities. The households that were far from town centres had enough spare land for disposal.

The participants said that households did not have adequate information about how pits could be emptied safely. There were also cases of neighbours objecting when people started desludging, as it produced unpleasant odours.

Respondents felt desludging could contaminate their food due to the proximity of the toilets to kitchens. They lacked proper kits and equipment for desludging. In some wards of Birendranagar and Chandannath, participants pointed out the lack of mechanical desludging services from the municipality or private operators.

3.1.3 Availability of professional and safe FSM services

Participants in Nepalgunj and Khadak said professional mechanical desludging (diesel-powered vacuum tankers or pumps) were available in their wards. However, there were barriers to access in some of the wards of Surkhet and Jumla, where the services were not easily accessible as roads were too narrow for the trucks to enter.

Despite the availability and access to the services provided by the municipality and private operators, participants listed several reasons for not using their services. In all four municipalities, they indicated high, recurrent service costs were one of the main reasons. Participants also felt the services were not available when needed, particularly in densely populated neighbourhoods.

People are unable to get services on time when required as there are not enough tanker services in our area. (Male government officer, section chief, Khadak)

The participants complained of the lengthy process to use government desludging services. They had to visit the municipality office, place a request, deposit cash in advance, and get the

service provider's contact details. Once the service was confirmed, they had to wait in a queue for scheduling. Participants believed that private operators were easier to deal with, but the cost of services was much higher.

Respondents said the quality of service was poor. For instance, service providers did not empty the pits completely. Some said they were not convinced that service providers knew how to empty traditional pits properly.

Some participants lacked information about how the desludging services worked and did not know how to access them. They felt there was a lack of clear communication and that they were not provided with information they could understand.

I did not know that there were such services. I was not aware who and where to contact for the services. I also do not know how the emptying is done by machines. (Female respondent, homemaker, Nepalgunj)

3.2 Ability determinants

3.2.1 Knowledge about safe faecal sludge management

Participants were generally aware it was necessary to empty pits. They were also aware that manually emptying pits or doing it themselves was unsafe.

It is not done safely. Emptiers jump inside the pit without gloves, proper shoes, and masks. The odour comes out. It also poses a risk to nearby water sources and rivers. (Male farmer, Birendranagar)

Many participants, however, lacked information about safe FSM as they had never used professional services before. Most households, except in Khadak, used manual emptying services provided by traditional local operators. Manual desludging was done at night because they did not want to draw the attention of their neighbours. Faecal sludge was pulled out by buckets, carried on their heads, and dumped in water bodies or farmlands.

3.2.2 Knowledge about professional services and affordability

Many respondents in all four municipalities knew professional desludging services were available but did not understand the cost structure and felt the charges were high. Usually, households paid more for clearing out larger volumes of sludge if desludging was done after a long time. Therefore, they tended not to call for professional services. Instead, they looked for alternatives, such as using manual services or digging a supplementary pit if they had enough land.

I know someone who emptied the pit. I heard he paid Rs 12,000 (US$ 120) for the services. (Female farmer)

3.2.3 Skills for proper desludging and emptying

Most participants were aware that local emptiers lacked professional skills for safe FSM but did not know what those skills were. Participants felt emptiers or households lacked the skills because bad odours were generated during emptying. They felt the lack of skills could compromise safety and pose health risks for both the emptier and the household members. They said that the municipality should provide training for efficient desludging services.

People need skills training on how to build pits and how to manage sludge in a proper way. (Local Imam, Nepalgunj)

3.3 Motivation determinants

3.3.1 Values

Participants believed that clean pits raised the value and dignity of their neighbourhood. They stated that they could create a "model neighbourhood" without foul odours when households used professional desludging services. Participants said this could also free them from the shame of dirty toilets. Additionally, they highlighted that safe desludging could prevent any potential health risk and spread of diseases. Some explained regular desludging was cheaper than clearing out high volumes of sludge at longer intervals.

3.3.2 Willingness to pay

There were diverse perceptions and opinions about users' willingness to pay, which seemed to be influenced by the amount and accuracy of the information at their disposal. Those who had hired a professional service had the right information, but others who had never used these services did not. For example, some participants said that there was a lack of mechanical desludging that could completely empty the pit of faecal sludge. Participants in a single ward had different perceptions about the costs of desludging services.

The machine does not have the right technology to clear out traditional pits like ours. The machine cannot pull out the sludge completely. So why pay for the services if it cannot do the job well? (Dalit house owner, job holder, Birendranagar)

There were also diverse views on the pricing of the service. A few households in all four municipalities found the costs reasonable, given the amount of work it took to clear out the sludge.

The price is reasonable, especially for the service provided by the municipality as the cost is much less than private operator. Sometimes, we also pay extra (Rs 200-300 or US$ 2-3) as tips for the emptying staff. (Male farmer, Khadak municipality)

The use of professional services, however, was not just about price. For instance, in an informal low-income settlement of Birendranagar, participants were more willing to pay than in a higher-income ward.

Most have not availed the service and do not find it necessary. Some said that they might avail the service when it becomes necessary. (Male farmer, Birendranagar)

People are convinced that emptying by machine helps to clear out all the sludge. It sounds that this is safer, and the disposal system is better managed. In our neighbourhoods, there are no places for dumping the sludge and people are throwing the sludge wherever they find convenient, but it is not good for us. (Female respondent, informal settlement, Birendranagar)

4 Findings: Solid waste management

Key highlights:

- Separation of waste was commonly practised.
- Segregated non-organic waste was poorly managed.
- Households were heavily dependent on municipal collection services for managing their waste.
- Sanitation awareness campaigns were motivators.
- Many were willing to pay for SWM services.

Barriers:

- There was limited knowledge on the separation of compostable household waste.
- Managing household solid wastes was a low priority.
- Municipal waste collectors did not separate waste during collection.
- Irregular waste collection from households by municipal waste collection service providers.
- Lack of designated disposal sites.

Motivators:

- Regular solid waste management kept households sanitary.
- Prevented risk of disease and helped to reduce health expenses.

4.1 Opportunity determinants

4.1.1 Household SWM practices among participants

Based on the research, the separation of waste was practised mainly among farming communities, which segregated organic waste to use as compost. In areas close to markets, households usually did not separate the waste: they did not have the space for disposal or interest in segregating.

4.1.2 Availability of waste collection and disposal services

Municipality offices usually provided regular transport collection services, especially in market areas or main urban centres where the volume of waste was high. The frequency of garbage clearance varied. In all three municipalities, participants said municipal lorries, vans, or trucks - which were used for garbage collection - came daily, twice a week or even just twice a month depending on the neighbourhood.

The municipality office has been providing collection services on a regular basis. They have also recruited cleaners who clean the streets on a regular basis. (Ward Chief, Khadak)

In semi-urban areas, collection services were not as frequent as the waste volume was lower. Most people used the services provided by the municipality, which also provided public waste bins, particularly in the market areas.

We have been asking the municipality to provide more garbage collection containers in semi-urban areas. Compared to the market area, people have less access to municipality services. (Female health care volunteer, Birendranagar)

The absence of facilities like garbage containers was a determinant for people to engage in unsafe waste disposal in rivers, forests, and secluded roads.

4.1.3 Perceptions about services

Households had high expectations of municipal SWM services. Participants saw services not just as waste collection but also expected more waste bins, designated dumping sites, better road access for collection vehicles, and regular street cleaning services. Households also wanted the municipality to segregate the waste during collection. Conversely, municipality officials believed that there were enough waste bins and collection was consistently done.

The municipality has arranged bins and has also been sending waste collection service frequently. The municipality has been taking more initiative than NGOs and communities. (Government official, Khadak)

Participants had diverse views on services. Households managing solid waste without problems did not blame the poor services but people's behaviours and attitudes.

Photo: Focus Group Discussion with male participants in Nepalgunj.

People are unable to use collection services because they do not wake up early and are late in handing over the household waste to the garbage truck. The collection service is done in early mornings. (Imam, Nepalgunj)

Some participants believed that getting access to services also depended on people taking the initiative to demand services.

Community members should have regular discussions and make joint efforts to ask for better services if they are not happy and ask municipality to provide more waste bins. {Female Care Health Volunteers (FCHV), Nepalgunj}

4.2 Ability determinants

4.2.1 Separation of waste: knowledge and behaviour

Many participants who segregated waste said this behaviour was mostly determined by its benefits. For instance, biodegradable kitchen waste was seen as useful by farming households. In the market areas, most people were interested in segregating recyclables like bottles and plastics that could be sold to commercial waste collectors, popularly known as *Khaali Sisi* (translates as 'empty bottles').

Photo: In-depth interview with a female participant in Khadak municipality

The main problem was with non-organic/non-biodegradable waste that was of no value to households, which many people usually burned and threw in open spaces. For instance, in the semi-urban areas, where participants said waste collection services were not available, most people dumped the separated non-organic waste by the riverside.

The way people dispose waste has changed. Before, we used to dump it on the streets. Now, that has stopped and instead we throw in the river. This is not good, but we do not have much of a choice for disposal. (Female farmer, Khadak)

Many participants said they were aware of how to separate waste and that non-organic waste was not safely managed. The lack of a proper disposal system mostly determined their practice.

People come here raising awareness about hygiene, but where are the facilities? They tell us not to throw on the street, but where are the dustbins? Why are the collection services not regular? Not all people have enough space for waste disposal. For how long can we put in our own waste bins? So, we have no choice but to throw in the river because we cannot keep waste at home, that would create an unhygienic situation at home. (Female farmer, Khadak)

Participants who were not segregating waste, especially in downtown areas, said organic waste smelt bad when kept in their household premises without farms or land to dispose of it.

I do not separate because we have to keep the organic waste at home, and it becomes dirty. So, it is better to put all the waste in the bin and throw them out immediately. (Homemaker, Birendranagar)

Separation also depended on the size of the land. Respondents did not see the purpose of separation, for example, the use of organic waste. Participants said that it was time-consuming and could increase the workload for women.

4.2.2 Barriers to safe disposal

Although there was a general perception that waste was better managed in the semi-urban areas than in the markets and dense neighbourhoods in main urban centres, there were still barriers to safe disposal.

People are still unable to practice safe waste management in the households. Most people lack safe disposal skills (disposing waste in open drains or forests or rivers) and that is creating unhygienic conditions. (Government official, Khadak)

Even in the farming communities in semi-urban areas, households with livestock could not use the livestock waste (like poultry feathers). These were thrown into rivers. Several participants were aware they were polluting the rivers by dumping waste there.

Until now, we are throwing everything in rivers and polluting our rivers. The problem is people also do not have a choice because the bins are not enough and so rivers have become dumping sites. (Female resident, squatter settlement, Birendranagar)

In Nepalgunj, most participants were aware that the open drains were used as dumping sites and waste accumulated there in large volumes. Participants stated that the public garbage bins were always completely full as there were too few for the population.

There are waste bins available but are not cleared regularly as municipality collection does not come every day. They should also be coming on weekends for collection, or the waste will be overloaded as the neighbourhood is dense. (FCHV, Nepalgunj)

Some participants said the volume of waste increased if people did not segregate their waste. This was especially the case in Nepalgunj. Some participants were quick to blame less-educated neighbours for lack of awareness, but not all agreed.

Even the educated people with good income are not separating the waste and improperly managing their household solid waste. (Female entrepreneur, Nepalgunj)

Participants said one of the biggest barriers was people's attitude, which strongly determined poor waste management.

The collection services are well-organised and quite frequent, but the problem is people's behaviours have not changed, and their behaviours also influence others to do the same. (Ward chair, Nepalgunj)

Finally, some participants said that easy access to the rivers and lack of enforcement of regulations were additional reasons for poor solid waste management.

4.3 Motivational determinants

4.3.1 Motivating factors for households for better waste management

Participants said proper waste management helped to keep their houses clean and reduced health risks. They also stated that reliable services from the municipality would motivate them to be more organised about SWM. Participants also said they needed proper training on how to segregate waste. The availability of an adequate number of waste bins in the neighbourhood would motivate people to dispose of their waste safely.

Education campaigns on separation of waste would encourage people to become more responsible for managing the waste. (Municipality official, Khadak)

Households said that the municipality and ward offices and other organisations should organise regular campaigns to motivate them to improve SWM. Cleaning campaigns brought the community to act together. Participants said campaigns helped change people's attitudes, which they referred to as one of the main barriers to proper waste management.

We also educate the children and guardians on how to segregate waste and teach them how to dispose organic waste by retaining them in holes until they become compost. (Public health inspector, Nepalgunj)

4.3.2 Willingness to pay

Many participants in all municipalities said they were willing to pay for the services if charges were affordable and services were good, with a focus on regular collection and provision of adequate public waste bins.

Participants had common expectations of the types of services they were willing to pay for. They expected the municipality to place waste bins proportionate to population density. They also wanted the municipality to provide separate bins for biodegradables and other kinds of solid waste. Many participants said there should be a fixed schedule for solid waste collection services, and it should be more frequent. Households in the main market areas wanted waste collection services to come once or twice a day, while in semi-urban areas households said once or twice a week, or even twice a month, was adequate.

Most people were willing to pay monthly. Participants proposed various rates from Rs 50 (US$ 0.5) up to Rs 500 (US$ 5) per month. They said the services should extend to all municipality areas, not just to the markets or key central areas.

People will be motivated to pay if the if municipality can improve waste collection services. The services also do not just have to be provided by the municipality but

also private companies, especially reaching out to the wards that are far from market areas. (FCHV, Khadak)

When households paid regularly, the services were bound to improve, said some participants, especially those working in the municipality office.

We need to encourage each other as a community to take the services and pay on a regular basis so that services and the waste management will improve. (Ward chair, Birendranagar)

5 Findings: Gender roles in sanitation

We need to raise awareness among family members that all household members, including men, should engage in managing waste and emptying and share responsibilities. (Imam, Nepalgunj)

Most respondents noted women were the primary duty bearers for sanitation and hygiene management, FSM and SWM. There were different views on this. According to many male participants, men and women performed different functions in the household: men had jobs and provided for the family, while women mostly took care of household work, which included cleaning toilets and SWM. Several men also said that these were gender-specific roles in their culture, which were social norms in the households. Female participants reiterated this. They recognised that they took most of the responsibilities for sanitation because it was their duty, while men provided the income.

There were other differences between the perceptions of women and men. For instance, most people thought the responsibilities for household work, including sanitation, should be shared equally by all male and female family members. Several male participants said women alone should not be responsible for household chores, implying that this should change. However, the actual behaviour was different, according to both male and female participants.

6 Findings: Impact of COVID-19 on sanitation

The qualitative study also aimed to understand sanitation behaviours in the context of the COVID-19 pandemic.

Many participants said COVID-19 had made people more cautious about the need for more sanitary precautions at home. The participants said COVID-19 had affected the three sanitation behaviours in the following ways:

Access to toilets and use: Due to COVID-19 associated fears and lockdowns, most people stayed at home, leading to more use of toilets than usual. Before the pandemic, most people went to offices, jobs, or schools and used toilets outside their homes. They said that the increased use of toilets had increased the need for maintenance (mostly cleaning).

FSM: There were concerns that their toilet pits were filling faster than before as most household members were home and using toilets. They were concerned that the service providers were reluctant to provide services due to a fear of being infected with COVID-19. This was also why participants were hesitant to call for the services of both local and professional cleaners. Many said that if such challenges persisted, people would resort to open defecation.

SWM: Many participants said that COVID-19 had impacted waste collection services. The collection of household solid waste had been irregular and less frequent since the pandemic began. This had also affected their willingness to pay for waste collection services.

Participants shared their experiences of the positive impact of COVID-19. They provided examples of how people had become more involved in sanitation activities within households. Many women said men were also helping in cleaning activities. Another positive impact was that the closure of markets due to the lockdown had reduced the waste on the streets as less people were littering.

7 Conclusions

This section extrapolates the key learning by using the analytical framework of the research. It pays special attention to the elements that are most relevant to the WASH SDG USHHD programme. The conclusions are presented in a tabular format.

7.1 Access to toilets and use

Existing situation

- Lack of accessible toilets **for people with disabilities and the elderly** in the household (HH). Therefore, they tended to defecate in the open or were uncomfortable while using toilets.

Barriers	Enablers
Attitude: Perception that there is no need to discuss with or involve household members with disabilities during toilet construction. **Perceived affordability: Perception that a large investment would be needed to build user-friendly toilets for them.** **Awareness: Poor awareness of the dimensions of disability and that anyone can have a disability in their life.** **Knowledge: Lack of knowledge about the technical options for accessible toilets.**	**Social, physical, emotional drivers:** **Stress:** Reduction of stress and workload for caretakers. **Respect:** Increase in self-respect and confidence of people with disabilities; increased respect for the family in the community. **Safety and security:** Reduced risk of injury for all toilet users.

- Lack of maintenance and repair of the HH toilet. Therefore, users tended to defecate in the open or are uncomfortable while using the toilet.

Barriers	Enablers
Competing priorities: Toilet maintenance a low priority compared to other expenses.	**Social, physical, emotional drivers:**

Willingness to pay: Perception that one deserves government subsidies (partly because some past ODF campaigns subsidies were provided). **Knowledge: Lack of information about technical options for toilet maintenance.** **Perceived affordability: Perception that a large investment would be needed for toilet** maintenance, **and it would be time-consuming.**	**Respect and dignity:** Increased self-respect and feeling of dignity, as well as respect in the community. **Safety and health:** Prevention of diseases; safety from animal attacks and snake bites (as compared to open defecation); reduced health-related expenses. **Comfort:** Comfort and privacy in a safe and well-maintained toilet, especially for the elderly, pregnant women, children, and people with disabilities.

7.2 Faecal Sludge Management

Existing situation

- No timely emptying of pits (emptying was done after the pit overflowed).
- No safe emptying, transport, and disposal (manual emptying and dumping of sludge in water bodies, forests, or open areas).

Barriers	Enablers
Regular pit emptying: **Knowledge: Lack of knowledge about technical difficulties with pit maintenance if not emptied regularly (hardening of faecal sludge) *in all four USHHD target areas*.** **Belief/Attitude:** ■ **Belief that pits with dry masonry walls, of large size and sandy soils, or septic tanks with soak pits, did not fill rapidly (Hill urban municipalities).** ■ **Belief that it was unnecessary to empty the pit unless it was completely full.** **Affordability: Waiting until the pit was full meant that the cost of desludging was high, as the volume of faecal sludge was large.**	**Social, physical, emotional drivers:** **Psychological benefit:** Emptying the pit in a well-planned manner prevented unnecessary stress. **Physical Comfort:** If the toilet pit was regularly emptied, the toilet remained operational and usable. As a result, there was no need to practice

Safe emptying, transport and disposal: **Knowledge:** ■ **Insufficient information about safety measures during pit emptying in all four municipalities.** ■ **Lack of awareness on safe disposal of faecal sludge in all four municipalities.** **Access and availability:** ■ **Lack of appropriate sites for disposal of faecal sludge in all four municipalities.** ■ **Lack of service providers for pit emptying (mostly in Chandannath).**	open defecation or to use shared toilets. **Economic benefit:** Regularly emptying the pit saved time and money. The costs for desludging were higher if the volume of faecal sludge was high. **Disgust and shame:** Avoided feelings of disgust in the household and social shaming. **Respect and dignity:** Self-respect and respect in the community.
Use of service: **Knowledge: Lack of information about the availability of professional municipal services in all four municipalities.** **Accessibility: Narrow roads made access for emptying vehicles difficult.** **Willingness to pay: Some expected subsidies from the government. Some would prefer to pay small amounts regularly rather than a large amount at the time of emptying, but they did not trust service providers for such an arrangement. Others preferred to pay at the time of emptying but would like to pay less.** **Social norms:** ■ **As most HHs emptied their pits only when they were completely full, this had become the norm.** ■ **Lack of policies and regulations for FSM.**	

7.3 Solid Waste Management

Existing situation

- The household solid waste was seldom segregated or properly managed. Burning plastics and paper and disposing of waste on the streets or in water bodies was widespread.

Barriers	Enablers
Household waste separation: **Knowledge:** ■ **Limited information on how to separate compostable waste.**	**Social, physical, emotional drivers:** **Physical Comfort:** Easy to move around the household

■ **Limited awareness of the harm caused by disposing of household waste in an unregulated manner.** **Attitude: Low priority accorded to solid waste management in households.** **Roles and responsibilities:** ■ **Both women and men felt women were responsible for emptying and managing waste.** ■ **Many thought solid waste management was solely the responsibility of the government.** **Social norms:** ■ **As most households followed improper waste management practices, this became the norm.** ■ **Municipal waste collectors did not segregate waste.** ■ **Lack of policies and regulations in the four cities.** **Access and availability:** ■ **Lack of enough waste bins and areas for composting.** ■ **Lack of appropriate disposal sites in Birendranagar, Nepalgunj and Khadak. Irregular collection services in Birendranagar, Nepalgunj and Khadak.** ■ **There was not enough space in households to decompose organic waste in downtown areas, unlike in semi-urban areas, where they could use it as compost.**	**Safety and healthy life** Prevention of diseases; reduced health expenses **Respect and dignity:** Self-respect and dignity in the community
Use of service **Availability and accessibility:** ■ **Collection vehicles could not go through narrow or difficult roads.** ■ **Waste collection services were not available in all wards.** **Willingness to pay:** ■ **People expected free services from the government.** ■ **People wanted to pay small amounts in instalments for solid waste collection services if they were provided regularly. People also found the municipal household waste collection services were irregular and not properly managed.**	

8 Recommendations

Based on the findings and conclusions, this section provides recommendations for the objectives and key messages for BCC interventions on the use of toilets, FSM and SWM at the household level. The recommendations are presented in a tabular format.

8.1 Access to toilets and use

- For toilets to be accessible **for people with disabilities and the elderly**, BCC should raise awareness of the dimensions of disability, encourage engagement with household members with disabilities in the construction or maintenance of toilets, and highlight the minimal costs associated with building an accessible toilet.

Communication objective	Key messages
Household members will: **Be aware of the dimensions of disability and understand that anyone can have a disability in their life. This could be permanent or temporary.**	"Disability can happen to anyone at any time in one's life." "Disability may be temporary or permanent. Think about your elderly, pregnant women and children; they also have difficulties using the toilet." "We cannot reduce their difficulties, but we can reduce their barriers."
Realise the importance of involving household members with disabilities in the construction or maintenance of household toilets.	**Social, physical, emotional drivers:** "When you improve or construct your toilet, involve or consult with the people with disabilities to make the toilet user-friendly so that the toilet will be suitable and comfortable for all family members ."
Know about technical toilet options and that toilets can be made user-friendly with minimum additional costs.	"Locate and design a user-friendly toilet for all members of your household to reduce the risk of injury, especially for the elderly, pregnant women, children and people with disabilities". **A user-friendly toilet**: "Reduces stress and workload for caretakers." "Increases self-respect and confidence of people with disabilities and their family, and respect in the community." "Contributes to social well-being and development."

- For toilets to be maintained and kept in a good state of repair, BCC should focus on the emotional drivers of toilet maintenance and the affordability/availability of materials.

Communication Objective	Key messages
Household members will: **Give priority to maintaining or improving their toilet when it is not functional.**	**Social, physical, emotional drivers:** **Respect and dignity:** "Increase self-respect, end feelings of humiliation, and earn respect in the community."
Realise that toilet maintenance did not require a large investment or much time (perceived affordability).	"Keeping the toilet in good condition did not require much effort and brought about benefits." "Maintaining and improving the toilet is your responsibility: for your health, comfort, privacy, safety, and social respect."
Know about materials and options for toilet maintenance.	"Cost and materials for proper maintenance are shown and explained to the household."

8.2 Faecal Sludge Management

Existing situation

- In order for pits to be emptied in a timely and safe manner, BCC on FSM should highlight the benefits of regular emptying, demonstrate safe emptying practices and inform householders of the service providers who can support put emptying.

Communication objective	Key messages
For regular pit emptying **Household members will:** **Know about the difficulties if faecal sludge was not emptied at regular intervals**	**Social, physical, emotional drivers:** "You should clean your pit, even if it is not full. If sludge remains in the pit for more than five years, it becomes harder at the bottom, and it will be difficult to desludge."

Learn that emptying even unfilled pits can have economic and psychological advantages.	"Regularly emptying unfilled pits save time and money because this prevents sludge from hardening and makes it easy and faster to clean. The volume of sludge will be small, so it will cost less to desludge." "You will avoid the stress of having to arrange pit emptying at the last minute, and you will not need to go for open defecation or to shared toilets." "Emptying the pit before it gets full and dirty will prevent feelings of disgust around the household and will prevent an uncomfortable situation." "These measures increase health, self-respect and dignity in the community."
Safely emptying, transport and disposal **Household members will:** **Know about safety and precautions during and after pit emptying.**	"During emptying, do not allow children near the area, and keep animals and crowds away from the pit."
Pit emptiers will: **Know about safety and precautions during and after pit emptying.**	"Use separate clothes for emptying pits. Always wash these clothes after every service with soap." "Use gloves, gumboots, and masks from the start of pit emptying to the end of disposal." "After disposal, bathe with soap." "Be professional and work with dignity."
Pit emptier/service provider will: **Know about safe transportation and disposal of faecal sludge**	**Process:** "Cover the container when you transport sludge from the household to the disposal area." "Do not dispose of the sludge in open spaces, rivers, canals and ponds." "Dig a deep trench, dispose sludge in the trench and cover with soil properly."
Use of service **Household members will:** **Be well-informed about the availability of professional emptying services provided by the municipality or private sector actors.**	**Information on:** The contact number of service providers, payment methods, rates, and break-down of charges to be provided to households.

Realise the importance of paying to manage their faecal sludge.	"Paying (regularly or one-off) for safe pit emptying and disposal of faecal sludge is your responsibility for your health, the environment and social impact."
Trust service providers for timely and proper service delivery and **be willing to pay.**	"If you are willing to pay, this will improve the availability and quality of services."

8.3 Solid Waste Management

Existing situation

- For solid waste to be safely and effectively managed, BCC should promote gender-equal waste management and highlight the importance of safe disposal, as well as the benefits of separating solid waste.

Communication Objectives	Key messages
Household waste separation: **Household members will:** **Realise that both men and women are responsible for emptying and managing the waste.**	**Social, physical, emotional drivers:** "Household waste is not the sole responsibility of women; it is the responsibility of all household members." "Keeping your household premises clean makes you feel comfortable and safe."
Know about how to safely separate household solid waste **Know how to dispose of household solid waste safely.**	"Don't throw your household waste around the household, drainage channels, open areas or water bodies." "Separate compostable and non-compostable waste in different bins or places."
Realise and encourage reuse of disposable waste	"Compost the compostable waste and reuse it as soil fertiliser/conditioner." "For non-compostable waste (other than plastic), dig a waste pit and bury it underground or use the services of a waste collector in the city." "Keep your household premises clean and reuse compostable waste."

Believe that it is the responsibility of households to manage solid waste, not only that of the government.	"It is your responsibility to keep your premises and the environment in the community healthy and clean."

8.4 Communications channels

The recommendations provided in the previous section can be used for designing BCC interventions through various channels, which were also identified during the study. The following were some of the communications channels mentioned during the research:

- Media: Radio, television, newspapers.
- Government offices: Public Health Office, government notices.
- Door-to-door information: Ward officials, Non-Government Organisations (NGOs), Civil Society Organisations (CSOs), Mothers' Group, FCHVs.
- Digital media: Social media, online news websites.
- Community-based information: Miking, community meetings, and information from neighbours.

However, the ways groups, households and individuals consume information and knowledge are dependent on various factors, such as the level of literacy, profession, access to products and services, and where they live. The way people communicate or consume knowledge and information also varies based on their source of livelihood and access to information tools (internet, television, radio, etc.). This implies that varying communication channels are needed to engage with different population groups. Most have access to multiple options and platforms.

The following were the most used sources of information. However, they do not represent the communications channels used at the city or municipality ward levels.

In Khadak municipality, participants said they got information from television, radio, and social media like Facebook. Their other sources of information were from public notices, newspapers, ward officials, public health offices, promotional advertisements, the internet, and community miking.

In Nepalgunj, participants mostly used radio, television, and Facebook as sources of information. They also had access to several other sources of information such as Mother's Groups, FCHVs, the internet, ward officials, newspapers, neighbours, and municipality offices.

In Birendranagar, many participants relied on the radio, Neighbourhood Development Organisation *(Tol Bikash Sanstha*), social media, community miking, door-to-door communications campaigns, community meetings, FCHVs, television, neighbours, ward officials and newspapers.

9 References

Devine, J. (2009). *Introducing SaniFOAM: A Framework to Analyse Sanitation Behaviours to Design Effective Sanitation Programs*, Water and Sanitation Program: Working Paper, World Bank Group, Available at https://www.wsp.org/sites/wsp/files/publications/GSP_sanifoam.pdf (Accessed 16 December 2020)

WASH SDG Programme, SNV, Netherlands, Available at https://snv.org/project/wash-sdg-programme (Accessed 16 December 2020)

Urban Sanitation and Hygiene for Health and Development (USHHD), SNV, Netherlands, Available at https://snv.org/sector/water-sanitation-hygiene/product/urban-sanitation-hygiene, (Accessed 16 December 2020)

Open-defecation-free Nepal: sanitation for health, dignity and development. (2019). SNV, Nepal, Available at https://snv.org/update/open-defecation-free-nepal-sanitation-health-dignity-and-development (Accessed 16 December 2020)

WHO/UNICEF Joint Monitoring Programme (JMP), Available at https://washdata.org/data (Accessed 16 December 2020)

Annexures

Annexure 1

Research questions

Access to toilets and use

Opportunity:

- Do all members of the households have equal and unlimited opportunity to use their toilet facilities? Are the toilet facilities available for use whenever necessary for every household member?
- What are the sanitary conditions of the toilets, and how are they maintained?
- Are there traditional and social practices that affect access to toilets? Do the households have practices of shared responsibilities for their toilet like cleaning and maintenance?
- Are there policies and rules related to building toilets and maintenance?

Ability:

- Do the households have adequate knowledge of hygienic and sanitary practices for their toilet facilities? Is there a knowledge-behaviour gap in the hygiene and sanitation of their toilets?
- Do individuals have the skills to properly clean a toilet?
- Is there a social support system in the households for the maintenance and emptying of toilets?
- Who are mostly responsible for emptying toilets and making decisions at home about sanitation and hygiene?
- Are there issues of affordability towards building and maintenance of toilets?

Motivation determinants:

- What are the general attitudes of the household members towards the hygiene and sanitation of their toilets?
- What are the values that motivate the households to build and maintain a functional toilet?
- What are the social, emotional and physical drivers that have motivated their behaviours?
- How important is building and maintaining a toilet for the households? Is spending or investing in toilets a priority for the households?
- For the households who do not have toilets, do they have the intention to build one?
- Are the households willing to pay for emptying of their toilets if professional services are available?

Faecal sludge management

Opportunity determinants

- What kind of toilet pit emptying, and maintenance practices are prevalent in households?
- What kind of barriers do households have for clearing out faecal sludge and emptying the toilet pits?
- Are there professional FSM services available, and do the households have easy access to the same?
- What are the barriers to the use of professional and safe FSM services?

Ability determinants

- What type of knowledge do the households have on FSM? What type of perceptions do households have about FSM, and the products and services offered?

- Do the households as well as the service providers have relevant skills for safe FSM?
- What are the issues related to affordability for investing in safe FSM in households?

Motivation determinants
- What are the values that motivate households to empty their pits?
- What are the factors that inspire their willingness to pay for FSM services?
- What are they willing to pay for?

Solid Waste Management

Opportunity determinants
- How do people manage solid waste in households?
- Are there SWM services available, and do the households have easy access to these services?
- What are their perceptions about the service providers?
- Is there shared responsibility for managing household solid waste?

Ability determinants
- Does the household have knowledge about how to separate solid waste?
- What determines their behaviours to separate the solid waste?
- Are they able to safely disposal the solid waste?
- Are they aware of the impact of poor waste management?

Motivation determinants
- What are the factors that would motivate them towards SWM?
- Are they willing to pay for the waste management services?
- What motivates them in their willingness to pay?

Annexure 2

ANNEXURE 2: STUDY SAMPLE

City/ District	Number of participants for interviews	IDIs for SWM	IDIs for FSM	IDIs for access to toilet	KIIs for all 3 WASH behaviours	FGDs for all three behaviours	Ethnic groups	Males/ Females	Total wards
Birendranagar/Surkhet	56	5	5	5	5	5	Dalit, Chettri, Janajati, Muslim, Brahmin.	28 Males 28 females	24
Khadak/Saptari	45	5	5	5	5	5	Madhesi, Tharu, Muslim, Brahmin, Janajati.	22 males 23 females	21

Nepalgunj/Banke	46	5	5	5	5	5	Tharu, Madhesi, Muslim, Janajati, Brahmin.	24 males 22 females	22
TOTAL	147 participants	15 IDIs/ SWM	15 IDIs/ FSM	15 IDIs/ Access to toilet	15 KIIs 3 WASH behaviours	15 FGDs for three behaviours		74 males 73 females	67 wards

SNV Netherlands Development Organisation
SNV Nepal
PO Box 1966
Kathmandu
Nepal

Phone: + 977 5423 444
Email: nepal@snv.org
www.snv.org

twitter.com/SNVworld
facebook.com/SNVworld
linkedin.com/company/snv