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SLH Learning Brief

Mainstreaming climate risks into rural sanitation programming in Lao PDR

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Introduction

Climate change is a major concern for the rural sanitation sector. In a context where more than two billion people still do not have access to basic sanitation facilities, climate change adds complexity that deepens existing inequalities and vulnerabilities in terms of sanitation access and usage. Notably, the effects of climate change have a disproportionate impact on disadvantaged and marginalised groups.

The interconnectivity between hygiene, sanitation, and the effects of climate change can be seen in how sanitation service delivery and behaviours change in response to climate hazards, how diverse groups are differently impacted, and who bears the burden of responding to impacts. However, to date, these links are weakly documented in rural settings. Further, the voices of vulnerable individuals, households, and communities who feel the effects of climate change in relation to sanitation issues are largely missing from current discussions. Practical examples to address potential impacts of climate change in rural sanitation programming are also needed to build momentum towards climate adaption responses in rural sanitation.¹ Integration of climate thinking into rural sanitation and hygiene practices at the local level can contribute to the global evidence base on practical tools that are easy to implement with minimal resources.

To this effect, this project has sought to:

1. Build evidence on the direct and indirect impacts of climate hazards on rural sanitation and hygiene practices.
2. Use participatory research methods to understand local realities and experiences.

3. Explore the feasibility of integrating climate-sensitive thinking into rural sanitation and hygiene programming through testing and trialling climate-responsive sanitation interventions.
4. Facilitate learning and sharing with partners within and across case study regions to think through evidence-based recommendations for programming.

This research was conducted in three different countries. The focus in each country was decided collaboratively with a national implementing partner (see below). Together, they addressed the research objectives listed above, although not every country focused on every objective.

Case study 1 Burkina Faso: (published [here](#)) focussed on examining direct and indirect impacts of climate change on sanitation practices in the East Region, and the implications for programming in the region and the country more broadly with UNICEF Burkina Faso.

Case study 2 Lao PDR: focussed on piloting adapted Community-Led Total Sanitation (CLTS) tools that integrated consideration of climate risk into rural sanitation programming with SNV Lao PDR.

Case study 3 Bangladesh: focussed on using a participatory vulnerability analysis approach to better understand and respond to sanitation-related vulnerabilities during climate shocks and stresses with WaterAid Bangladesh.

¹ See the Sanitation Learning Hub and UTS-ISF '[Call to Action: Building Momentum around Climate Change in Rural Sanitation](#)' about the need to proactively tackle climate change issues in the rural sanitation sector.

This SLH Learning Brief presents learnings from a practitioner's experience of integrating climate risk considerations into a CLTS programme. The interventions were piloted across three districts of Savannakhet province with a focus on villages that have frequently experienced heavy rainfall and flooding in the past. The learning brief is intended to provide inspiration and ideas to WASH experts and practitioners with interest in integrating considerations of climate change into rural sanitation programming.

Setting the scene

The Lao People's Democratic Republic (Lao PDR) is a land-locked, multi-ethnic country in southeast Asia with a population of 7.45 million.² Although 60 per cent of rural households in the country have access to safely managed sanitation, another 28 per cent practise open defecation (WHO/UNICEF 2022). Just 46 per cent of rural households have access to basic hygiene services (ibid). Initial CLTS pilots started in 2009, and in 2019 the government of Lao PDR released national guidelines on implementation across the country – but these make no mention of climate change risks.



Waterlogging in the village is common during the wet season. *Credit: Jeremy Kohlitz*

The 2015 census estimated that 67 per cent of the country's population lives in rural areas, with 8 per cent of the population not accessible by road (Government of Lao PDR 2015). Approximately one out of four people in these rural areas lived below the poverty line as of 2018 (Asian Development Bank 2022). Lao PDR is extremely exposed to riverine and flash flooding, and exposed to cyclones and droughts to a relatively lesser extent (The World Bank Group and Asian Development Bank 2021). Heavy rainfall and resultant flooding are an annual occurrence impacting the central and southern parts of the country, which lie along the Mekong river (CFE-DM 2021). While there is substantial uncertainty surrounding projections of future rainfall in Lao PDR due to climate change, the number of extreme rainfall events appears to be increasing and most models indicate an increase in annual average rainfall (The World Bank Group and Asian Development Bank (2021). Increasingly extreme weather poses a significant risk of slowing down or even reversing progress made in eliminating open defecation in Lao PDR.

The University of Technology Sydney – Institute for Sustainable Futures, (UTS-ISF) and the Sanitation Learning Hub partnered with SNV Lao PDR to pilot a CLTS process that addresses the risks of flooding to sanitation. Lao PDR was chosen due to its high exposure to flooding that is predicted to worsen with future climate change. Communities in Savannakhet province were chosen as pilot sites because of their past experiences with flooding, and because they were sites where SNV was already targeting their CLTS programming.

In Lao PDR, SNV implements a phased, district-wide approach to progressing equitable and universal access to safely managed sanitation and hygiene for 200,000 people across three districts (Atsaphone, Champhone, and Palanxay) in Savannakhet Province. SNV has been working in Savannakhet since 2018, with funding from the government of Australia's Water for Women aid programme, and has an established understanding of the sanitation context in the area.

What we did

Piloting flood-sensitive activities within CLTS

SNV and ISF-UTS co-designed three activities, following a brainstorm of ways to integrate flood risk considerations into CLTS activities. The activities were chosen on the basis that they aligned with SNV's ongoing CLTS triggering programme in the area and could be easily piloted at low cost by the community facilitators (government staff who work with SNV field staff at the district level to facilitate CLTS activities). SNV trained the community facilitators, who implemented the activities in the village. The three activities were as follows.

- A transect walk of flood-risk areas.
- Community mapping of flood hazards.
- Power walk.

This section explains how the pilot sites were chosen and how the pilot activities were carried out.

Pilot sites

Across the three districts within Savannakhet, SNV field staff selected a few villages to pilot the activities. These villages were chosen because they were already being engaged by SNV as part of their rural sanitation programme, were still in the triggering phase of the CLTS process, and were known by the SNV team to be annually exposed to flooding. Therefore, all three activities were designed to sensitise and respond explicitly to flood-related impacts.

The villages were visited twice between November 2021 and February 2022. After an initial pilot phase, SNV and UTS-ISF revised the activities based on the initial experiences of the community facilitators, and then piloted the revised activities with other villages in the districts.

Training of community facilitators

The pilot activities were implemented by community facilitators, who had first participated in a training session organised by SNV. The facilitators had previous experience of implementing CLTS triggering and were enthusiastic about integrating climate

² Central Intelligence Agency, World Factbook, Laos, <https://www.cia.gov/the-world-factbook/countries/laos/>, accessed 19 October 2022

risk into the CLTS process. Most of the community facilitators had some understanding about the impacts of climate change as a result of their participation in previous joint workshops organised by SNV and UTS-ISF. During these previous workshops, participants learned about the causes and effects of climate change, the relevance of climate for sanitation and gender and social inclusion, and ways to address climate impacts.

During the training for the pilot activities, SNV walked the community facilitators through each activity and the group role-played the activities together, helping to pre-empt potential challenges in the community and collectively coming up with solutions. The community facilitators asked questions and made suggestions on how the activities could be improved. Once the community facilitators felt confident about the activities, they went to their respective districts to pilot them.

Activity 1: Transect walk of flood-risk areas

A standard version of the CLTS transect walk involves visiting sites of open defecation or poorly constructed latrines within the community and asking questions that encourage community members to consider the impact of faeces in their environment. This activity builds on the conventional transect walk by further prompting community members to consider the interactions between flooding and poorly contained faeces.

The community facilitator takes a walk with community members to different parts of the village and prompts community members to consider how flooding affects sanitation access and the spread of faeces. The objective of the community facilitator is to help community members:

- Realise how flooding and heavy rainfall further exacerbate the health risks of poor sanitation.
- See how flooding impacts women, men, children, and people with disabilities differently.
- Understand that improved sanitation can reduce these risks.

Community facilitators visit the locations listed in **Table 1** and ask the corresponding questions to participants to stimulate discussion on flooding risks for poor sanitation.



Community members go on a transect walk through their village. Credit: Jeremy Kohlitz

Table 1. Locations visited during the transect walk of flood-risk areas and the questions asked by community facilitators

Locations visited within village	Questions asked by the community facilitator
Sites of open defecation	<ol style="list-style-type: none"> 1. When there is heavy rain or flooding, which area or direction do you think these faeces get washed to? 2. Do people still defecate in this area when there is flooding? If no, do they openly defecate closer to home?
Areas that get flooded first or most easily (e.g. low-lying areas in the village)	<ol style="list-style-type: none"> 3. Are there open defecation sites or shallow pit toilets in this area? If yes, where do you think the faeces gets washed to when there are floods? 4. Do women, men, children, elderly people, or people with disabilities have difficulty meeting their defecation needs when there is flooding in this area?
Home of a person with a disability	<ol style="list-style-type: none"> 5. Can this person find a safe, comfortable, and private place to meet their defecation needs when there is flooding?
Raised or well-constructed safe toilet	<ol style="list-style-type: none"> 6. Do you think this toilet will work better when there is heavy rainfall or flooding? 7. What can we do to make sure this toilet is still physically accessible to people with disabilities?

Detailed instructions on how to carry out a transect walk of flood-risks can be found [here](#)

Activity 2: Community mapping of flood hazards

In a standard community mapping exercise, community members work together to create a map of their neighbourhood/village and mark important sanitation-related features, buildings, open defecation sites, and more. This activity adds a flood hazard lens to the standard community mapping. It prompts participants to identify the locations that are impacted by flood hazards or heavy rainfall, encourages them to proactively think about how these hazards influence sanitation and hygiene behaviours and worsen the effects of open defecation, and asks them to consider appropriate sites for sanitation technologies.

After the standard community map has been created, the community facilitator asks the community members to:

1. Mark the areas on the map that are first or most easily affected by flooding or water-logging from heavy rain
2. Mark the areas to where people are evacuated during flooding and the sanitation facilities at such sites.

Participants then discuss how these impacts affect women, men, and people with disabilities in different ways as well as adaptation responses by the community.

Box 1 outlines some of the questions the community facilitator asks participants after the mapping, to stimulate discussion on experiences during flooding hazards and heavy rainfall.

Box 1. Questions asked by community facilitator to participants after community mapping is completed

1. Do the flooding/waterlogged areas overlap with areas of open defecation? Does this raise the likelihood that excreta are spread to homes and water sources?
2. Does flooding or waterlogging make it difficult for people with disabilities or physical limitations to meet their defecation needs?
3. Has flooding damaged poorly constructed toilets in the past?
4. Are there any areas that feel unsafe for some people to go during flooding?
5. Where do people evacuate to when there is major flooding? Are there good toilets in that location?
6. Do women, men, children, the elderly, or people with disabilities have more problems than others with sanitation when there is heavy rain?
7. What have people done in the past to respond to these issues? Focus on positive responses (e.g. pooled resources together to repair toilets).
8. Are there some good sites where toilets could be constructed to avoid flooding?
9. Would good-quality toilets be less likely to have problems during flooding?

Detailed instructions on how to carry out a climate-sensitive community mapping can be found [here](#)

Activity 3: Power walk

The power walk was a new activity added to the CLTS triggering process. The activity aims to assess the social context with respect to flood impacts on sanitation and hygiene. It can be used to demonstrate how community power structures and individual agency shape people's capacity to respond to floods. The objective of this activity is to convey to participants that flooding often imposes an unequal burden across the community, and different groups of people may benefit more or less from certain interventions. It highlights that, in addition to the physical impacts of floods, there are social dynamics that place certain people at a disadvantage.

The community facilitator gathers the participants in an open space and asks them to imagine themselves as fictional members of the community (e.g. a person with a disability, a pregnant woman, etc.). The participants stand in a horizontal line at the centre of the space and the facilitator presents different hypothetical scenarios related to a flooding situation and its impacts on sanitation infrastructure, systems, and social practices. Participants are asked to take a step forward or a step backward depending on how well their character responds to/ copes with the situation.

For example, one scenario may be 'Fliers are handed out by an NGO on how to cope with flooding impacts on community sanitation. Can you read the flier?' Participants role-playing a well-educated community member or an influential leader might step forwards, while participants role-playing a person with a low level of literacy or a visual impairment may take a step backwards.

At the end of the activity, the facilitator prompts a discussion on how each person felt while stepping forwards or backwards, focusing on the characters at the front and back of the room. She/he encourages participants to reflect on whether their character is advantaged or disadvantaged during the climate event, and the implications for their family and community.

This is a powerful activity to understand the differentiated impacts of climate hazards on the sanitation behaviours of diverse members of the community, as well as to recognise who the decision-makers and influencers are within the community.

Box 2 shows some key messages with which the community facilitator can conclude the activity.

Box 2. Key messages to deliver during the power walk activity

- There is a diversity of life experiences – it is a complex picture even in one village.
- Integrating gender equality and social inclusion means recognising different capacities to act on, influence, and participate in activities designed to address climate impacts.
- People with power can act to make sure no one is left behind.
- Our best efforts can inadvertently create risks for those we are trying to work with if we are not careful to understand everyone's needs.

Detailed instructions on how to carry out a power walk activity can be found [here](#)



Community members participate in the power walk activity. *Credit: Jeremy Kohlitz*



A local government facilitator leads community members in mapping climate risks to sanitation. *Credit: Jeremy Kohlitz*

What we learnt

This section discusses the lessons learned from training the community facilitators and the initial pilot, along with challenges encountered and the strategies adopted to overcome them.

Climate change adaptation does not have to be a time-consuming, resource-intensive process. Linking climate risk considerations, that are low-cost and easy to implement, to the existing CLTS triggering process was an effective way to build local capacity for preparedness and adaptation during floods. SNV's CLTS triggering process includes six steps. We integrated climate risk considerations into two of the steps, so as not to divert the focus of the triggering process.

The activities received good engagement from the community members, enabling participants to understand the different ways their sanitation needs can be impacted during heavy rainfall and helping them to consider various risk factors while making sanitation decisions. It also built the awareness and capacity of the community facilitators, helping them engage with the topic of climate risk without the use of confusing climate change jargon.

Transect walk of flood-risk areas: What worked well

- **Ease of integrating climate risk element into CLTS process:** Since the community facilitators had past experience of conducting transect walks, they found it useful to integrate additional questions related to flood risk considerations, and easy to implement the same.
- **Effective community engagement on risks of flooding:** The transect walk successfully facilitated conversations among community members about the areas in the village that are frequently flooded during heavy rains and the attendant implications on open defecation site and toilet access and use.
- **Highlighting differentiated impacts of flooding:** The activity included visiting households with a raised toilet, as well as vulnerable households without toilets, including the houses of people with disabilities. Community facilitators reported that this was effective in sensitising community members about the unequal burden of flooding in their neighbourhood.
- **Identifying local solutions to climate risks:** The community facilitator prompted a participatory discussion on how to address the impacts of flooding, which generated ideas for toilet design adaptation; for example, constructing the toilet with a raised platform. The community facilitator highlighted the importance of keeping in mind the accessibility needs of elderly people and people with disabilities.

Community mapping of flood hazards: What worked well

- **Increased awareness about flood impacts:** The mapping successfully prompted participants to think about the areas in the community that are most affected during flood events, pathways of faecal transmission, impacts on toilet access, and consequently the various risk considerations to keep in mind while deciding the location and design of the toilet.
- **Use of local environment/materials to facilitate:** Drawing the village map on the ground helped the participants to understand the impacts of flooding on different areas in the community and encouraged them to share recommendations about toilet siting and design.
- **Careful sequencing of the three activities:** Community facilitators suggested that community mapping should be carried out after the transect walk but before the power walk. This is helpful because the mapping exercise highlights the impacts of flooding hazards, which can subsequently prompt thinking during the power walk.

Power walk: What worked well

- **Increased awareness of the unequal impacts of climate change:** The power walk helped participants to identify the most vulnerable community members during flooding, understand their needs, and think of ways to support them in future.
- **Using relatable climate risk terms:** Using simple and short narratives that reflect the local experiences during heavy rainfall and flooding was useful in engaging community members to discuss climate impacts, as opposed to using confusing climate change jargon.

- o **Building on local lived experiences of climate change:** Asking probing questions to some of the participants while they stepped forwards or backwards helped participants to learn from each other's responses and draw out diverse experiences.
- o **Improvising a story-telling approach:** Presenting the various climate risk scenarios as stories was more effective when encouraging community members to discuss risks, rather than just reading the scenarios off the cards verbatim.

Challenges in implementing the pilot activities and how they were addressed

A number of challenges were encountered by the SNV/UTS-ISF team throughout the pilots. Because the pilot activities were tested and followed an iterative process, we were able to implement improvements for most of the challenges in the second pilot. This section outlines the challenges and how they were addressed.

Challenge 1: Ensuring inclusive participation

- o **Too much detail on power walk characters:** In the initial pilot of the power walk, participants were given written descriptions of a fictional community member to role play. The descriptions of the fictional character were too long for some of the participants, who had difficulty recalling their characters and responding to the scenarios narrated by the facilitator. Moreover, some participants who had lower levels of literacy were unable to read and understand the description of the roles.

- **Solution:** Use images that represent diverse community members, instead of written character descriptions. For example, an image of a person using crutches or a pregnant woman. These were easier for participants to interpret and improved the participation of community members with low levels of literacy.

- o **Gaining perspectives of people with communication impairments:** The transect walk included visits to households of people with disabilities, which revealed the inconvenience they experience in accessing toilets during the rainy season (especially where the toilets are located on lower ground). However, in such cases it was often difficult for community facilitators to directly engage with the person with the disability if they had a communication impairment or were not accustomed to being invited to join community activities.

- **Solution:** Plan ahead of time and make reasonable accommodations to gain the perspectives of people with disabilities (and others who may have difficulty joining in, such as nursing mothers). This may involve visiting the community member at a place and time of their convenience, and understanding how they would like to share their experiences (via their caretaker if necessary).

- o **Community members who already have a toilet:** Some community members who already had a toilet were less interested in participating in the community mapping activity.

- **Solution:** Remind community members with good-quality toilets that if anyone in the community is openly defecating or has a poor-quality toilet, it can affect their health too. Draw on CLTS principles of community-led support for all to prompt them to think about how the community can come together to ensure everyone's needs are met.

Challenge 2: Management of time

- o **Limited amount of time to train community facilitators and support community members:** The process of training community facilitators on CLTS is already an intensive event. The CLTS process also requires a significant chunk of community members' time to implement. Including questions and activities pertaining to climate change risks adds to the length of CLTS training and community time, which might over-burden participants.

- **Solution:** As much as possible, weave new questions and activities into existing CLTS stages. For example, the community mapping activity primarily uses steps already carried out as part of CLTS. Questions should also be kept simple and straightforward, and should not delve too much into complex concepts (e.g. climate uncertainty) that take time to understand.

Challenge 3: Questions about financing

- o **Community members unwilling/unable to pay for flood-resistant latrines:** While the pilot activities were effective in persuading community members of the importance of building flood-resistant latrines, community members worried about the affordability of such facilities.

- **Solution:** The conventional CLTS practice of facilitating community members to pool resources or raise household demand for good quality latrines may likewise encourage mobilisation of local resources for building climate-resistant latrines. In cases where households truly cannot afford climate-resistant latrines, targeted subsidies may need to be explored.

Challenge 4: Impact of COVID-19:

- o **Impact of COVID-19 on scheduling of activities:** The duration of the project coincided with the COVID-19 pandemic, and therefore many aspects of the pilot were impacted due to government-imposed travel restrictions. Selection of villages was impacted by travel restrictions in some districts, and piloting had to be rescheduled as the SNV team and community facilitators were limited in the extent to which they could travel to these areas. Because

the activities entailed gathering people in groups, this had to be done in a COVID-safe manner, and activities often had to be rescheduled in line with changing government guidelines. For these reasons, it was not possible to hold the activities straight after heavy rains/flood events, as had originally been planned in order to gain community insights on flooding while it was still fresh in their mind.

- **Solution:** Training delivered to the community facilitators by the SNV/ISF-UTS team had to be simplified so that it could be presented over the Zoom meeting platform. The SNV/UTS-ISF team provided the community facilitators with simple bullet point instructions that were easier to recall. This was in response to feedback from community facilitators that paragraphs of text were not easy to work with. Simplifying the instructions also helped address the challenge of pilot activities taking too much time to implement.

Conclusions and recommendations

The experiences of the pilot activities were encouraging in terms of supporting CLTS community facilitators and community members to proactively consider how floods affect safe sanitation. Our hope is that this will raise awareness on flood risks and increase household demand for good-quality latrines that are more likely to handle some levels of flooding, or encourage community members to anticipate flood damage and the need to rebuild. Further research is needed to evaluate whether these activities contribute to achieving these intended outcomes.

Although we piloted activities through SNV's CLTS triggering approach, the recommendations presented below can lend themselves to other CLTS or general rural sanitation processes as well:

- **Timing and sequencing of activities:** Think about timing and logical sequencing when integrating consideration of climate risk into CLTS or other rural sanitation

programming, and be careful not to shift the focus too much away from the principal sanitation outcomes. Preferably schedule activities related to flood risks soon after the monsoon season.

- **Careful attention to the local climate risk profile:** Only conduct climate risk activities in areas where they are relevant. For example, if an activity focuses on flooding, only carry it out in areas that are known to be flood-prone – otherwise people will get confused or feel like their time is being wasted.
- **Strengthen institutional capacity first:** Provide training on climate resilience to many government stakeholders at once for greater efficiency, sharing, and learning opportunities. Ideally, this should be done before training on specific activities to establish a foundational understanding and appreciation for managing climate risks. This is also more effective in transforming mindsets than piecemeal efforts to orientate individual district governments on climate change one-by-one.
- **Ensure inclusive participation:** The participation of diverse people in the activities is paramount. People experience impacts of flooding and other climate hazards on sanitation differently, and these can be usefully drawn out during the activities by inviting diverse people to speak. This enables community members to see the need to gain different perspectives when making sanitation decisions.
- **Thinking of climate risk in everything should become the norm:** Integrate climate risk considerations from the beginning of a programme and integrate it into all activities instead of seeing it as an add-on aspect.
- **Climate change adaptation need not be viewed as a cumbersome, additional task for rural sanitation programming:** Although initial work is needed to train staff, develop materials, and troubleshoot streamlined and effective ways of gaining community participation, activities that consider climate risk can eventually be standardised into regular programming.

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The University of Technology Sydney – Institute for Sustainable Futures (UTS-ISF), conducts applied research to support water, sanitation, and hygiene policy and practice in Asia and the Pacific. UTS-ISF provide partners with technical expertise

including climate change; planning, governance and decision-making; gender equality and inclusion; public health and water resources management; monitoring; and policy and practice advice.

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