THE BEACON PROJECT

ANNUAL REPORT
APRIL 2022 - MARCH 2023

Nibha Pasman smiles at the camera beside her newly installed water tap at her house in Gudigaun, Lahan, April 2023. WaterAid/Nishant Gurung

नेपाल खानेपानी संस्थान
Nepal Water Supply Corporation

love every drop
anglianwater

WaterAid

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ACRONYMS

DJKYC	Dalit Janakalyan Yuba Club
FRC	Free Residual Chlorine
FSTP	Faecal Sludge Treatment Plant
GIS	Geographic Information System
HDPE	High Density Polyethylene
PSC	Project Steering Committee
WAN	WaterAid Nepal
WASH	Water, sanitation and hygiene
MoWS	Minister of Water
WSP	Water Safety Plan
WSSDP	Water Supply and Sanitation Division Office

EXECUTIVE SUMMARY

The Beacon Project continued working to improve universal access to water, sanitation and hygiene (WASH) in Lahan Municipality, Nepal between April 2022 to March 2023.

In this annual report, we highlight the project's key activities and achievements, plus the important collaborations that underpin our wide-ranging work on WASH.

Through The Beacon Project, WaterAid collaborates with Anglian Water, its contracting Alliance partners, the Nepal Water Supply Corporation (NWSC) and Lahan Municipality. We also engage closely with the Ministry of Water Supply (MoWS), part of the Government of Nepal, and deliver work on the ground in partnership with a non-governmental organisation (NGO) based in Siraha district, called Dalit Janakalyan Yuba Club (DJKYC).

This report is organised under the five outcomes of The Beacon Project's co-creation strategy:

- Water security
- Safe clean water
- Sanitation with dignity
- Sustainable faecal sludge management
- A legacy that grows

Gita Devi Pasman drinks water from a mug in her house at Gudigaun, Lahan.
WaterAid/ Nishant Gurung

A view of the newly installed underground pipelines in Gudigaun, Lahan.
WaterAid/ Nishant Gurung

INTRODUCTION

It has been another big year for The Beacon Project. We drilled four new boreholes and supported 187 household tap connections to the NWSC network for ‘landless’ Dalit people – in other words, people that can’t usually access certain services because they lack landownership paperwork.

In a first for the project, six newly installed electromagnetic flowmeters have meant that water balances can be calculated for each distribution zone within the NWSC network. The flowmeters were installed by NWSC and supported by Anglian Water engineers during a technical visit.

Another significant achievement this year was the preparation of a WASH plan by Lahan Municipality, which was backed by the collective effort of partners to source data and jointly plan WASH activities until 2030.

We have also continued to provide toilets for more schools and communities in Lahan, ensuring that people can access these facilities with the dignity and privacy they deserve. This includes:

- A new community toilet block in Baluwa tole (ward five), providing access to safely managed sanitation for over 200 Dalit people who previously had no toilet facilities.
- Renovated toilets and new handwashing facilities in more schools.
- A ‘hygiene behaviour change’ programme delivered in two schools and four Dalit communities.

And for the first time, we also expanded our work into healthcare facilities, providing access to improved WASH facilities for over 15,000 patients and staff.

Learning has always been a focus of The Beacon Project and this year was no different. We delivered technical learning exchange visits to Nepal and the UK, and additional visits within Nepal and Bangladesh to observe best practice for water, wastewater and faecal sludge management. Staff from The Beacon Project have actively shared learnings from Lahan in various conferences, workshops and seminars this year, and celebrated global awareness days in Lahan with partners and communities.

Further still, our work hasn’t gone unnoticed across the sector. In December 2022, The Beacon Project was highly commended in the ‘Collaborative Excellence’ category in the UK Utility Week Awards in London – a testament to our commitment to long-term and impactful partnership working.

KEY HIGHLIGHTS

Lahan Municipality created a WASH unit to encourage collaboration for WASH service provision across Lahan. Discussions on WASH-related topics are now institutionalised within the Municipality office, creating an enabling working environment for The Beacon Project.

NEW WASH UNIT

WASH PLAN

We supported Lahan Municipality to develop a WASH plan, which is now live on the Ministry of Water Supply's National WASH online platform.

With technical support from Anglian Water, NWSC installed six electromagnetic flowmeters to calculate water balances across different distribution zones.

The NWSC leakage repair team responded to

OVER 100 LEAKAGES

reducing water loss. A leakage dashboard has been set up within mWater to record and share reports and repairs.

THREE INTERNS

were recruited from Lahan Technical College to support NWSC with water quality monitoring and reporting, as well as customer complaints and water leakages.

187 Dalit households – a total of 935 people – have been given access to safe water through NWSC tap connections (during this report period). Coordination between Lahan Municipality and the ward chairs has helped to reach these communities.

Contractors drilled four high-quality boreholes, supervised by a hydrogeologist. Each production point of the NWSC system now has a standby borehole, helping to increase water supply resilience.

A new community toilet block at Baluwa tole (ward five) has given

45 DALIT HOUSEHOLDS

(225 people) access to decent toilets and helped to reduce open defecation. A community-based management committee is looking after the facility.

We provided access to clean water for

2,360

students and staff in schools this year.

We built handwashing stations in

SIX SCHOOLS

providing students and staff access to good hygiene facilities throughout the day.

We've supported 'Child Clubs' in schools across Lahan to encourage peer-to-peer awareness of good hygiene behaviours and cleanliness. In five schools, their Child Clubs are managing a school garden using collected wastewater for irrigation

CHILD CLUBS

We improved to WASH facilities in two health care facilities.

OVER 15,000

staff and visitors now have access clean water, decent toilets and handwashing facilities.

Six teachers, five female community health volunteers and a group of hygiene workers have received training to deliver community and school hygiene behaviour change sessions.

DRIVING BEHAVIOR CHANGE

We delivered hygiene behaviour change sessions to **685 STUDENTS** in two schools.

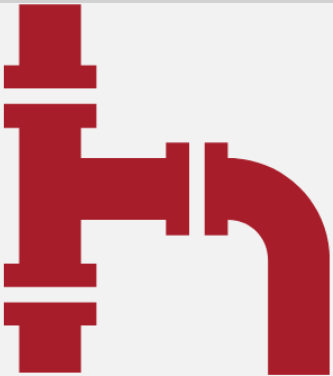
445 WOMEN from four Dalit communities also received hygiene behaviour change sessions.

Both the students and the women are now aware of good hygiene practices to apply to their daily lives.

APPLYING GOOD HYGIENE PRACTICES

Key project staff from NWSC and WAN's technical team visited the UK to undertake training, site visits and workshops with Anglian Water.

A Water Safety Plan exposure visit to Damauli and Pokhara helped in understanding best practice in other Nepal water utilities.



NWSC Lahan, NWSC Malangawa, Lahan Municipality, DJKYC and WAN staff received training in Occupational Health and Safety working in piped water supply systems.

GOVERNANCE

Beacon Board meetings

Two Beacon Board meetings were conducted this year:

17 JUNE 2022

The partners gave respective updates and both the budget and project plan for the financial year 2022/23 were agreed. Details of planned exchange visits and a new project webpage were also shared.

05 DECEMBER 2022

Information from DWSSM about the new NWASH online platform was shared and suggested activities for the next financial year were discussed.

Beacon Board members visiting the NWSC Head Office in Kathmandu, Nepal. December 2022
Anglian Water/ Richard Boucher

Project Steering Committee (PSC) meetings:

Four PSC meetings were conducted:

22 JULY 2022

The Beacon Project annual plan and budget were approved. Land was identified for boreholes at Flag park and Ashram. We reported issues of three water supply schemes supported by the Water Supply and Sanitation Division Office (WSSDO). A report from the visit to the FSTP plant at Jhapa and Bangladesh was given.

14 OCTOBER 2022

A request to the NWSC Board to subsidise the deposit amount for landless people (Dalit households) to connect to the NWSC network was not approved, therefore Lahan Municipality and the Ward Chairs agreed to pay the deposit to enable tap connections for Dalit households. A detailed project report was proposed for the ward 16 water supply scheme. NWSC requested formal handover of land for borehole construction from Lahan Municipality at Covered hall area, Flag park, Ashram and Gramin. Three healthcare facilities were selected to implement Beacon Project activities. Plus, the rehabilitation of the public toilet at ward three was agreed.

13 JANUARY 2023

We coordinated with the Kanchanpur Kamala Road Project to minimise pipeline damage and offer provisions for any replacements. Four committee members resolved administrative issues in a handover of the water supply schemes supported by WSSDO. An engineer from Lahan Municipality was assigned as project manager for the construction of the FSTP. The construction of a toilet at ward one using money from the Lahan Municipality fund was also agreed. Plus, the WASH plan was updated.

27 MARCH 2023

The committee reviewed outcomes from a municipal level five-year planning workshop. A NWSC network extension in an urban area identified for development was proposed for design. The extension of a pipe network was agreed before a road extension. A review of the Pokhara and UK visit took place, and The Beacon Project was requested to review the design of the FSTP. Next year's proposed activities were also discussed.

An aerial view of the Office of the Municipal Executives of Lahan Municipality in Nepal. April 2023. WaterAid/ Nishant Gurung

Lahan Municipality's WASH Unit and WASH Plan

In Lahan Municipality, the WASH Unit was formed with support from The Beacon Project. The Municipality assigned a dedicated coordinator and WASH engineer to drive the WASH agenda through the WASH Unit. This unit has created an enabling environment for all stakeholders to openly discuss WASH topics, including NWSC. This is a key milestone for institutional development of WASH in Lahan Municipality.

Under the leadership of Lahan Municipality, through the WASH unit, the WASH plan was finally prepared, incorporating NWSC's activities, and agreed for Municipal Assembly endorsement. The final version of the WASH Plan can be accessed on the Ministry of Water Supply's NWASH online platform.

A borehole installed by The Beacon Project, Lahan.
WaterAid/ Nishant Gurung

OUTCOME 1:

WATER SECURITY

We have continued our work to provide long-term access to clean water for all people in Lahan by carrying out the following activities:

Drilling new boreholes

Four new boreholes were built with joint funding – NWSC procured the materials, and The Beacon Project funded the construction and supervision. All four boreholes (BHA3, GRAMIN 2, ASHRAM2 and FLAGPARK) were constructed with full supervision of a hydrogeologist, ensuring they used good quality materials and processes.

Planning new boreholes

Efforts to acquire land at Flag park, Ashram and Covered hall area were made, including meetings and correspondence. A Vertical Electrical Sounding survey also confirmed the feasibility for deep boreholes.

A borehole installed by The Beacon Project, Lahan.
Anglian Water/ Arron Kirk

Contractors inspecting the water from a newly drilled borehole in Lahan. WaterAid/ Dharma Ratna Chitrakar

Bringing in hydrogeological expertise

An experienced hydrogeologist was appointed as a continuation from last financial year in consultation with NWSC and the Anglian Water team. This hydrogeologist has contributed significantly being onsite to guide and supervise the borehole drillings.

In previous years, inadequate borehole drilling specifications led to borehole's failing prematurely and not working properly. Nepal government policy says that selecting workers should be based on the lowest bid – so there's minimal consideration for technical standards.

In 2022/23, we changed our approach, so NWSC procured the materials and The Beacon Project funded the construction through a tender process. The latter ensured that technical standards were factored in. We contracted an experienced drilling company with good quality workmanship. Under the supervision of a hydrogeologist, they drilled four high yielding boreholes with low turbidity water.

Surveying boreholes by CCTV camera

The Beacon Project team carried out eight CCTV camera surveys (six in Lahan and two in Janakpur) in 2022/23. The boreholes surveyed were: BHA3, Ashram2, Gramin1, TCN2 (twice), Ashram1 and two boreholes at NWSC Janakpur.

The overall status of the boreholes was recorded and reported to key stakeholders and experts to get recommendations for further improvement.

CCTV borehole survey in action in Lahan in bright sunlight.
WaterAid/ Dharma Ratna Chitrakar

Borehole drilling in progress in Lahan.
WaterAid/ Nishant Gurung

Increasing supply hours

At the end of March 2023, the NWSC network was on average supplying water for eight hours per day, split between morning and afternoon slots. This was the same as the average supply hours in March 2022. However, during those 12 months, supply was less stable than the headline statistics suggest.

In June 2022, the Gramin1 borehole in the centre of Lahan started to fail. CCTV camera surveys showed that the welding of the borehole casing had come apart and was deemed uneconomical to repair. This coincided with the dry season and high demand, meaning supply reduced to an average of five hours per day. In addition, residents receiving water from the Laximinya borehole were complaining about water quality, and sampling showed concerning levels of arsenic.

The failure of boreholes to supply a consistent, high-quality supply of water, whether gradual (e.g. Laximinya) or sudden (e.g. Gramin1), presents a huge tactical challenge for NWSC to continue to meet demand. This experience has shown the value of The Beacon Project's approach to new borehole construction. Using competent contractors, following a suitable technical specification, working under the supervision of a qualified hydrogeologist, and using good quality materials with proper commissioning is helping to prevent these problems recurring.

In the context of high demand and diminishing supply, NWSC made a big effort to connect two new boreholes drilled in 2021/22 (TCN2 and NE1) and an adopted irrigation borehole (Ashram1). With the addition of these three boreholes to the NWSC network, supply hours started to increase again, despite the retirement of Gramin1 and Laximinya boreholes. At one point during the winter, average supply hours were approaching 10–12 hours per day.

However, these gains were reduced again during the spring of 2023, due to highway construction works causing water leakages, and other increases in non-revenue water. In March 2023, the seven functional boreholes (i.e. OC3, TCN1, TCN2, NE2, BHA2, OC8, Ashram1) were producing approximately 4.1 million litres of water per day.

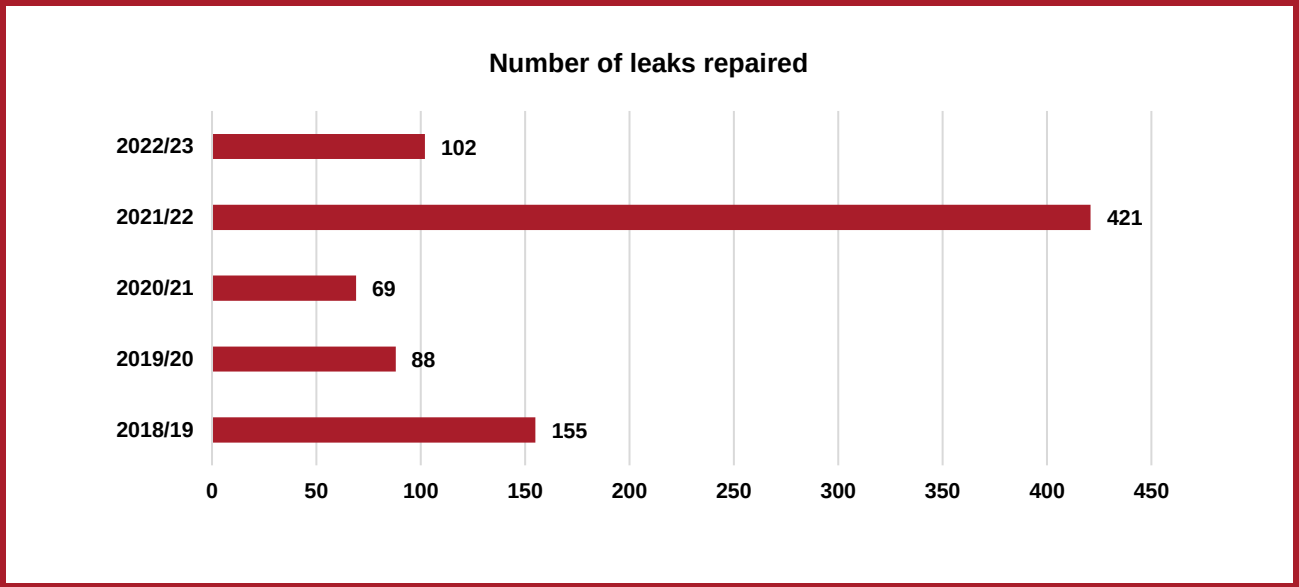
The mini-digger preparing to repair a leak.
WaterAid/Nishant Gurung

Repairing leaks

Highway expansion works through the centre of Lahan have caused frequent leaks and bursts, creating a huge challenge for NWSC to sustain supply. This was a major reason for supply hours not increasing overall. During 2022/23, 102 leaks were repaired and recorded (Table 1). In addition, public taps were regularly monitored and maintained to minimise non-revenue water.

A leakage repair and recording mechanism was developed with NWSC, using support from an intern recruited through Lahan's Technical College. When a leak is identified, the intern reports it to the leakage repair team (who mobilise to repair the leakages), and then records the details on the mWater reporting system.

Table 1: Number of leaks repaired on the NWSC Lahan network in the past five years.



Calculating non-revenue water

Calculations carried out in 2022/23 suggest that non-revenue water in Lahan could be as high as 64%. There are various reasons for this. Supply hours have increased in some areas, meaning water lost through existing leaks has increased as the system is pressurised for longer.

Similarly, as supply hours have increased in some areas, it is likely that customers' storage tanks have filled and will be overflowing. This is exacerbated by the fact that many customer meters are not functional, meaning that increased consumption and customer wastage is not being billed.

Meeting with stakeholders about water security

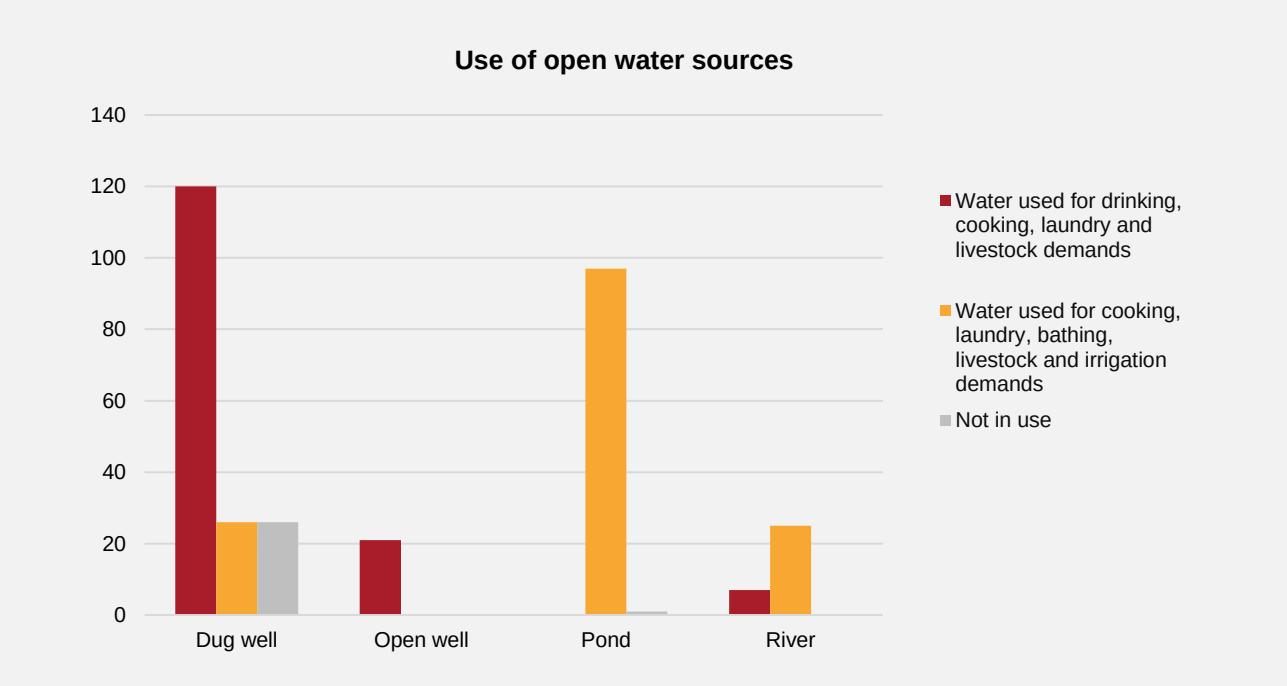
Regular meetings have taken place to share water optimisation experiences and garner support for national level water security planning. These have involved different WASH stakeholders, including the International Water Management Institute and the Nepal government-led Water and Energy Commission Secretariat.

A thesis by Master's student Paras Pokhrel about water security planning in Lahan was reviewed by the project team for supporting next steps of the water security outcome.

Assessing use of open water sources

The Beacon Project carried out an assessment of open water sources used by people in Lahan. The assessment revealed that 323 open water sources are accessed for different purposes, including drinking, cooking and washing (Table 2), and approximately 30,000 people use them to some extent. The majority of users are in rural wards 11–24, where there is currently no piped water provision by NWSC.

Table 2: The number of open water sources in Lahan used for different purposes.



CASE STUDY

WASH BRINGS HAPPINESS IN MAA SANTOSHI TOLE

Dalit community leader Soniya Devi Saday washing her hands before domestic work. WaterAid/Manoj Banaita

Maa Santoshi village is in ward one of Lahan Municipality, and most of the residents are Dalits.

Previously, the people of these communities had to travel a long distance to Matiyarba to collect water. Once there, they would face lengthy wait times, with those of higher caste getting priority. The water itself was also of a poor quality – it smelt and looked dirty.

Maa Santoshi village also had no toilets. People were forced to use open fields and would often hide behind bushes and trees. The lack of privacy particularly affected women and girls by putting them in vulnerable and compromised positions. Children would often end up defecating in their housing areas.

The Beacon Project has built eight water taps in the community to provide clean drinking water. Soniya Devi Saday, vice chairperson of the village, said, *"We have our own taps. The availability of pure drinking water has lessened our troubles."* She also said that the taps are inspected once a month.

Toilets have also been built and are used by nearly all families across the community. Balo Devi Saday who lives in the area, said, *"Our children used to defecate in housing areas, and they never used soap. The WASH campaign has enabled them to know the benefits of washing their hands after using the toilet. Now, community members are consuming safe drinking water."*

The Beacon Project is now running a hygiene behaviour change programme in the village, providing training on sanitation, menstruation and other hygiene related topics.

"WE HAVE OUR OWN TAPS. THE AVAILABILITY OF PURE DRINKING WATER HAS LESSENED OUR TROUBLES."

SONIYA DEVI SADAY, VICE CHARPERSON OF THE VILLAGE

OUTCOME 2:

SAFE CLEAN WATER

We have continued our work to deliver safe water to the people of Lahan by carrying out the following activities:

Monitoring water quality

The Beacon Project funded a new E-Coli testing kit and other items for NWSC Lahan's laboratory, including a refrigerator, autoclave, ice box, ice gels, sample bottles and an electric bicycle for sample collection rounds.

NWSC chemist on a sampling round using the new electric bike and ice box.
WaterAid/Nishant Gurung

NWSC chemist analysing water quality samples in the NWSC Lahan laboratory. WaterAid/Nishant Gurung

One intern was supported by The Beacon Project to collect samples from household taps and key assets across the NWSC supply system. The sampling regime consists of ten household samples each day, tested for five key parameters: turbidity, iron, E-Coli, Free Residual Chlorine (FRC) and pH levels.

Samples of water collected from boreholes, network infrastructure, public taps and individual taps were tested at a laboratory in Kathmandu, certified by the Government of Nepal.

A series of water quality dashboards has been created in the online mWater platform to store and display the results, which is accessible by the project teams in Nepal and the UK.

WSP activities were led by NWSC with support from different people. WSP monitoring visits have helped to identify critical assets and plan for their upgrade to minimise the risk of contaminated water entering pipework during a period of depressurisation. Based on these findings, a WSP was prepared by NWSC Lahan to reduce the potential risks and hazards and maintain a regular supply of good quality water.

Monitoring customer satisfaction

To better understand and respond to customer complaints, The Beacon Project funded one intern to systematically record each customer contact and inform the respective technical units within NWSC Lahan so they could quickly respond. The results of this process are summarised in table 3.

Table 3: The number and type of customer contacts received by NWSC Lahan in 2022/23.

Description	Quantity
Number of customers who contacted NWSC Lahan	335
Number of complaints relating to turbid water	2
Number of complaints relating to water supply for less than two hours	17
Number of satisfied customers	316
Percentage of satisfied customers	94.33

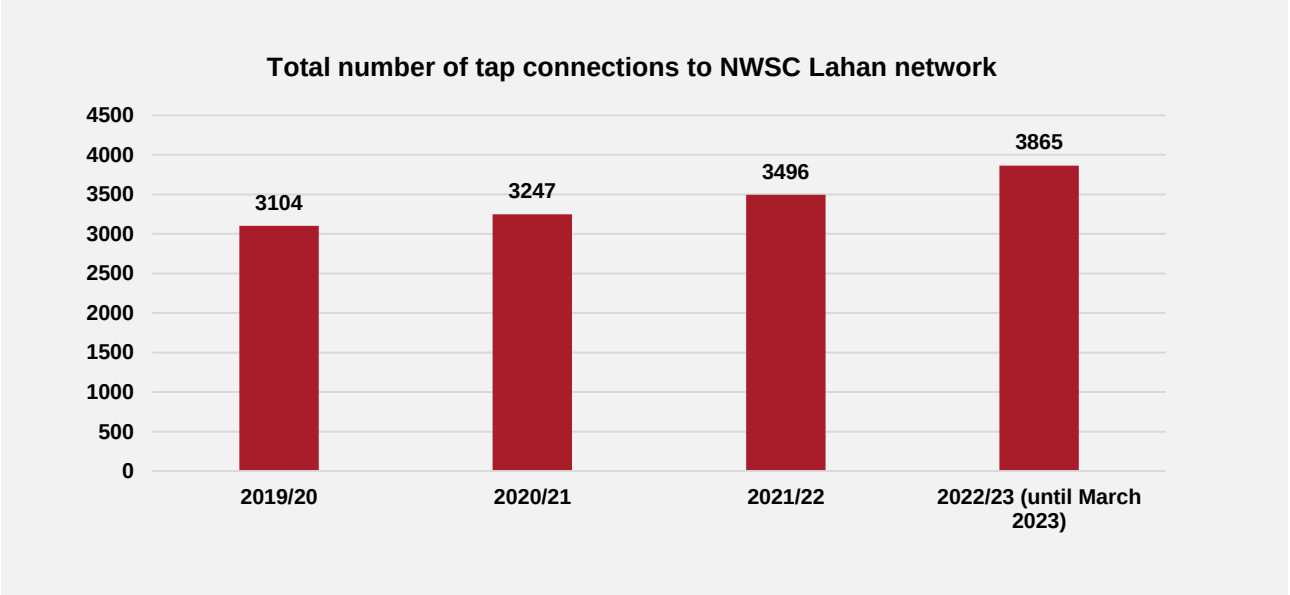
Increasing tap connections in NWSC Lahan

In total, 368 new taps were connected to households. Of those, 187 were Dalit households. With this, the total number of connections to the NWSC network has reached 3,865 (Table 4), covering 49.56% of the population in wards one to ten.[1]

Improvement works at 14 public taps were carried out, including maintaining platforms and drainage canals, plus replacing damaged taps.

[1] As per 2021 Census, in ward 1 to 10 of Lahan Municipality there are 7798 households.

Table 4: The total number of tap connections to NWSC Lahan network by year. (Note: this data is by Nepali fiscal year which starts mid-July).



Anglian Water and NWSC staff installing an electromagnetic flowmeter during a technical visit to Lahan, October 2022. Anglian Water/ Andy Smith

Managing supply hours and distribution zones

NWSC maintained an average supply of eight hours per day in 2022/23, despite many challenges related to borehole issues and highway construction works.

The six district metered areas planned previously were modified to five distribution zones to cover wards one to ten, based on the adoption of an irrigation borehole at Ashram and pipeline extension works.

Installing electromagnetic flowmeters

Six electromagnetic flowmeters were installed with technical support from Anglian Water. This has provided greater clarity on current supply scenarios, any possible leakages and network restrictions.

Improving pipelines

NWSC procured and laid 5,120m of HDPE pipe and associated fittings. This network expansion included Dalit communities at Gudiguan (1,440m), Dhansawar (548m) and Champapur to Islampur (1,212m). It also covered a section of highway improvement (470m) and connected the Ashram borehole into the NWSC system (1,450m).

Newly installed under-ground pipelines in Gudigaun, Lahan. WaterAid/ Nishant Gurung

Planning for future NWSC network improvements and extension

4,718 m of new pipelines have been surveyed with technical support from The Beacon Project. The pipeline extensions will improve and extend the NWSC network within wards two, 14 and 17. Collectively, they contain 256 Dalit households.

Assessing use of open water sources

In February 2023, an assessment was carried out in wards one to 24 to find out how open water sources are used in Lahan.

The data shows that 7,396 households (30,887 people) are using open water sources for domestic use and maintaining their livestock. A summary is provided in Table 5.

Table 5: Number of people and households who use open water sources for daily needs.

Users	Dug well	Open well	Pond	River	Total
Population	6,084	1,454	15,909	7,440	30,887
Households	1,282	320	4,205	1,589	7,396

Women using a pond to wash laundry in Lahan.
WaterAid/Nishant Gurung.

Providing water supply systems in schools

The Beacon Project installed water supply facilities in nine schools:

- Three schools were connected to the NWSC network.
- Three schools had an aqua tabs flow (chlorination) system installed.
- Two schools received a bio-sand filter, sedimentation tank and pressure filter.
- One school had a self-contained chlorination unit installed.

Drinking water stations were also built to enable easy access to the water supply.

Providing water supply systems in healthcare facilities

The Beacon Project installed water supply systems in two healthcare facilities:

- One healthcare facility was connected to the NWSC network.
- One health-care facility received an aqua tabs flow (chlorination) system.

Drinking water stations were also built to enable easy access to the water supply 15,854 people can now access clean drinking water when visiting the health posts.

The Beacon Project installs bio-sand filters in some schools across Lahan, including this one in Shree Basic School, Tarenga in ward 16, February 2023.
WaterAid/ Mahesh Dhungana

CASE STUDY

SCHOOL WASH PROGRAMME CHANGES STUDENT ROUTINES

Bibisha washing her hands with soap and water after using the toilet, July 2022. WaterAid/Sabu Sapkota

"THE PROGRAMME HAS TAUGHT US THAT GARBAGE SHOULD BE PUT IN THE DUSTBIN. EARLIER, WE USED TO THROW GARBAGE WHEREVER WE FOUND IT. "

BIBISHA SAID, CLASS 9 STUDENT

Laxman Lalita Secondary School is based in ward three of Lahan Municipality and has 1,450 students and 29 teachers.

Previously, the school had 11 toilets and urinals for the students to use, although these weren't in a good condition. There was no roof on the toilet block, so students would get wet during the rainy season.

A pump was available for students to access drinking water, but this was not quality checked. As such, many would often fall ill.

The Beacon Project has renovated these toilets and added six new ones. Handwashing stations enable good hygiene and the pump has been serviced to guarantee a supply of clean water.

DJKYC has delivered hygiene classes over the last six months. Class nine student, Bibisha said, *"The programme has taught us that garbage should be put in the dustbin. Earlier, we used to throw garbage wherever we found it. At that time, we preferred to stay at home because we would get blood on our pants and be teased by others. The availability [of this programme] has taught us to read and live with self-respect. We've learned about safe water, toilet hygiene, hand washing, food management and waste management."*

Similarly, class eight student, Swastika said, *"We first learned that we were unknowingly consuming unsanitary water when The Beacon Project tested water from hand pumps. There was a lot of iron in the water. The programme has taught me about waste management which is being practised even at home."*

OUTCOME 3:

SANITATION WITH DIGNITY

We have continued our work to raise awareness of the importance of sanitation and hygiene in schools and the community by carrying out the following activities:

Building a community toilet block

The Beacon Project built a community toilet for Dalit households in Baluwa tole, located in ward five of Lahan Municipality. Previously, people living there were practising open defecation and they didn't have the land to build toilets. Now 225 people (45 Dalit households) have access to safe sanitation.

A committee formed from people within the community has been set up to help operate and maintain the community toilet block.

Asha Devi Pasman makes her way to the new toilet facility at Baluwa tole, Lahan.
WaterAid/ Nishant Gurung

Building and renovating school toilets

The Beacon Project built toilets in four schools and renovated toilets in three schools, providing water facilities, new toilet pans, and tiling on the walls and floor. In addition, the toilet facilities in four schools were upgraded to be accessible to people with disabilities.

In all seven schools, separate stalls were built for girls and boys, and the latter also had urinals constructed.

As a result, 702 students and staff have access to safe sanitation during the school day.

Building and renovating toilets in healthcare facilities

The Beacon Project renovated and built new toilets in two healthcare facilities. In ward 19, the toilets were renovated, and in ward ten, a new toilet was built.

It's estimated that 15,854 people now have access to the toilets while visiting these healthcare facilities.

Installing handwashing stations in schools

The project constructed new handwashing facilities in six schools, providing access for 702 students and staff. The wastewater is managed in a soak pit.

Installing handwashing stations in healthcare facilities

The project constructed a new handwashing facility in one healthcare facility. Now an estimated 9,246 people will be able to wash their hands safely when visiting or working in the healthcare facility. The wastewater is managed in a soak pit.

The toilet block at Shree Pashupati Adarsha Secondary School, Lahan. July 2022. WaterAid/ Govinda Subedi

Staff from DJKYC discuss WASH matters at a community meeting held at Gudigaun, Lahan.
WaterAid/Nishant Gurung

Delivering community and school WASH programmes

The Beacon Project coordinated regular meetings with WASH management committees to implement sanitation campaigns, for example in ward 11, the community started practicing solid waste management under the guidance of project staff.

Our ‘WASH in school’ programme encourages good hygiene across school communities, and includes meetings with child clubs, setting up school WASH management committees and providing guidance to help schools self-evaluate their WASH provision. We met with the education section of Lahan Municipality to deliver training on the ‘WASH in school’ programme to school and Municipality staff.

WaterAid developed ‘WASH in HCF’ standards this year, which shared with the leaders of Lahan’s 14 healthcare facilities.

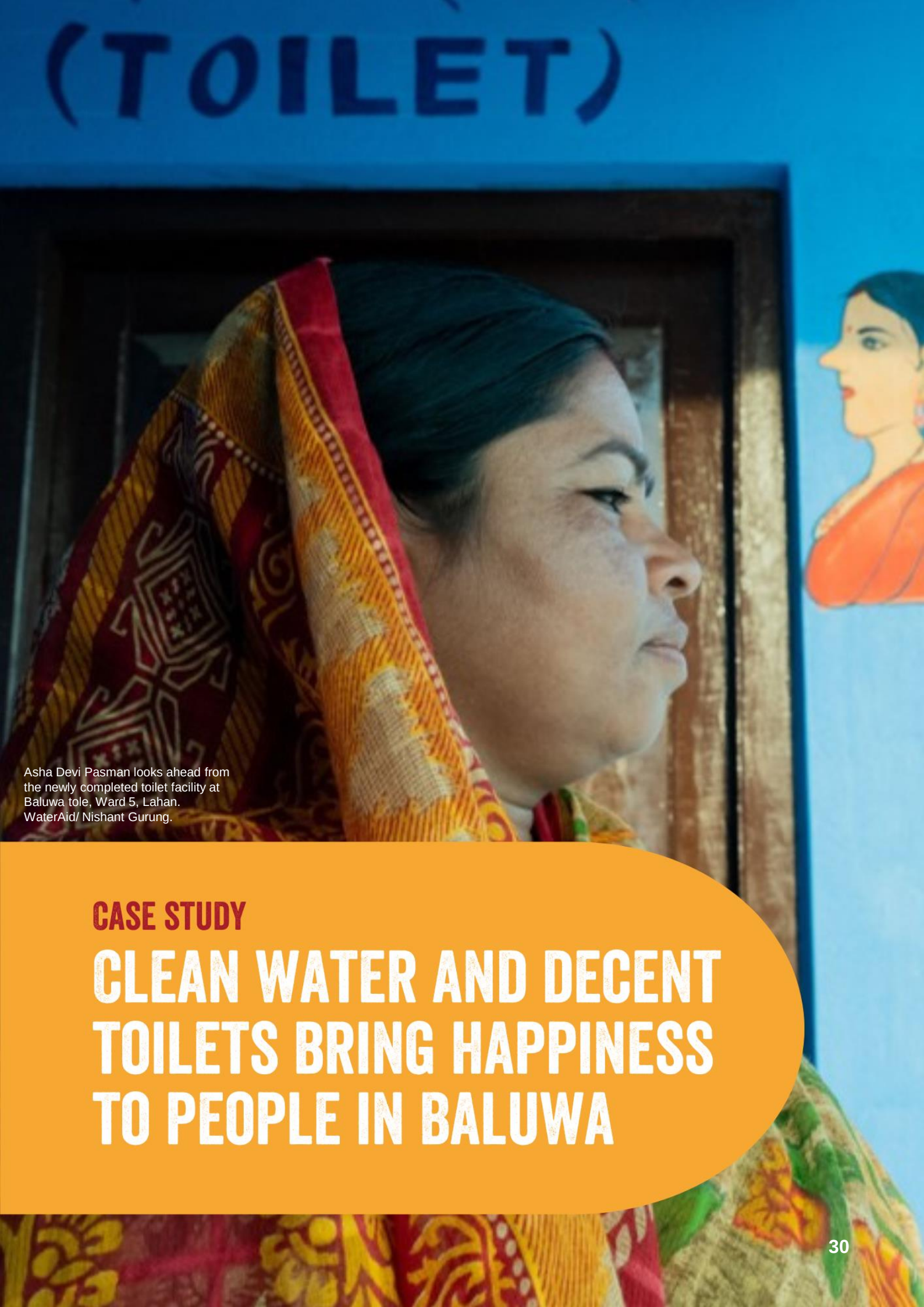
Four schools were given menstrual health and hygiene management related materials and set up dedicated rest rooms for girls to use when on their period.

Training on hygiene behaviour change

Six teachers, five female community health volunteers and a group of hygiene workers received training on how to run hygiene behaviour change sessions in schools and communities respectively.

A series of six hygiene behaviour change sessions were delivered in two schools and four communities as a pilot intervention.

From the sessions, 445 community women and 685 students received training on good hygiene behaviours and practice in daily life.



Asha Devi Pasman looks ahead from the newly completed toilet facility at Baluwa tole, Ward 5, Lahan. WaterAid/ Nishant Gurung.

CASE STUDY

CLEAN WATER AND DECENT TOILETS BRING HAPPINESS TO PEOPLE IN BALUWA

Although located on the banks of the Khutti River, Baluwa tole was facing a water crisis. The three tube wells that serviced the community could not meet everyone's water needs.

Of the community's 173 households, over 90% belonged to Dalits. The tube wells didn't have the capacity to provide water for this number of people. Plus, traditional Dalit beliefs around untouchability created access issues. For example, the Pasmar community, traditionally considered higher than the Mestar community, didn't want people from the latter collecting water from the same tube well.

Houses were also ill-equipped. They had no toilets, forcing people to defecate in the Khutti River. Men would use one side, and women the other.

This year, The Beacon Project installed water taps in 19 houses and built a community toilet block which serves 45 households, consisting of 225 people. The Baluwa tole Community Restroom Committee was also formed, which is responsible for toilet sanitation and water management.

Asha Devi Pasman, chairperson of the committee, said: *"Now we don't go to the tube well of Rampari. Connecting us to a water supply and building toilets has reduced our stress. In the past, our children would miss school because it would take time to walk down to the Khutti River to urinate and it would take time to fetch water. But now we believe our water problem will soon end."*

"NOW WE DON'T GO TO THE TUBE WELL OF RAMPARI. CONNECTING US TO A WATER SUPPLY AND BUILDING TOILETS HAS REDUCED OUR STRESS.

ASHA DEVI PASMAN, CHAIRPERSON OF THE COMMITTEE

OUTCOME 4:

SUSTAINABLE FAECAL SLUDGE MANAGEMENT

To achieve sustainable faecal sludge management, The Beacon Project is supporting Lahan Municipality through the following activities:

Preparing to build a faecal sludge treatment plant (FSTP) and co-composting unit

Following an election in May 2022, Lahan Municipality selected a new location for the proposed new FSTP in ward three, near the Khutti River. The Beacon Project assessed the viability of this location, through site visits and commissioning a geotechnical investigation.

A group from Lahan visited FSTP sites in Kakarbhitta and Charali (both in the Jhapa district) and learned lessons about business model viability and sustainability of the facilities.

A team from Lahan Municipality, including the Mayor, ward chairs and staff from the WASH unit, also visited FSTP sites in Bangladesh, facilitated by The Beacon Project and WaterAid Bangladesh.

During the Beacon Board visit to Lahan in December 2022, Lahan Municipality agreed to construct a boundary wall at the new site.

After the formation of the WASH Unit, a WASH Engineer was assigned and later given the role of Project Manager for the construction of the new FSTP.

A meeting with the contractor was held to finalise administrative issues. The contract ended up being terminated due to issues with the previously agreed price. The contractor refunded the advance amount to the Municipality.

With support from WaterAid Nepal, Lahan Municipality's WASH engineer visited a FSTP in Hyderabad, India, which uses mechanical dewatering and an incinerator to burn the dried sludge. Mechanical dewatering uses less space than drying beds and is quicker (sludge is dried in less than 24 hours, compared with the normal 20 days). Residents are likely to prefer a smaller FSTP to reduce any odours. An incinerator also prevents any residual pathogens being left behind, which residents have been concerned about – particularly if they get washed into rivers. The Beacon Project team will support with a review of design and cost, considering mechanical dewatering as another option.

At the time of writing, the Municipality is planning to move the location of the FSTP again, from ward three to ward 15. Since the site and design has not yet been finalised, the allocated budget (20 million NPR) is unlikely to be spent this financial year. Therefore, the Municipality propose to spend this budget on purchasing a mini-digger and trucks to construct a boundary wall at the newly proposed FSTP site. The Municipality also has plans to enter an agreement with a private sector company to build an energy-from-waste plant in the same location as the FSTP, to address the lack of solid waste management in Lahan.

A faecal sludge vacuum tanker parked in Lahan.
WaterAid/ Nishant Gurung.

OUTCOME 5:

A LEGACY THAT GROWS

We have continued our mission to ensure improvements and learnings made in Lahan can be replicated elsewhere by carrying out the following activities:

Facilitating technical visits

In October 2022, the networks technical team from Anglian Water visited Lahan to install and configure six electromagnetic flowmeters. The team also delivered training on how to use pressure loggers and updated the GIS to better inform the hydraulic model.

In January 2023, six staff from NWSC and WaterAid Nepal travelled to the UK to learn about technological practices and work culture from Anglian Water services.

In February 2023, a technical exchange learning visit took place in Nepal, involving staff from NWSC, Lahan Municipality, Godawari Municipality, WaterAid Nepal and DJKYC.

They visited Damauli and Pokhara to learn about Climate Resilient Water Safety Plan (CR-WSP) practices and business planning.

Visit to the Anglian Water laboratory at Huntingdon, UK during an exchange visit in January 2023. WaterAid /Hannah Gray.

Nepali visitors learning about meters and valves in Lincoln, UK during an exchange visit in January 2023. WaterAid/Hannah Gray.

Hosting occupational health and safety training

A two-day training event on “Occupational Health and Safety for Water Supply & Distribution Network” took place in Lahan in March 2023.

The aim was to provide a basic understanding of the hazards, risks and control measures in construction sites; raise awareness of best work practices and work-related accidents; and improve the use of personal protective equipment.

15 participants from Lahan Municipality, NWSC Lahan, NWSC Malangawa, WAN, DJKYC and the South Asian sub-regional economic cooperation (SASEC) gained knowledge and hands-on experience.

Celebrating global awareness days

Events were organised, in coordination with NWSC and Lahan Municipality, to celebrate these globally recognised awareness days:

- Menstrual Hygiene Day (28 May)
- Global Handwashing Day (15 October)
- World Toilet Day (19 November)
- World Water Day (22 March)

Participating in a WASH planning workshop

A meeting with all project stakeholders, including NWSC’s General Manager, was held in March 2023 to collaboratively plan the next five years of WASH-focused activity in Lahan. Outcomes of the meeting:

- Implementation plans for NWSC and Municipality were drafted.
- Planned to launch and endorse the WASH plan in June 2023 at Lahan’s Municipal Assembly.
- Listed new WASH related policies and regulation required by Lahan Municipality.
- Lahan Municipality increased WASH budget by 33 million NPR more than previous year.

WaterAid Nepal staff at the Municipal Association of Nepal 8th National convention in Kathmandu, December 2022.
WaterAid/ Mahesh Dhungana

DJKYC staff member leads a hygiene behaviour change lesson at a school in Lahan.
WaterAid/ Nishant Gurung

THANK YOU

We'd like to thank Anglian Water and their Alliance partners, NWSC, the Ministry of Water Supply and Lahan Municipality for their continued support of The Beacon Project.

We look forward to working together to deliver another year of life-changing improvements for the people of Lahan.

Sushil Kumar Dhimal installs water taps using a wrench in Gudigaun, Lahan. April 2023. WaterAid/Nishant Gurung

Shila Pasman smiles as she paints her Clay stove using water and red mud in Baluwa tole, Lahan. WaterAid/Nishant Gurung

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Visit **washmatters.wateraid.org/the-beacon-project**