



Learning Brief

Integrating hygiene innovation within government health systems: experiences from Bhutan



There is a growing consensus that a more sustained effort in hygiene promotion is needed, beyond health knowledge alone if it is to be effective in realising health outcomes. Efforts need to be able to be mainstreamed if they are to be scalable and sustainable and, as such, the role of local government is arguably central.

In Bhutan since 2010, SNV has been introducing behaviour change communication (BCC) with the Ministry of Health (MoH) as part of the national Rural Sanitation and Hygiene Programme (RSAHP), with support from the Australian Government's Civil Society WASH Fund. Building on this, a partnership was formed in 2016/17 with the London School of Hygiene and Tropical Medicine (LSHTM), the MoH and the creative agency, Upward Spiral. The purpose was to test an innovative approach to change handwashing behaviour based on an adaptation of *SuperAmma*,¹ an intervention which used universal human emotional drivers of nurture, disgust and social affiliation to produce positive outcomes when implemented on a small scale in India. In this Learning Brief, we share the process and outcome of adapting *SuperAmma*, testing it and applying it district wide, within a mainstream government programme.

The context

The Royal Government of Bhutan has prioritised sanitation and hygiene in its current 11th Five Year Plan 2013-2018. It is targeting an increase in rural access to improved sanitation and hygienic usage from 54%² to over 80%³ and a nationwide scaling up of the RSAHP, which has now reached 9 of 20 districts of a dispersed, often remote Himalayan population of 635,982. As an approach, RSAHP is based on SNV's Sustainable Sanitation and Hygiene for All (SSH4A) programme which integrates sanitation demand creation, supply chain development, behaviour change communication and governance. The largest investment of time and resources involves the facilitation of Community Development for Health (CDH) workshops. CDH, which was originally based on Participatory Hygiene and Sanitation Transformation (PHAST) has been used by the MoH in a range of initiatives including water and sanitation for more than 15 years and is institutionalised through the formal health worker training. Within the RSAHP, CDH has evolved since 2008 as a two-day process that incorporates elements of Community-Led Total Sanitation alongside elements of appreciative enquiry and pride to create demand for improved sanitation and hygiene practices and strengthen community ownership of the process.

While progress on sanitation has been good, relatively less attention and fewer resources have been directed towards promoting safe hygiene behaviours beyond the use of a toilet, though this may play a key role in enabling positive health outcomes. Despite recent formative research to understand the behavioural

1. *SuperAmma* campaign for changing handwashing behavior www.superamma.org/
2. The baseline of 54% is based on the National Statistics Bureau Bhutan Multiple Indicator Survey, 2010
3. Gross National Happiness Commission 2012, Guidelines for the 11th Five Year Plan, RGoB, <http://www.gnhc.gov.bt/?s=11th+FYP>.

determinants at the national level and to better target messaging through behaviour change strategies, hygiene promotion practice by the basic health unit (BHU) staff remains strongly health-message based, relying on handwashing demonstrations and activities based on the F-Diagram. Messages based on germs and health have been found ineffective (e.g. Biran et al 2009), however the ongoing program of CDH workshops offered the opportunity to implement at scale if effective messages could be identified and incorporated.

The challenge

The research partnership sought to strengthen the hygiene promotion element of the CDH workshop by incorporating motive-based elements adapted from the *SuperAmma* intervention. However, the existing workshop format presented certain constraints which shaped the final form of the intervention. *SuperAmma* was implemented by professional entertainers over a number of days, was devoted entirely to handwashing with soap and made extensive use of video and film. To be scalable, the revised CDH intervention (CDH+) had to be implemented by rural health assistants with no additional equipment and only the limited training needed to allow them to facilitate the CDH workshop. The hygiene promotion activities needed to fit within the format of the CDH workshop, complement the existing activities without detracting from existing messages and use no more than about two hours over the course of the two days of CDH.

The Process

The following steps were taken to move from initial ideas to a final intervention implementation:

- Review of existing data and formative research findings
- Workshop with key RSAHP partners to introduce the theoretical and practical aspects of *SuperAmma*
- Initial creative research with LSHTM and CoG using a human centred design process to understand what motives (nurture, affiliation and disgust) could be used to develop the creative ideas – nurture being the strongest
- Development of three creative concepts based on core motive of nurture: i) best wishes ii) farming metaphor and iii) letters
- A short period of concept testing with focus groups drawn from the target audience through which the farming metaphor was identified as having the most potential based on audience interest and comprehension of the key message
- Pilot testing of two potential combinations of activities as CDH+
- Training health staff to deliver the additional hygiene promotion components for CDH+
- Implementation district wide.

The Intervention

The final intervention (CDH+) comprised the activities described in table 1 below. In addition to the activities implemented within the time constraints of the workshop, the intervention included a follow-up visit by health workers to households as a means of reinforcing messages. The handwashing components of the workshop were also offered to mothers attending outreach clinic sessions at the BHUs as a way of extending the reach of the intervention to mothers who had not attended the workshop.

The cost of the materials for the activities to be printed and purchased was approximately 6000 IDR per 100 households, which is less than 1 USD per household. This excludes the creative research and development process and the training of facilitators. Additional costs for delivery at the district level involved the travel costs for follow-up by health staff (approximately 5,200 USD) and the workshop costs for the outreach clinics (approximately 3000 USD for 34 workshops reaching 1000 mothers and care givers).



Nuns participating in the creative research process

Table 1: Components of CDH+

Contamination pictures and glo-germ demo

Activity to induce or amplify the disgust motive associated with invisible contamination of hands as a result of latrine use and to demonstrate the importance of using soap to remove invisible contaminants from hands in response to earlier formative research.



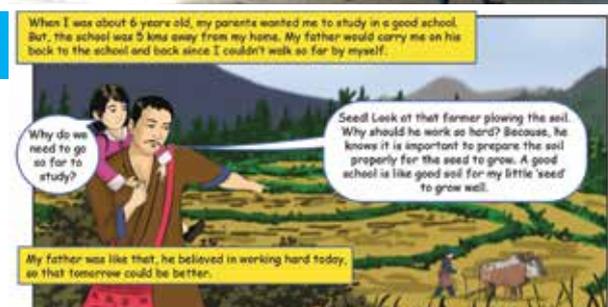
Settings game

Activity to remind participants about key occasions for washing hands with soap and to illustrate the importance of keeping soap and water conveniently available if handwashing with soap is to be practiced routinely. Soap was reportedly seen as missing in earlier research.



Flip-chart story and comic book

Activity to illustrate the importance of parents teaching their children good manners and good handwashing practice and to associate the nurture motive with the practice of handwashing. The story uses a farming metaphor with the child as a seed growing into a sturdy tree as a result of parental care. The story is illustrated with pictures on a flipchart, narrated by the facilitator and supported by a comic book to take away.



Pledging activity

After the flipchart story the facilitator engages with the participants to agree the importance of practicing handwashing with soap and of ensuring that their children also do so. Participants then demonstrate their commitment to this by taking part in a group pledge.



Handwashing record sheet and reminder stickers

Activity to encourage repeated practice with the intention of developing handwashing with soap at key times as a habitual practice. The record sheet has space for recording handwashing practice over the course of 21 days. Reminder stickers are intended to be placed at the latrine and kitchen to act as cues to handwashing.



Follow-up visit

Health Assistants made unannounced follow-up visits to the households of CDH+ participants to remind them of the importance of handwashing with soap and to check on the presence of soap and water by latrines and kitchens.



Outreach clinic sessions

To extend the reach of the intervention to female caregivers who did not attend the CDH+ workshop, health assistants also ran the handwashing activities alone as a session for mothers attending a routine outreach clinic. Attendees at these sessions included participants from the CDH+ workshop as well as mothers from the community who had not attended the workshop.



The Evaluation

The intervention was evaluated using a cluster randomised intervention trial. CDH and CDH+ workshops were implemented by government health staff across Trashigang district between December 2016 and February 2017 as part of the on-going RSAHP.

- Cluster randomised, controlled, intervention trial
- Three arms: Standard CDH, CDH+, control (no intervention)
- Eight BHUs per arm
- Data collected from 15 households per BHU
- One respondent per household (adult female)

Outcome measures

- Self-report handwashing with soap (HWWS) at key times (structured recall with pictures)
- Presence of soap and water at latrine and kitchen (spot-check observations)

Process data were also collected to check for understanding of key messages, acceptability of the intervention components and to note any problems associated with implementation.

The Results

- Increase in safe hand washing practices in households in Trashigang district.
- Increased uptake, commitment and capacity to implement evidence based behaviour change communications at scale with quality at district and national level as part of the RSAHP scaling up.
- Increased evidence base on the effectiveness of different hygiene interventions available to the government line agencies to support improved WASH service delivery.

Overall, a water source with soap at a location in or beside the house was seen in 51% of households in the control arm compared with 79% in the CDH arm and 69% in the CDH+ arm, indicating strong effects of both the CDH and the CDH+ intervention. Both the CDH and the CDH+ interventions tended to increase water and soap availability near the latrine, and to a lesser extent near the kitchen area, but statistical support was low given the wide confidence intervals. Both the CDH and CDH+ interventions were associated with increased provision of a vessel of water and soap at the latrine. This effect was stronger in the CDH+ arm (54%) than for the CDH and control arms (49% and 31% respectively). This result is of interest as it indicates an additional effort to facilitate handwashing at the latrine rather than relying on the presence of a tap in the yard.

Over 2,200 key occasions for handwashing were reported by respondents in the recall interviews. The use of self-report through structured recall pictures generated detectable differences between trial arms, however it should be noted that the actual prevalence of handwashing practices is not known. Both the CDH and the CDH+ Intervention increased reported HWWS after defecation, but only the CDH+ intervention showed an additional increase HWWS before feeding a child and before food preparation. For all occasions combined there was a moderate increase in HWWS of 4.1% in the CDH arm (compared to controls) and a slightly higher increase of 7.3% in the CDH+ arm (largely reflecting the additional HWWS associated with child feeding and food preparation).

Intervention reach and compliance

- In the intervention arm the CDH+ workshop was attended by 515 out of 630 eligible households (82%) and 413 households (66%) received a follow-up visit.
- Reminder stickers were observed in 60% of kitchens and latrines.
- Comic books were reported to have been received by 93% of respondents; 72% said these had been shared with children in the household and 64% with adults.
- Record sheets were reported to have been received by 76% of respondents; 50% had completed at least one day and 33% had completed all.

Table 2. Reported HWWS prevalence and observed soap and water presence across the three arms of the trial.

Outcome	Control	CDH	CDH+
HWWS all key occasions	13%	17%	20%**
HWWS after faecal contact	20%	33%*	31%*
HWWS before feeding child	10%	12%	20%**
HWWS before eating	8%	12%	12%*
HWWS before preparing food	17%	18%	25%
Vessel with water and soap at latrine	31%	47%	54%*

*p<.05, ** p<.01

Discussion

CDH+ is a relatively light-touch intervention compared with *SuperAmma*, comprising four key activities (glo-germ demo, settings game, flip-chart story and pledge) as an add-on to a two-day participatory workshop that focuses primarily on sanitation. Nevertheless, the intervention as delivered by the government programme achieved reasonably good reach.

The intervention was delivered by health workers without access to the equipment needed for video and they reported difficulty in conveying the intended emotional content of the flipchart story. While glo-germ demos added further practical challenges in some instances, the intervention was notably innovative in its combination of the glo-germ demo with contamination images based on a successful TV advertisement used in Ghana.⁴ This low-cost addition to the activity may have overcome an apparent weakness with the glo-germ; that white powder under a UV light does not of itself trigger the emotional disgust reaction associated with contamination.

As a vehicle for promoting handwashing as opposed to sanitation uptake, the CDH format inevitably faced challenges in targeting the primary audience segment (female caregivers) and in ensuring adequate prioritising and follow-up by households.

Overall the intervention resulted in a modest increase in handwashing when compared against the control arm and performed slightly better than the alternative, standard CDH intervention with the RSAHP. Effectiveness might be improved through the delivery of the story using audio-visual formats, the addition of school-based activities, including rewards and social norm (affiliation) activities, and a stronger push for soap and water provision through household visits. Though these additions would carry resource implications.

The process has been seen as having contributed to high acceptance by implementers, a commitment to continue developing the approach and support for its inclusion in the broader national approach by the government partner and wider sector. It has also since been used to develop an initial approach for menstrual hygiene management.



Participating in CDH+ activities

4. <https://www.youtube.com/watch?v=w2qRcMTstzc>



Participating in the evaluation process

Conclusion

The findings confirm the perception that while motivational drivers can be more effective than educational messages, behaviour change is difficult to achieve and substantial levels of change require commensurate investment of resources. This can be challenging for a government programme. Building on the collaborative design phase, the training and a staged capacity building process was valuable in ensuring the concepts were not lost in the process of rolling out at scale and that non-health based messaging was valued by health staff rather than reverting to earlier messaging.

The experiences shared reflect the challenge for WASH practitioners and the sector in ensuring that HWWS is adequately resourced and prioritised within national sanitation and hygiene programmes, particularly when driven towards national sanitation targets. While integrating hygiene promotion within ongoing sanitation efforts can present an opportunity to scale, targeting multiple behaviours of sanitation access, hygienic usage with handwashing with soap presents inevitable trade-offs.

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Further information

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SNV

SNV is a not-for-profit international development organisation. Founded in the Netherlands nearly 50 years ago, we have built a long-term, local presence in 38 of the poorest countries in Asia, Africa and Latin America. Our global team of local and international advisors work with local partners to equip communities, businesses and organisations with the tools, knowledge and connections they need to increase their incomes and gain access to basic services – empowering them to break the cycle of poverty and guide their own development.

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