BEACON PROJECT – OUTCOMES 2020-2030

INTRODUCTION

The Beacon project was established in 2017 as a collaboration between WaterAid, Nepal Water Supply Corporation (NWSC), the Nepalese Government and Anglian Water and it's partners.

In 2020 the project is working in a changing environment. Where our focus has previously been on working with NWSC in urban old Lahan, the level of activity in the peri-urban new Lahan with around 84km of new WSSDO pipelines, 12 overhead tanks and boreholes under construction, means that our scope is expanding. In new Lahan there are new Water Supply User Committees being formed. While we continue to work alongside NWSC, with the delivery of these new pipelines and the formation of the new committees we have an opportunity to transform water supply across Lahan and move closer to the vision of '*one house one tap'*, but creating many new organisations also creates risk. The project outcomes aim to reflect this changing context.

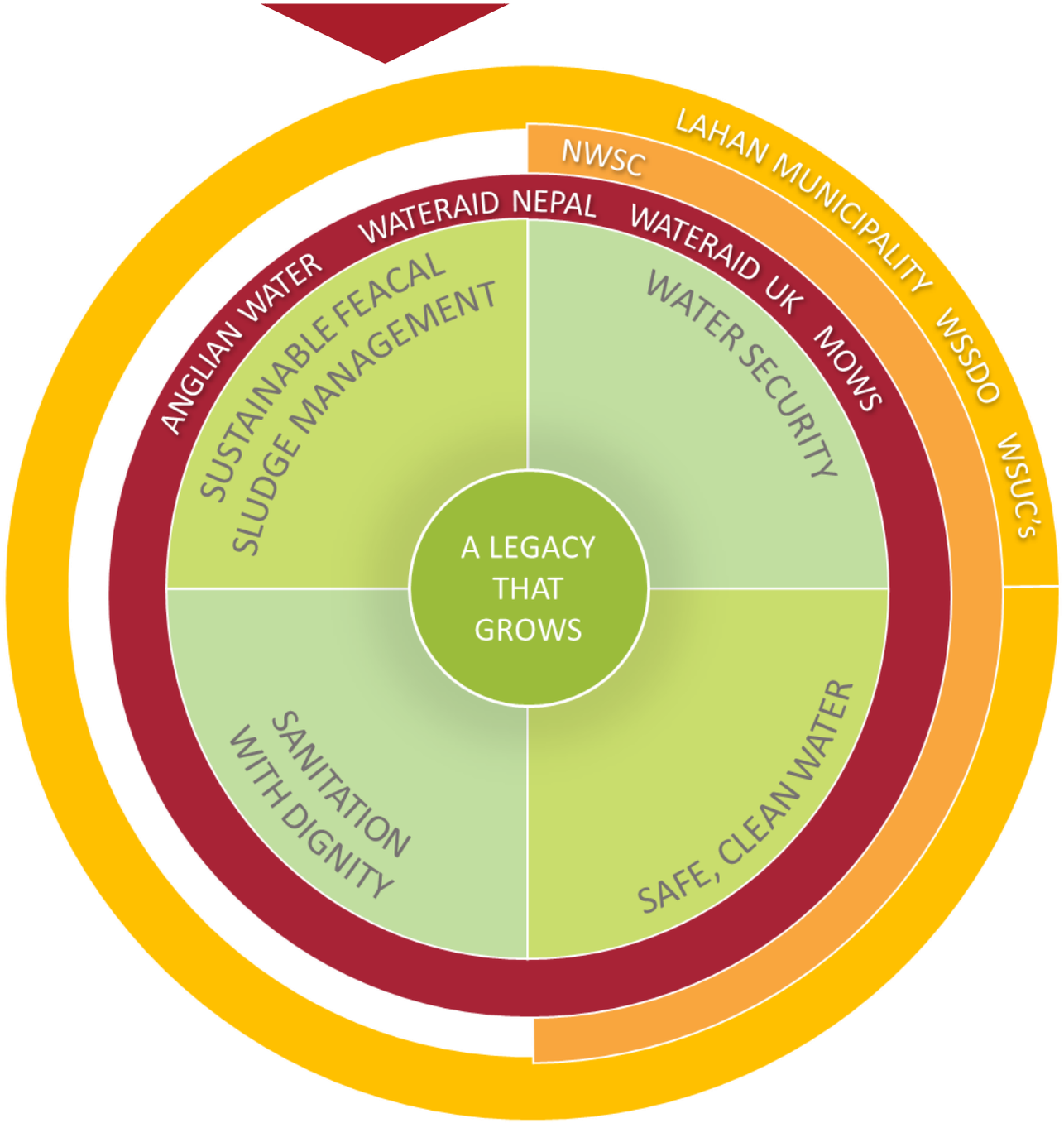
As part of developing our thinking about the future direction of the Beacon project, in January 2019 the Beacon Project Board agreed to start a period of community engagement. The intention of this exercise is to develop a detailed understanding of the issues the community faces to better inform our collective future direction for the period 2020-2030. We have carried out a range community engagement in the municipality in collaboration with the University of East Anglia, to give a range of both qualitative and quantitative engagement techniques in three phases:

- Phase 1 – Discovery
- Phase 2 – Feasibility
- Phase 3 – Board engagement

This document presents a high level view of the co-creation strategy, it breaks down each outcome and outlines the community engagement that has taken place. Looking forward, there is then the possibility that this co-creation strategy will help to define and influence the new municipal WASH plans. Ultimately, this document summarises the Beacon Project outcomes for the next 10 years.

THE UPDATED OUTCOME WHEEL

The wheel below shows the outcomes the project intends to achieve in the centre with the accountabilities for each outcome shown in the outer rings. The central outcome of a legacy that grows is shown in the middle, as each of the other outcomes contributes to this outcome.



Water Security – Long-term sustainable sources of water for all users which enable economic development (new homes and businesses, agriculture and tourism), improve public health and are resilient to future challenges around climate change and the need to protect and enhance the environment for now and future generations

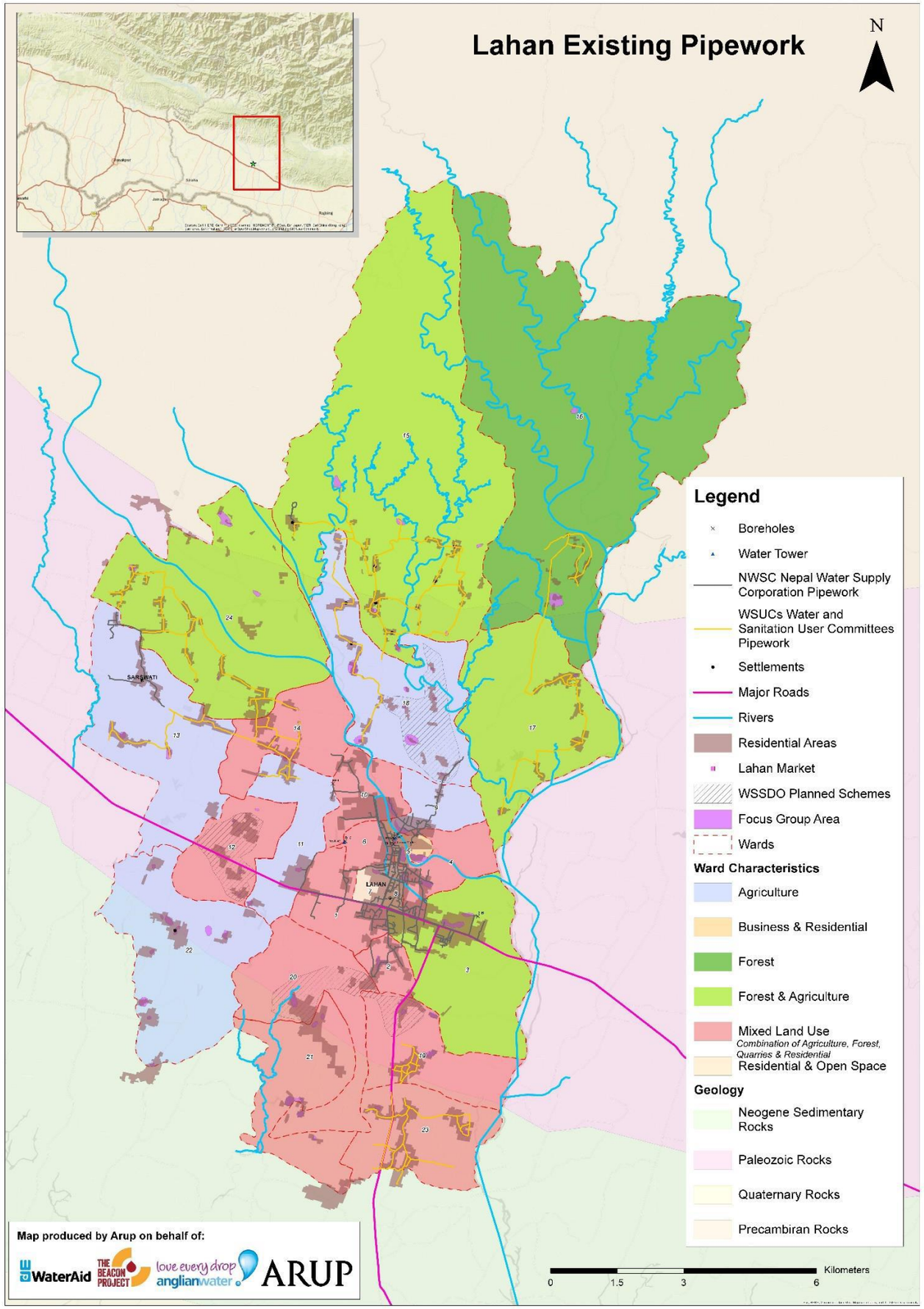
Safe, clean water – The water that is available to people to use is safely managed and a suitable quality for the purpose for which it is to be used

Sanitation with Dignity – People in Lahan believe in the importance of hygiene and sanitation. They have safely-managed sanitation facilities
and improved hygiene practices in the home, schools and health-care facilities.

Sustainable faecal sludge management – Lahan is known as having a clean environment, with faecal sludge being safely managed and contributing to the local agricultural economy

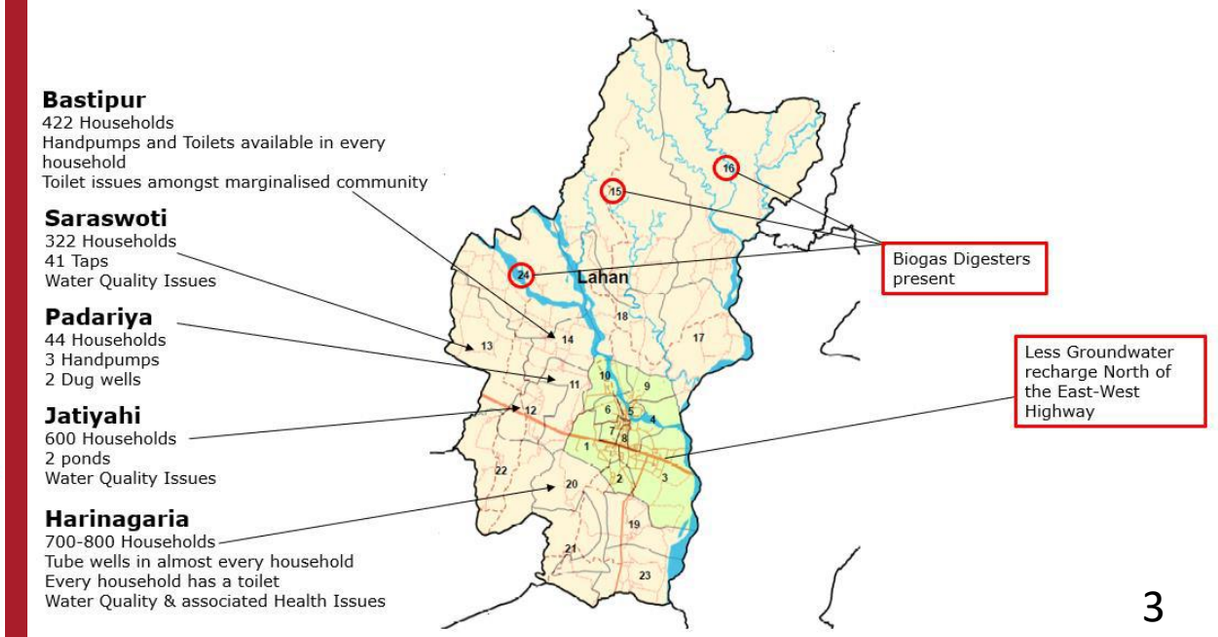
A legacy that grows – Organisations responsible for the management of water in Lahan are trusted by users and stakeholders and use gender and caste equality as founding principles. Learning from the project is shared to increase capabilities wider in Nepal.

LAHAN MAPS



This map of Lahan shows the current and proposed pipework infrastructure in the area as well as land use.

A breakdown of Lahan



CO-CREATION OUTCOMES & UN SDGS

The below matrix shows the alignment between each of the co-creation strategy outcomes and the United Nations sustainable development goals (SDGs).

The Beacon Project outcome	United Nations Sustainable Development Goal
Water Security	**6.1** By 2030, achieve universal and equitable access to safe and affordable drinking water for all **6.4** By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity **12.2** By 2030, achieve the sustainable management and efficient use of natural resources
Safe, clean water	**6.1** By 2030, achieve universal and equitable access to safe and affordable drinking water for all **6.2** By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations **6.B** Support and strengthen the participation of local communities in improving water and sanitation management
Sanitation with dignity	**3.D** Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks **6.2** By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations **6.B** Support and strengthen the participation of local communities in improving water and sanitation management
Faecal sludge management	**6.3** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally **12.4** By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment **12.8** By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature **15.9** By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts
A legacy that grows	**3.9** By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination. **6.1** By 2030, achieve universal and equitable access to safe and affordable drinking water for all **6.B** Support and strengthen the participation of local communities in improving water and sanitation management **12.2** By 2030, achieve the sustainable management and efficient use of natural resources **12.8** By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

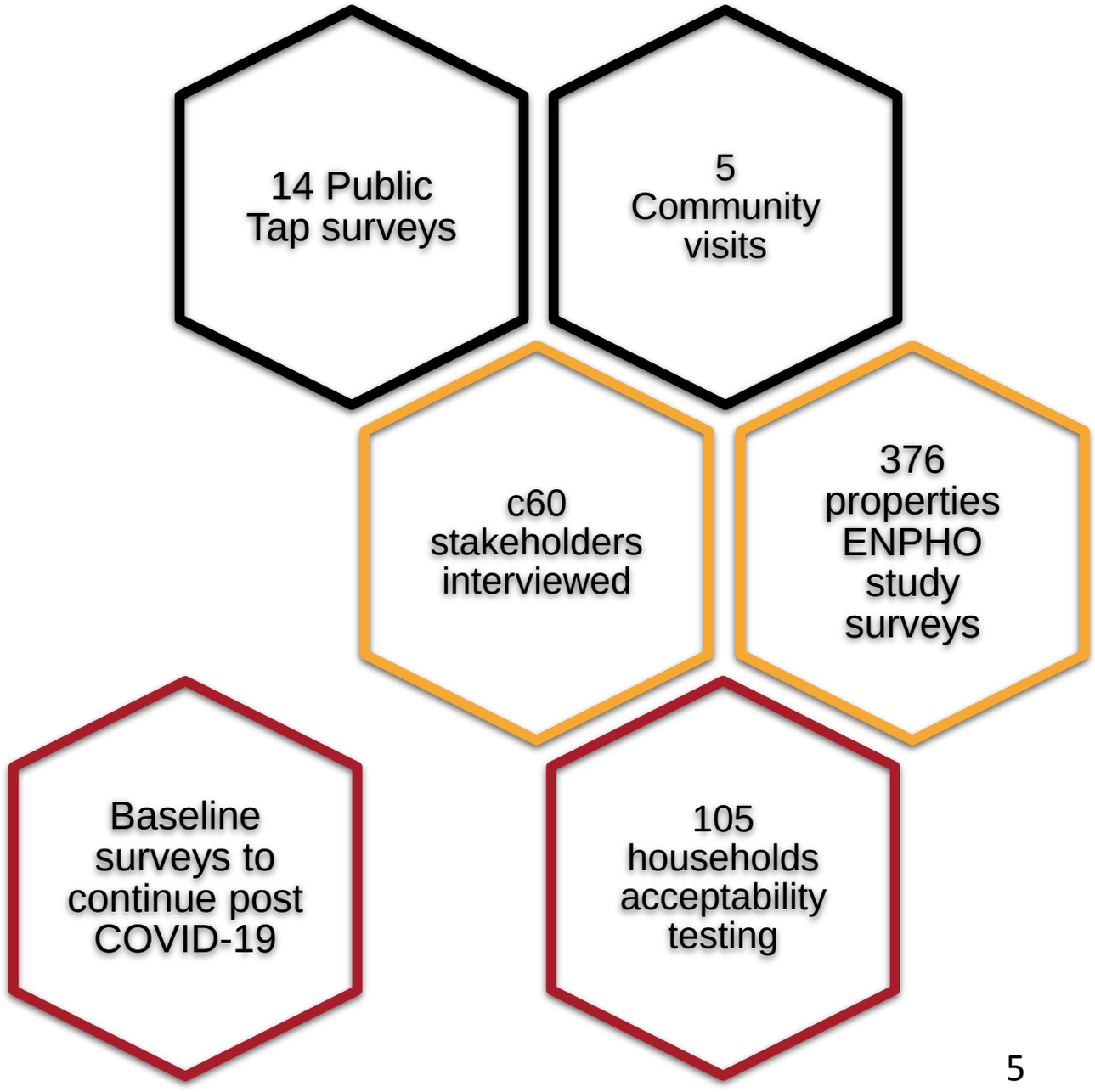
COMMUNITY RESEARCH SUMMARY

We have carried out a range of community engagement in the area in collaboration with the University of East Anglia, designed to incorporate the views of all stakeholders from different geographies, castes and genders. We have engaged with over 1,000 people. The research conducted so far is summarised opposite. Our current survey plans have paused due to the worldwide Covid-19 pandemic, but some surveys were able to take place beforehand.

The interviews conducted were to gather information on the primary water collector in the household, and what the uses were for the water collected. Surveys were then created to further explore the themes raised in the interviews, including how the current water supply impacts their lives, what clean water would mean for the communities, most convenient payment methods and in terms of sanitation, what would best suit them and their communities.

The findings are not shown in detail in this document but have been used to inform the intended outcomes and forward plan.

Below is a summary of all the community research that has been conducted as part of this strategy:



OUTCOME ACCEPTABILITY TESTING

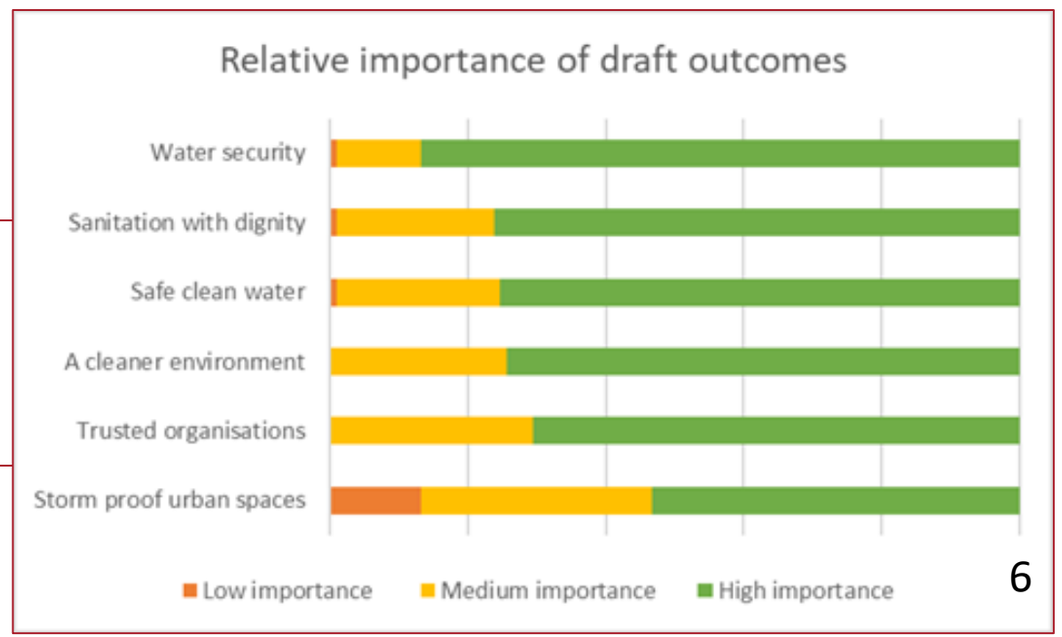
A total of 105 people in Lahan were asked about the level of importance each of the Beacon Project has to them. They were representative of both geography and socio-cultural factors. The study took a sample of people in order to give a small idea of how the communities feel about the outcomes of this project. It was clear after conducting this research that there is a difference of opinion on the importance of the outcomes between the rural and urban communities. Due to this, objectives within the different communities may differ, in order to reach their individual goals.

There were 57 face to face interviews, and 58 interviews. The interviews were disrupted by the COVID-19 pandemic, but 115 people were still interviewed. The interviews were conducted across all 24 wards

The participants selected consisted of:
- Ward Chairs
- Ward Members
- Dalit Leaders
- Teachers

The respondents are further grouped into the following characteristics:
- 46% female, 54% male
- 40% Dalit
- 28% Indigenous
- 25% Madhesi
- 7% other

The table to the right shows the level of importance of each outcome. With Water Security having the most importance, and Storm Proof Urban Areas on the other end of the scale with the least importance to the people surveyed



WATER SECURITY

Outcome lead: Chris Dilley

Long-term sustainable sources of water for all users which enable economic development (new homes and businesses, agriculture and tourism), improve public health and are resilient to future challenges around climate change and the need to protect and enhance the environment for now and future generations

Next 2 years	• Installation of new boreholes and water mains to improve immediate security of supply – moving towards one house one tap. • Work to quantify future water resource needs for all users. • Investigation into opportunities to re-allocate groundwater across public water supply and agricultural uses in the short term. • Initial investigations into surface water and flood-risk opportunities. • Continued focus on leakage and other non-revenue water management. • Draft supply/demand balance created.
2 to 5 years	• Creation of multi-sector governance around water resource management, based on international best practice. • Detailed appraisal of options to meet the (assumed) supply/demand deficit (for example new infrastructure such as multi-use storage reservoirs). • Identification of funding streams for options.
Beyond	• Planning, design and construction of new options to meet long term water resource needs.

Community input (findings from the community research that supports this outcome)

- "To the female population who were interviewed, water security meant more to them of their own safety when accessing water or when walking away from the house for defecation"
- "Ward 24 in need of development, with much of its water supplied by dugwells with 0.6 available per household"
- "It is crucial to address problems of water access as products of wider social inequalities."

(Engagement findings, November 2019 board) document)

Risks	Challenges
Lack of data to inform the supply/demand balance. Extreme weather events, for example drought or severe monsoon forcing short term decision making.	Collaboration between different water users – gaining consensus on the equitable allocation of water across users. Financing large infrastructure projects.

Accountability (who will be the main party to achieve the outcome (e.g. AW, WaterAid Nepal etc))

Local government, supported by AW and WaterAid Nepal.

What will help us achieve this outcome…

Academic and consultant support to gather accurate data and information. Political buy-in around how water should be used.

SAFE, CLEAN WATER

Outcome lead: Robin Price

The water that is available to people to use is safely managed and a suitable quality for the purpose for which it is to be used

Next 2 years	• Continued monitoring of all water supplies across the whole of Lahan. • Installation of new treatment processes (iron removal filters and chlorination), training of staff and development of maintenance strategies. • Development of a programme to eliminate the use of open water sources such as dug wells within communities, providing safer sources. • Asset upgrades to minimise the risk of ingress during depressurisation events, and training around hygienic practices during operational activities. • Upgrades to water collection facilities and community hygiene engagement. • Academic research into the impact of moving to a 24/7 supply.
2 to 5 years	• Upgrade of all sources to enable full achievement of drinking water quality standards. • Development of a long-term water treatment strategy based on future water resource options (link to Water Security). • Implementation of research findings around 24/7 supplies, and scoping of further academic research work.
Beyond	• Ensure that a long-term strategy is in place, including future innovation integration, ensuring that people remain highly skilled around water quality and assets are maintained to sustain safe, clean water for the long term.

Community input (Findings from the community research that supports this)

- "Water quality is an issue across the clean water supply sources. Dependant on use, respondents do not necessarily need a constant supply of potable water – just a reliable one"
- "Groundwater often has a high content of Iron, there are also issues with sand and dust, however this varies from ward to ward."
- "Communities have different uses for water including, Cleaning, Drinking, Cooking, Agriculture & Industry, Washing clothes & Personal Hygiene. Each use determines how much the community values water. Educating communities on how to use their water supply safely will greatly impact the water quality issues currently faced."

(Engagement findings, November 2019 board document)

Risks	Challenges
Sudden or chronic groundwater quality deterioration, for example during extreme weather events. Lack of funding for tactical and longer-term interventions, or inability to source critical items.	Understanding whether 24/7 supply is the right answer for all. Ensuring that this strategy can be applied to all users, whether NWSC or WSUC.

Accountability (who will be the main party to achieve the outcome (e.g. AW, WaterAid Nepal etc))

NWSC and community leaders, supported by local government, AW and WaterAid Nepal

What will help us achieve this outcome…

Data and information, engagement of all actors, underpinning academic research. Funding for interventions.

SANITATION WITH DIGNITY

Outcome lead: John Knight

People in Lahan believe in the importance of hygiene and sanitation. They have safely-managed sanitation facilities and improved hygiene practices in the home, schools and health-care facilities.

Next 2 years	• Design & construction of faecal sludge treatment plant • Improve HH access to toilets (including communal toilets where necessary) and sustain Open Defecation Free (ODF) • Improving school sanitation and hygiene • Improved hand hygiene in homes, public places, institutions (Covid-response campaign) • Hygiene baseline knowledge, Attitudes, Practices (KAP) survey.
2 to 5 years	• Improvements to faecal sludge treatment based on operational experience • Safe operating procedures and PPE for all sanitation workers • Improved containment (septic tank design) • Improved sanitation and hygiene in health-care facilities • Public toilets (e.g. market).
Beyond	• Aim to reach 100% safely-managed sanitation • Municipality has budget, technical expertise, and regulatory framework to provide sanitation & hygiene services • Evaluation of changes in sanitation and hygiene practice • Learning documented and shared.

Community input (Findings from the community research that supports this)

- ENPHO study (2019)showed that despite national ODF declaration 6.7% of households do not have a toilet, but with wide geographical variation increasing to 20% in wards 2, 8 and 24.
- Only 34% of faecal sludge is safely-managed; 32% of FS is disposed directly into open land, forest, water bodies or drains.
- Out of 105, a total 13 rated most and 20 rated least important to the sanitation with dignity outcome. Of the 13 who rated most are mainly from (9 people) old Lahan and only 4 from new Lahan. Similarly, of the 20 who rated least are mainly from new Lahan-7 from old Lahan and 13 from new Lahan. Here also location variable played vital role. Few more female rated most to sanitation with dignity.

Risks	Challenges
Changes in political leadership in the Municipality Reduced budget post-Covid Changes in faecal sludge management not accepted by community	Remote access to some wards Flooding/high water table Hygiene behaviour change is complex and takes time

Accountability (who will be the main party to achieve the outcome (e.g. AW, WaterAid Nepal etc))

Lahan Municipality and WaterAid Nepal

What will help us achieve this outcome…

Support from Municipality, WaterAid Bangladesh. Collaboration with ENPHO.

FAECAL SLUDGE MANAGEMENT

Outcome lead: Peter Walsh

Lahan is known as having a clean environment, with faecal sludge being safely managed and contributing to the local agricultural economy

Next 2 years	• Achieve sound management of waste through its lifecycle • Minimize the release to air, water and soil in order to minimize adverse impacts on human health and the environment • Complete the business case including economic analysis • Purchase of land and construction and commissioning of new faecal sludge management facilities
2 to 5 years	• Ongoing training of sludge management operators and engagement with local agricultural users who can use the end product • Promote more enclosed toilet containment • Monitor the commercial performance of the faecal sludge management facilities and adjust fees accordingly
Beyond	• Improve water quality by reducing pollution • Half the proportion of untreated wastewater • Substantially increase recycling and safe reuse

Community input (Findings from the community research that supports this)

- According to the ENPHO Study 66% of faecal sludge is unsafely managed
- Input from the community showed the majority of households apply faecal sludge into farmland with 32% being disposed into either open land, forest, water bodies or drains
- People in the community believe that FS being collected is treated, however this is not the case. It is disposed of at a Solid Waste Treatment Plant on the river bank and dried

Risks	Challenges
• Changes in political leadership in the Municipality • Reduced budget post-Covid • Changes in faecal sludge management not accepted by community	• Little understanding of the impact of water and sanitation on a cleaner environment • Proper emptying of toilet containment incurs a cost to users – we have to recognise this cost

Accountability (who will be the main party to achieve the outcome (e.g. AW, WaterAid Nepal etc))

This outcome is primarily the accountability of the municipality with support from other Beacon members

What will help us achieve this outcome…

Knowledge and skills of Beacon members already used to the management of faecal sludge

A LEGACY THAT GROWS

Outcome lead: Matt Humphrey

Organisations responsible for the management of water in Lahan are trusted by users and stakeholders and use gender and caste equality as founding principles. Learning from the project is shared to increase capabilities wider in Nepal.

Next 2 years	• Develop a clear roadmap for the ownership and management of new water supply assets in wards 11-24, and how the project can support the relevant organisations. • Evaluate the gender and caste representation in the management of water and sanitation in Lahan • Evaluate opportunities to improve revenue collection for water and sanitation organisations through use of technology • Implement systems to capture and share learning across all aspects of the project, and identify opportunities to share in wider Nepal, recording where this happens.
2 to 5 years	• Embed training and support for management organisations and systems to capture and share learning • Continue Beacon Project Board leadership commitment to capacity building.
Beyond	• The local organisations become self sustaining in enhancing their own capabilities and sharing knowledge with other water.

Community input (Findings from the community research that supports this)

- During the acceptability testing, 'trusted organisations' was seen as highly important by 70% of those surveyed, but ranked only as the 5th most important outcome – this shows people see this as a longer term issue, less immediate than water security
- In ward 13 the local user committee has been unable to collect revenue from users and their assets have fallen into disrepair because of a lack of trust in the committee
- Conflict has been reported in communities when people are asked to contribute to reactive repairs/maintenance
- A WSUC in Mangadh has written into their constitution the requirement for equal male and female representation on their board
- Wards in Lahan have formal women's groups to give them a forum to raise issues

Risks	Challenges
Knowledge sharing relies on trust among stakeholders and an open culture of sharing of information. Trust is hard won and easily lost, therefore we need strong senior leadership and a commitment to work together closely.	The scale of the project means that knowledge is shared daily often informally, making it hard to quantify development of capability. Caste issues are enshrined in law, making it hard for Dalit communities to get water connections to the property.

Accountability (who will be the main party to achieve the outcome (e.g. AW, WaterAid Nepal etc))

Ensuring that the legacy of the project continues to grow when the project is complete is the accountability of all project members.

What will help us achieve this outcome…

WaterAid are experienced in knowledge capture and sharing.

CO-CREATION STRATEGY AND WASH PLANS

The Nepali government has asked all municipalities to create a 5-10 year WASH plan, many are yet to create their WASH plans, including Lahan. WAN are assisting Lahan in creating their WASH plan. It has been noticed that the Co-Creation Strategy is complimentary to WASH planning, and so, it is hoped that this strategy can be used to shape the WASH plan.

The co-creation strategy is a long term, stable plan that defines outcomes, is high level and does not delve into detailed implementation. As the WASH plan's will be for a shorter timescale, but also need to be fluid and specific to each municipality, the WASH plans can be guided by the co-creation strategy. This will allow for consistency in each of the WASH plans, with the flexibility to define the specific area's each municipality wish to focus on.

The WASH plan is to be developed in 2020 to cover the period to 2025, we believe that co-creation strategy provides a framework for the WASH plan goals and is complimentary to the process, to translate the aspirations of this strategy into action.